THE CORPORATION OF THE DISTRICT OF PEACHLAND

BYLAW NUMBER 1854

A Bylaw to Establish a Cross Connection Control Program And Process for the District of Peachland

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WHEREAS Provincial legislation requires water suppliers to establish regulations to ensure provisions for the elimination and prevention of cross-connections between their potable water and any non-potable water sources;

NOW THEREFORE, the Council of the Corporation of the District of Peachland, in Open Meeting assembled,
HEREBY ENACTS AS FOLLOWS:

1. **CITATION**

This Bylaw may be cited as 'Cross Connection Control Bylaw Number 1854, 2007.'

2. **DEFINITIONS**

In this Bylaw:

2.1 **'Approved Backflow Prevention Assembly'** means a backflow preventer that is designed to be tested and repaired in-line and to meet the design and installation criteria requirements of the CSA standards B64.10-01/Series-01 and the USC FCCCHR approval criteria;

2.2 **'Authorized Agent'** includes a Person, Firm or Corporation representing the District of Peachland by written consent;

2.3 **'Backflow'** means the flow of water or other liquids, gases or solids from any source back in to the Consumer's plumbing system or the District of Peachland Waterworks System;

2.4 **'Backflow Assembly Test Report'** means a form provided by or approved for use by the District of Peachland to be used when testing backflow assemblies to record all pertinent information and test data;

2.5 **'Backflow Assembly Tester'** means a person holding a valid certificate from the American Water Works Association, Pacific Northwest Section, for testing backflow prevention assemblies and approved by the District of Peachland;

2.6 **'Backflow Preventer'** means a mechanical apparatus installed in a water system that prevents backflow of contaminants into the potable Waterworks System;

2.7 **'Building Inspector'** means a person designated by the Council as a building inspector for the District of Peachland to administer the building and plumbing regulations;

2.8 **'Contaminant'** means any physical, chemical, biological or radiological substance or matter in water which may render the water non-potable, according to regulations of the Province of British Columbia Drinking Water Protection Act & Regulations;

2.9 **'Cross Connection'** means any actual or potential physical connection whereby the District of Peachland Waterworks System is connected, directly or indirectly, with any non-potable or unapproved private water supply system, sewer, drain, conduit, well, pool, storage reservoir, plumbing fixture, or any other device which contains, or may contain, contaminated water, liquid, gases, sewage or other waste, or unknown or unsafe quality which may be capable of imparting contamination to the public water supply as a result of backflow;

2.10 **'Cross Connection Control Program'** means the District of Peachland Cross Connection Control Program Policies Procedures and Specifications, Schedule 'A' attached to and forming part of this Bylaw, which provide references, guidelines, bulletins and amendments relevant to this Bylaw.

2.11 **'CSA'** is the abbreviation for the Canadian Standards Association;

2.12 **'Discontinue'** means to terminate the arrangement between the District of Peachland and the Owner/Occupier for the supply of water and to Shut Off the service pipe, disconnect it, or remove it;

2.13 **'District of Peachland'** means the authorized agent representing the District of Peachland by written consent.

2.14 **'Domestic Use'** means the use of water by customers within their building or premises for the purposes other than irrigation;

2.15 **'Hydrant Use Permit'** means a permit issued by the District of Peachland for any Person requesting water from a Fire Hydrant for purposes other than emergency fire protection;

2.16 **'Inspect'** means an on-site review of the water use, facilities, meters, piping, equipment, operating conditions and maintenance records for the purpose of evaluating for conformity with the terms and conditions of this Bylaw;

2.17 **'Occupier'** has the same meaning as in the Community Charter;

2.18 **'Person'** includes a corporation, partnership or party, and the personal or legal representatives of a person whom the context can apply according to law;

2.19 **'Potable Water'** means water that is fit for human consumption as defined in the Drinking Water Protection Act & Regulations;

2.20 **'Premises'** means a building, portion of a building or an area of land where business is carried on;

2.21 **'Private Water System'** means any privately owned pipe and fittings intended for the delivery or distribution of water within a premise or to a property and includes any domestic use, irrigation system, greenhouse and hydroponics system, and any other use of water supplied by the District of Peachland Waterworks System;

2.22 **'Reclaimed Water System'** means a treated effluent water system that disposes of water from a Waste Water Treatment Plant;

2.23 **'Reduced Pressure Backflow Assembly'** means a backflow preventer consisting of a mechanically independent-acting, hydraulically dependent relief valve located in a chamber between two independently operating, force-loaded check valves, the intermediate chamber pressure always being lower than the supply pressure when there is a positive pressure on the supply side. The unit includes properly located resilient-seated test cocks and tightly closing resilient-seated shut-off valves at each end of the assembly. This device is designed for use under continuous pressure;

2.24 **'Shut-off'** means to turn off the water supply by closing a District of Peachland owned valve or by any other means approved by the District of Peachland;

2.25 **'Turn On'** means to allow the flow of water by opening a District of Peachland owned valve or by any other means approved by the District of Peachland;

2.26 **'USC-FCCHR'** is the abbreviation for the 'University of Southern California Foundation for Cross Connection Control and Hydraulic Research.' A testing and approval agency providing a list of approved backflow prevention assemblies;

2.27 **'Used Water'** means any potable water which is no longer in the water distribution system including potable water that has moved downstream or past the Water Connection (water meter) and/or the property line to the private water system.

3. WATER SUPPLY AND PRESSURE

3.1 The District of Peachland does not guarantee pressure or continuous supply of water, or accept responsibility at any time for the maintenance of pressure in its water mains or for any increases or decreases in pressure. The District of Peachland reserves the right at any and all times, without notice, to change operating water pressure and to Shut Off the water supply for the purposes of making repairs, extensions, alterations or improvements, or for any other reason, or to increase or reduce pressure.

3.2 The District of Peachland, its officers, employees or agents, shall not incur any liability of any kind whatsoever by reasons of cessation in whole or in part of water pressure or water supply, or changes in operating pressures, or by reason of the water containing sediments, deposits, or other foreign matter.

3.3 Where steam or hot water boilers or other equipment is fed with water by pressure directly from the Waterworks System, the District of Peachland shall not be liable for any injury or damage which may result from such pressure or from lack of such pressure or any injury or damage resulting from the improper installation of a backflow preventer.

4. INSPECTION

4.1 The District of Peachland and/or a Building Inspector shall be entitled at its determination, to:

4.1.1 Access the Private Water System located on private property at all reasonable hours in order to carry out inspections and surveys of the Premises to determine the existence of connections or cross connections prohibited by this Bylaw and as stated in the District of Peachland Cross Connection Control Program.

4.1.2 Impose minimum standards that must be met and satisfied relating to the type of Backflow Preventer and the installation and maintenance of the same as specified by the District of Peachland Cross Connection Control Program.

4.13 Inspect the type of Backflow Preventer, the installation and state of maintenance and repair of the same.

4.2 No Person shall Turn On a water valve to provide Service to the occupants of any newly renovated or constructed or reconstructed Premise(s) until the Private Water System in such Premise(s) has been inspected for Cross Connections and approved by the Building Inspector and/or the District of Peachland, or otherwise satisfies section 5.1 of this Bylaw.

5. CONDITION OF SERVICE

5.1 Service supplied by the District of Peachland Works to an Owner/Occupier shall only be provided where, in the opinion of the District of Peachland, the Waterworks System has been effectively protected from any actual or potential Cross Connections existing at or within the Owner/Occupier's Private Water System.

6. CONTAMINATION

Subject to the provisions of this Bylaw:

6.1 No person shall create a Cross Connection by connecting, causing to be connected, or allowing to remain connected to the District of Peachland Works any device, piping, fixture, fitting, container, appliance or any other chattel or thing which may under any circumstances allow non-potable water, used water, wastewater or any chemical, liquid, gas or other substance to enter the Waterworks System.

7. CROSS CONNECTIONS AND BACKFLOW PREVENTION

7.1 No Owner/Occupier or other Person shall permit the introduction of any Contaminant or foreign matter whatsoever into any Private Water System that is connected to the Waterworks System.

7.2 Where the District of Peachland or Authorized Agent determines that there exists a connection or Cross Connection prohibited by this Bylaw and/or the District of Peachland Cross Connection Control Program, written notice may be given to the Owner/Occupier to correct the connection or Cross Connection at the expense of the Owner/Occupier within the time specified in the notice.

7.3 An Owner/Occupier to whom notice has been given under this section shall correct the connection or Cross Connection by installing an Approved Backflow Prevention Assembly conforming to the CSA Standards B64.10-01/B64.10.1-01

or most current edition, for the selection, installation, maintenance and field testing of Backflow Preventers and as described in the District of Peachland Cross Connection Control Program, Schedule 'A' attached to and forming part of this Bylaw.

7.4 The Owner/Occupier shall install a type of Backflow Preventer commensurate to the degree of hazard as established by CSA B64.10 and that is approved by the District of Peachland on the Private Water System at the location of the Water Connection from the Waterworks System or other location(s) approved by the District of Peachland.

7.5 Notwithstanding anything contained herein, if, in the opinion of the District of Peachland, the configuration of any Water Connections which creates a high risk of contamination to the Waterworks System, the Owner/Occupier shall install on the Private Water System at the location of the Water Connection from the Waterworks System an Approved Backflow Prevention Assembly, in addition to any Backflow Preventers installed in the Private Water System at the source of the potential contamination.

7.6 The failure to be sent a notice(s), or the failure to receive a notice(s), shall not excuse the mandatory duty of the Owner/Occupier or other responsible party to comply with this Bylaw and/or the District of Peachland Cross Connection Control Program and all other applicable Bylaws.

7.7 Where any condition is found to exist which, in the opinion of the District of Peachland, constitutes a Cross Connection with the Waterworks System, the District of Peachland shall either:

7.7.1 Shut Off the water supply service(s) to the Premises and notify the Owner/Occupier that an Approved Backflow Prevention Assembly(s) shall be properly installed and tested at the expense of the Owner/Occupier prior the Service(s) being Turned On;

7.7.2 Give notice to the Owner/Occupier to correct the Cross Connection(s) at the expense of the Owner/Occupier within a specified period. If the notice is not complied with, the District of Peachland may then Discontinue Service or Services;

7.7.3 Install an Approved Backflow Prevention Assembly at the Water Connection with all costs being charged to the Owner/Occupier.

7.8 Where any condition is found to exist which, in the opinion of the District of Peachland, may otherwise expose the *waterworks system* to risk of contamination, the District of Peachland or *authorized agent* shall, at their discretion, take one or more of the following actions:

a) Give notice to the Owner/Occupier to correct the condition or *cross connection*(s) at the expense of the Owner/Occupier within a specified time period; or

b) Notify the Owner/Occupier that an approved Backflow Preventer shall be properly installed at the expense of the Owner/Occupier; or

c) *Shut Off* or *Discontinued Service* until the condition is corrected; or

d) Install an *approved Backflow Prevention Assembly* at the *Service Connection Point* with all costs being charged to the Owner/Occupier.

7.9 Any Person whose water has been Turned Off pursuant to this Bylaw shall not have the water from the District of Peachland Waterworks System Turned On until all requirements of the District of Peachland have been met and the Owner/Occupier has paid to the District of Peachland all costs associated with the Shut Off/Turn On of Service, and the Owner/Occupier's default under this section has been remedied.

8. TESTING AND MAINTENANCE OF BACKFLOW PREVENTION ASSEMBLIES

8.1 The Owner/Occupier shall provide to the District of Peachland within thirty (30) days of initial installation, repair or relocation of an Approved Backflow Prevention Assembly a Backflow Assembly Test Report from a certified Backflow Assembly Tester confirming the following:

8.1.1 The installation date of the Approved Backflow Prevention Assembly;

8.1.2 The specific location of the Assembly and what Cross Connection or hazard it is intended to isolate;

8.1.3 The manufacturer, model, size and serial number of the Backflow Preventer installed; and

8.1.4 That it is an Approved Backflow Prevention Assembly, installed correctly and in proper operating condition.

8.2 Approved Backflow Prevention Assemblies are required to be inspected and tested by a certified Backflow Assembly Tester at least once in every twelve (12) month period or more often if required by the District of Peachland.

8.3 Where an Owner/Occupier fails to have an Approved Backflow Prevention Assembly tested, the District of Peachland may notify the Owner/Occupier that the Backflow Assembly must be tested within five days, or within a specified period. If the Owner/Occupier fails to comply with such notice, the District of Peachland shall Discontinue the Service or Services and the Owner/Occupier may be subject to penalties listed under this Bylaw.

8.4 Where there is a visible or other indication that a Backflow Preventer is Malfunctioning, it is the responsibility of the Owner/Occupier to immediately notify the District of Peachland, and further, to stop using the Private Water System until the Backflow Preventer is replaced or repaired and re-tested. This includes but is not limited to damage by: freezing, hot water, fire or otherwise due to neglect.

9. COMMERCIAL AND AGRICULTURAL IRRIGATION USE AND TURN ON

9.1 Where a *cross connection* exists between the District of Peachland *waterworks system* and a *private water system,* in addition to the general provisions stated in this bylaw, the *Owner/ Occupier* shall also comply with the following:

9.2 No *person, unless authorized by the District of Peachland or* the duly *authorized agent* of the District of Peachland shall turn on an agricultural irrigation system.

9.2.1 Prior to commencement of operation of the *private water system* in each irrigation season, the *Owner/Occupier* or any person operating a commercial or agricultural irrigation system shall have the *Approved Backflow Prevention Assembly* inspected and tested, at the *Owner/Occupier's* expense, by a certified *Backflow Assembly Tester*. A copy of the test report shall be provided to the District of Peachland within thirty (30) days of completion of the test.

9.2.2 An Approved *Reduced Pressure Backflow Assembly (RPBA)* shall be used whenever fertilizers, chemicals or any other substance detrimental to health are introduced to a *Private Water System*.

10. TEMPORARY WATER USE CONNECTION

10.1 Except for emergency fire use, no Person shall connect, cause to be connected, or allow to remain connected, any piping, fixture, fitting, container or appliance to a Fire Hydrant, stand pipe or any other temporary Water Connection:

10.1.1 In a manner which, under any circumstances, may allow water, wastewater or any liquid or substance of any kind to enter the District of Peachland Waterworks System; and

10.1.2 Without using an Approved Backflow Prevention Assembly which has been approved and installed in accordance with the District of Peachland Cross Connection Control Program; and

10.1.3 Without first obtaining a Hydrant Use Permit.

10.2 Any Person who violates this section will be refused access to Service through the use of a Fire Hydrant or temporary Water Connection and may be subject to penalties listed under this Bylaw.

11. AUXILIARY WATER SUPPLIES

No connection shall be installed or maintained whereby water from an auxiliary water system may enter the Waterworks System or Private Water System unless such auxiliary water system and the method of connection and use of such system shall have been approved by the District of Peachland.

12. PENALTY SECTION

Every Person who disobeys or fails to comply with any provision of this Bylaw shall be guilty of an offence and liable on summary conviction to a fine not exceeding Two Thousand Dollars ($2,000.00). Each day that a violation continues to exist shall constitute a separate offence.

When notice of an offence is issued pursuant to this Bylaw, fines for that offence are as set out in the District of Peachland Ticket Information Utilization Bylaw, where applicable.

READ A FIRST TIME, this 23rd day of October, 2007.

READ A SECOND TIME, this 23rd day of October, 2007.

READ A THIRD TIME, this 23rd day of October, 2007.

FINALLY RECONSIDERED AND ADOPTED, this day of , 2007.

Mayor

Corporate Officer

Dated at Peachland, B.C.
This day of , 2007.

READ A FIRST TIME, this 23rd day of October, 2007.

READ A SECOND TIME, this 23rd day of October, 2007.

READ A THIRD TIME, this 23rd day of October, 2007.

FINALLY RECONSIDERED AND ADOPTED, this 13th day of November, 2007.

Graham Reid
Mayor

Betty Briggs
Corporate Officer

Dated at Peachland, B.C.
This 14th day of November, 2007.

SCHEDULE 'A'

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A. INTRODUCTION

Safety of drinking water is a public health issue. In the Province of British Columbia, the Ministry of Health Services provides leadership and assumes ultimate responsibility for providing safe drinking water for British Columbians.

The Ministry of Health Services is the lead agency for drinking water issues. As of February, 2003, the Interior Health Authority, Ministry of Health Services, requires that every large water supplier develop and implement a Cross Connection Control Program. This requirement is a condition of the Permit to Operate for the District of Peachland Water Utility. In addition to the requirements of the Health Authority, there are other considerations leading to the decision to implement a Cross Connection Control Program.

There are indicators from the insurance industry that elevated insurance costs will result for water suppliers that do not address identified hazards in their water utility systems. There are also liability issues.

If a person becomes ill or dies from drinking water, a supplier may be required to defend itself in a prosecution.

B. PURPOSE

The District of Peachland has developed a Cross Connection Control Program in compliance with the Interior Health Authority's Permit to Operate a Water System (Drinking Water Protection Act, Part 2, Section 8.) The purpose of this Program is to protect the public health by ensuring that the safe, clean water provided by the District of Peachland is not contaminated due to backflow after it is introduced into the water distribution system. A Cross Connection Control Program addresses the backflow threat as a result of cross connections by establishing operating policies and procedures, as well as backflow preventer selection, installation, testing and maintenance practices and procedures. The Program tracks all installed, testable backflow preventers connected to a water service provided by the District of Peachland Water Utility to ensure that they remain in proper working order. The Program also maintains a list of certified backflow preventer testers to help ensure qualified persons are testing the backflow preventers.

C. GOALS AND OBJECTIVES

The goal is to develop and implement a Cross Connection Control Program, and to maintain and assess the program in an ongoing and objective manner to ensure that clean, safe water is delivered to the people of the District of Peachland.

D. ENFORCEMENT AUTHORITY

The District of Peachland Cross Connection Control Program receives its authority from Water Rates and Regulations Bylaw Number 1669, 2003, and amendments thereto, and the British Columbia Building Code, Part 7, which requires that potable water be protected from contamination.

E. ADMINISTRATIVE AUTHORITY

The Operations Department – Public Works has been delegated the responsibility to administer and manage the Cross Connection Control Program.

F. DEFINITIONS

F.1 **Air Break** – the unobstructed vertical distance through air between the lowest point of an indirect drainage system (ie. the vent port of the backflow preventer) and the flood level rim of the fixture or device into which it discharges.

F.2 **Air Gap** – the unobstructed vertical distance through air between the lowest point of the water supply outlet and the flood level rim of the fixture or device into which the outlet discharges. The recommended vertical air gap shall be at least twice the inside diameter of the water supply inlet but never less than 25 mm. Obstructions in close proximity to the air gap such as a wall, may restrict air flow into the outlet pipe rendering the air gap ineffective and thus becoming susceptible to back siphonage. When airflow is restricted, the air gap must be increased to a minimum of three times the inside diameter of the discharge end of the water supply inlet.

Air gaps less than 25mm should be approved only as a permanent part of a listed device that has been tested under back siphonage conditions with a vacuum of a minimum of 62.5cm of mercury. Side walls, ribs or similar obstructions may affect the air gap if within a distance of three times the diameter of the effective opening for a single wall, or four times the effective opening for intersecting walls.

If the supply line is cut at an angle, measure the gap distance from the bottom of the angle. Hoses are not allowed.

A manufactured air gap fitting(s), such as one that has holes cut into the sides of a tube, may not meet the dimension criteria of an 'approved' air gap and, thus, may not perform as required to break a vacuum. Any air gap fitting used in place of an approved backflow assembly should meet the dimension criteria stated above. A properly maintained approved air gap is the best means available for protection against backflow. However, an air gap is not always practical, and it is vulnerable to bypass arrangements that nullify its effectiveness. In addition, use of an air gap often exposes the water to dust, debris, airborne bacteria, and other contaminants and pollutants.

F.3 **Approved Backflow Prevention Assembly** – means a backflow preventer designed to be tested and repaired in-line and to meet the head loss and flow requirements of the approval agencies recognized by the District of Peachland Cross Connection Control Policy, section Q.

F.4 **Auxiliary Water Supply** – any water supply on or available to the premises other than the supplier's approved public water supply. The auxiliary water may include water from another supplier's public water supply or from any natural source, such as a well, lake, spring, river stream, or harbour; auxiliary water may also include used waters, or industrial fluids.

F.5 **Back Pressure** – a pressure higher than the supply pressure.

F.6 **Back Siphonage** – backflow caused by a negative or reduced pressure within the potable water supply line.

F.7 **Backflow** – the flow of water or other liquids, gases or solids from any source back into the Customer's plumbing system or the District of Peachland's water distribution system.

F.8 **Backflow Assembly Tester** – a person holding a valid certificate from the British Columbia Water Works Association, Pacific Northwest section, for testing backflow prevention assemblies.

F.9 **Backflow Preventer** – a device that is a physical attachment to the potable water supply that prevents the reversal in direction of flow.

F.9.a **Double Check Valve Assembly (DCVA)** – a backflow preventer consisting of two force-loaded, independently acting check valves, including tightly closing resilient-seated shut-off valves located at each end of the assembly and fitted with properly located resilient-seated test cocks. This device is designed for use under continuous pressure.

F.9.b **Double Check Valve Assembly for Fire System (DCVAF)** – a DCVA that is specifically designed for use only on water supplies to fire sprinkler and standpipe systems.

F.9.c **Dual Check Valve (DuC)** – a backflow preventer consisting of two independently acting, force-loaded, soft-seated check valves in series. This device does not have a relief port or test cocks. This device is designed for use under continuous pressure.

F.9.d **Dual Check Valve for Fire System (DuCF)** – A DuC that is specifically designed for use on water supplies to residential fire sprinkler systems.

F.9.e **Dual Check Valve with Atmospheric Port (DCAP)** – a backflow preventer consisting of two independently acting check valves separated by an intermediate chamber with an atmospheric port. A chamber pressure higher than the supply pressure is required to open the port when there is a positive pressure on the supply side. This device is designed for use under continuous pressure.

F.9.f **Dual Check Valve with Atmospheric Port for Carbonators (DCAPC)** – a carbonated beverage backflow preventer consisting of two independently acting check valves biased to normally closed positions and separated by an intermediate chamber with an atmospheric port. A chamber pressure higher than supply pressure is required to open the port when there is a positive pressure on the supply side. An integral strainer at the inlet ensures that debris does not foul the device's check valves or enter the carbonator unit. This device is designed for use under continuous pressure.

F.9.g **Dual Check Valve with Intermediate Vent (DuCV)** – a backflow preventer consisting of two independently acting check valves biased to a normally closed position. Between the check valves there is a relief port that is biased to a normally open position. This device is designed for use under continuous pressure.

F.9.h **Reduced Pressure Principal Assembly (RP) or (RPBA)** – backflow preventer consisting of a mechanically independent acting, hydraulically dependent relief valve located in a chamber between two independently operating, force-loaded check valves, the intermediate chamber pressure always being lower than the supply pressure when there is a positive pressure on the supply side. The unit includes properly located resilient-seated test cocks and tightly closing resilient-seated shut-off valves at each end of the assembly. This device is designed for use under

continuous pressure.

F.9.i **Reduced Pressure Principal Assembly for Fire System (RPF)** – an RP that is specifically designed for use only on water supplies to fire sprinkler and standpipe systems.

F.10 **Critical Level (CL)** – the level of submergence at which a vacuum break ceases to prevent back siphonage.

F.11 **Cross-Connection** – any actual or potential connection between a potable water system and any source of pollution or contamination. 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.

F.12 **Cross Connection Control Program (CCCP)** – a program initiated by a the District of Peachland, a regulatory authority, to administer and regulate the selection, installation, testing and maintenance of backflow prevention devices.

F.13 **Customer** – means the registered owner or occupier of property.

F. 14 **Fire Protection System (class types)** – refer to CSA B64.10-01.

F.14.a **Residential 'Full Flow Through' Type Fire Sprinkler System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that is fully integrated into the potable water system to ensure a regular flow of water through all parts of both systems.

F.14.b **Residential 'Partial Flow Through' System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and which flow (during non-functional periods of the fire system) only occurs through the main header to a water closet located at the farthest point of the system.

F.14.c **Class 1 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that has direct connections only from public water main, has no pumps, tanks, or reservoirs, and has all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.

F.14.d **Class 2 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets, that is the same as a Class 1 System but also includes a booster pump in the connection from the street mains.

F.14.e **Class 3 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that has direct connections from the public water supply mains, elevated storage tanks (either open or closed), fire pumps taking suction from aboveground covered reservoirs or tanks, and pressure tanks. In Class 3 Systems, storage facilities are only filled from, or connected to, the public water supply, and the water from the tanks is maintained in a portable condition. Class 3 Systems resemble Class 1 systems in all other respects.

F.14.f **Class 4 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that has direct connections from public supply mains (similar to Class 1 and Class 2 Systems) and an auxiliary water supply dedicated to fire department use and available the premises, such as an auxiliary supply located within 518 m (1700 ft.) of the pumper connection.

F.14.g **Class 5 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that has direct connections from public supply mains and that is also interconnected with an auxiliary water supply.

F.14.h **Class 6 System** – an assembly of pipe and fittings that conveys water from the water service pipe to the fire sprinkler outlets and that is a combined industrial and fire protection system and is supplied from the public water supply mains only, with or without gravity storage or pump suction tanks.

F.15 **Fire Service Pipe** – a pipe that conveys water from a public water main or private water source to the inside of a building for the purpose of supplying a fire sprinkler or standpipe system.

F.16 **Hazard** – refers to one of three levels of hazard: minor, moderate and high (or severe) as determined by the District of Peachland Cross Connection Control Program Coordinator.

F.17 **Horizontal** – a plane perpendicular to a plumb line (+2 deg.)

F.18 **Individual Protection** – protection provided at the connection to a fixture or appliance.

F.19 **Potable Water** – water safe for human consumption, free from harmful or objectionable materials, as described by the Drinking Water Protection Act.

F-20 **Potable Water System Materials** – any material acceptable under the British Columbia Building Code for use in a water distribution system.

F-21 **Potable Water System Materials, Not Acceptable** – any material that is not acceptable under the British Columbia Building Code for use in a water distribution system.

F-22 **Premises Isolation** – protection provided at the entrance to a building or facility. (This type of protection does not provide protection to personnel on the premise.)

F-23 **Residential** – means all single-family dwellings, duplexes, row housing and apartments.

F-24 **Vacuum Breaker** – a device that will prevent backflow when pressure in the system upstream of the device falls below atmospheric pressure. Air is only admitted downstream of the device.

F-25 **Vacuum Breaker, Atmospheric Type (AVB)** – vacuum breaker designed to be under pressure only when water is being drawn from the system and for short, intermittent periods of time.

F-26 **Vacuum Breaker, Hose Connection Dual Check Type (HCDVB)** – a vacuum breaker consisting of two independently acting check valves, force-loaded or biased to a normally closed position. Located between the checks is a means of venting to atmosphere that is force-loaded or biased to a normally open position. If there is no flow through the device, the check valves are closed and the vent is open. The device is designed to be under

pressure only when water is being drawn from the system and for short intermittent periods of time. The device incorporates a means to manually test the operation of the downstream check valve. The device is designed to be used where the backpressure generated by an elevated hose is 3 m (10 ft.) of head pressure or less.

F-27 **Vacuum Breaker, Hose Connection Type (HCVB)** – a vacuum breaker consisting of a single force-loaded check valve biased to a normally closed position. Downstream of the check valve is a means of automatically venting to atmosphere; the device is force-loaded or biased to a normally open position. If there is no flow through the device, the check valve is closed and the vent is open. The device is designed to be under pressure only when water is being drawn from the system and for short, intermittent periods of time.

F-28 **Vacuum Breaker, Laboratory Faucet Type (LFVB)** – a vacuum breaker consisting of two independently acting check valves force-loaded or biased to normally closed position. Between the check valves there is a relief port that is force-loaded or biased to a normally open position. When the laboratory faucet is off, the check valves are closed and the port is open; when the faucet is on, the check valves are open and the port is closed.

F-29 **Vacuum Breaker, Pressure Type (PVB)** – an assembly containing an independently acing check valve force-loaded or biased to a normally closed position, and an independently operating air inlet valve force-loaded or biased to a normally open position and located on the discharge side of the check valve. The assembly is equipped with properly located resilient-seated test cocks and tightly closing resilient-seated shut-off valves located at each end of the assembly. The device is designed for use under continuous pressure.

F-30 **Vertical** – a plane parallel to a plumb line (+/-2 deg.)

F-31 **Water Distribution System** – an assembly of pipes, fittings, valves, and appurtenances that convey water from water service pipes or private water supply system outlets, fixtures, appliances and devices.

F-32 **Water Authority** – includes any municipality, regional district, improvement district, irrigation district, water users community, water works district, water utility and any other corporation that has the authority to supply water for the purposes of domestic, irrigation or other uses as reflected in the District of Peachland Permit to Operate.

F-33 **Water Supplier** – referred to as the District of Peachland in this document.

F-34 **Water Service Pipe** – a pipe that conveys water from a public water main or private water source to the inside of the building.

F-35 **Zone or Area Protection** – protection provided for sections of a piping system within a building or facility with no domestic connections down stream of a device.

G. RESPONSIBILITIES OF THE WATER SUPPLIER – DISTRICT OF PEACHLAND

G.1 Provide a Cross Connection Control Program

The District of Peachland shall endeavour to prevent the contamination of the water distribution system through its Cross Connection Control Program. Proactive measures such as facility assessments complement the program by identifying cross connections and providing guidance for the installation and testing of new and existing backflow preventers, then maintaining records

on these devices. The District of Peachland will also respond to Customer inquiries in an effort to meet the goals and objectives of the Cross Connection Control Program.

G.2 Program Implementation

The Cross Connection Control Program will be implemented in a manner that will address the high and severe hazard water use processes first. Industrial, commercial, institutional and agricultural (ICIA) Customers will be assessed and surveyed first. Following the survey, a letter will be sent to the Owner/Occupier explaining the result of the survey and the requirements, if any, for cross connection control. If no response is received from the Owner/Occupier, a second letter will be sent explaining the importance of compliance. Ultimately, if no response is received in the allotted time frame, a final letter will be sent as a termination of water service notice. Surveys will follow a consultation and education process. The program will then address the moderate and minor hazard uses.

Public education programs will be delivered to inform residential Owner/Occupiers of the dangers of backflow. A survey of a residence will only be undertaken if there is a real or perceived higher than normal risk to the water utility from the residents.

The District of Peachland's responsibility for cross connection control will begin at the water supply source. It will include all public water treatment, storage and distribution facilities, and end at the downstream end of the water meter.

G.3 Emergency Response

An Emergency Response Plan will be exacted in accordance with the Drinking Water Protection Regulation, Section 15 (or most current) to address any incident arising from a backflow occurrence.

G.4 Program Maintenance

The District of Peachland will keep records of all backflow prevention assemblies as the assemblies are inventoried or installed.

G.5 Record Keeping

All records will be maintained in both hard copy file where applicable and in an electronic database.

A record of each testable backflow prevention assembly installed on the water distribution system will be maintained. This includes the date of installation, the cross connection the assembly is protecting, location, make, model, size, serial number and test results.

A record of certified backflow assembly testers will be maintained in conjunction with BCWWA, and will include proof of certification and test equipment calibration.

A copy of each survey assessment report, notices, and all other correspondence will be kept by the District of Peachland.

A Cross Connection Control software program will track all backflow prevention assemblies, test reports, letters of correspondence, plus provide reminders of annual test report due dates and notices to Owner/Occupier.

H. FACILITY MANAGEMENT

H.1 Inspection of New Facilities

All applications for new industrial, commercial, institutional and agricultural (ICIA) services and enlarging of existing services must be routed through the Cross Connection Control Manager.

The site plan, mechanical plan and the plumbing fixture schedules must be checked for actual and potential cross connections jointly by the Building/Plumbing Inspector and/or the Cross Connection Control Manager.

A record will be made of all identified cross connections along with the approval methods used to eliminate or control the cross connections.

When reviewing plans for cross connection control, the District of Peachland Engineering Specifications and Standards will be used as a guideline.

Required backflow preventers will be listed and attached to the final plans before they are approved.

During final inspection, the Building/Plumbing Inspector and/or the Cross Connection Control Manager will confirm the installation of all required backflow devices previously listed on the final plans.

An Occupancy approval permit will not be issued until all backflow prevention devices have been properly installed and copies of all applicable backflow assembly test reports, confirming the assembly has passed, have been submitted. Testing of backflow prevention assemblies must be provided by a certified backflow assembly tester holding a valid certification issued from the BCWWA.

H.2 Inspection of Existing Facilities

All ICIA facilities shall be inspected for cross connections and documented in a survey assessment or plan review report.

Inspections of the above facilities will be provided by the District of Peachland, beginning with facilities with the most hazardous potential for cross connections that may pose a high degree of hazard to the drinking water distribution system through cross connections.

All District of Peachland municipal owned buildings, parks and irrigation systems have been surveyed for cross connections and deficiencies identified are being rectified.

All existing District of Peachland municipal backflow assemblies are being properly maintained and have been tested routinely by a certified backflow assembly tester.

I. BACKFLOW PREVENTER GUIDELINES

The District of Peachland Cross Connection Control Program provides guidelines for the selection, approval and installation of backflow devices as outlined by the recognized approval agencies and adopted standards.

The District of Peachland Cross Connection Control Program provides guidance for premise, zone and fixture isolation as stipulated in the adopted standards and the B.C. Building Code.

J. BULLETIN DEVELOPMENT AND PROGRAM STRUCTURE

The District of Peachland Cross Connection Control Program will be structured to allow for updates in policy. This structure will include bulletins that will be posted and/or distributed to apprise the general public and contractors of the requirements for cross connection control that may or may not be specifically addressed in the adopted standards.

These bulletins shall also specify the requirements of the Cross Connection Control Program. In the case of a discrepancy between the accepted standards and a bulletin of the Cross Connection Control Program, the intent of the bulletin will prevail.

K. RESPONSIBILITIES OF THE CUSTOMER

K.1 Control Cross Connections

It is incumbent upon the Owner/Occupier to ensure that onsite water use practices or processes do not affect the District of Peachland water utility in a negative manner. This requirement is a condition of water service from the District of Peachland. The Owner/Occupier shall be responsible for controlling cross connections through the installation, testing and maintenance of approved backflow prevention measures on any permanent or temporary connection to the water distribution system. The type of backflow prevention measures required shall depend upon the degree of hazard that exists, the probability of a backflow incident occurring, and the type of circumstance causing potential or actual backflow to occur (back siphonage or back pressure.)

K-2 Access to Premises

The Owner/Occupier shall be responsible for providing the necessary information, scheduling and access for inspection to allow a determination of backflow potential and the appropriate cross connection control measures.

The Owner/Occupier's system should be open for inspection at all reasonable times to authority representatives of the District of Peachland to determine whether cross connections or other structural or sanitary hazards, including violations of this article, exist. When such a condition becomes known, the District of Peachland shall notify the Owner/Occupier and provide a logical/ reasonable period of time to correct the condition based on the potential degree of hazard.

K-3 Backflow Prevention

The Owner/Occupier is responsible for notifying the District of Peachland of any backflow preventer that the Customer believes is no longer necessary.

The Owner/Occupier is responsible for all costs associated with the installation, inspection, testing, repair, replacement and maintenance of backflow preventers servicing their water system.

All backflow assemblies and devices will be selected, installed and maintained using the CSA-B64.10-01 Manual for the Selection and Installation of Backflow Prevention Devices (most recent.)

K-4 Backflow Assembly Testing

All assemblies installed at the request of the District of Peachland or the Building/ Plumbing Inspector on behalf of the District of Peachland shall be tested in accordance with the CSA-B64.10-01 (current edition) Manual for the Maintenance and Field Testing of Backflow Prevention Devices and/or the Cross Connection Control Committee Pacific Northwest Section – AWWA manual (current edition) by a certified backflow assembly tester when the assembly is installed, repaired or relocated and then annually thereafter, or more frequently if required by the District of Peachland.

All air gaps and atmospheric vacuum breakers shall be inspected at the request of the District of Peachland.

In the event an assembly fails a test, the Owner/Occupier must have the assembly repaired or replaced as soon as possible. The assembly must then be tested again to ensure that it is in proper working order. The test result must be submitted within thirty (30) days of the test date to the office of the Cross Connection Control Program Manager or Authorized Agent. After review and acceptance of the test report, the assembly is considered in proper working order if it passes the applicable test in accordance with the CSA-B64.10.1-01 (current edition) Manual for the Maintenance and Field Testing of Backflow Prevention Devices and/or the Cross Connection Control Committee Pacific Northwest Section – AWWA manual (current edition.)

K-4.a Test Report Form

All test results must be submitted on an approved District of Peachland backflow assembly test report. (Section 9 CCCP Manual and electronic copy on file.)

K-4.b Test Report Acceptance

The District of Peachland Cross Connection Control Program retains the right to accept or reject submitted backflow preventer test reports based on errors, discrepancies and/or omissions. This process will be complete within thirty (30) days from the receipt of the test record. If consecutive errors or omissions are noted on test forms submitted by a certified backflow assembly tester, the District of Peachland reserves the right to refuse recognition of the tester as certified.

K-4.c Test Tag

A tag or label must be securely attached to every assembly containing the following information:

Side A	**Side B**
Name of Owner	Test Date
Location of Assembly	Tester Initial
Cross Connection Protected	Certification #
Type of Assembly	Company Tested By
Manufacturer	
Serial #	
Size	

It is the responsibility of the certified backflow assembly tester to ensure that this tag is fully completed after each test with a **permanent waterproof pen.**

L. **Fire Hydrant & Temporary Use**

The District of Peachland will provide policies regarding the commercial temporary use of water withdrawal through a District of Peachland fire hydrant connection or fill station standpipe to prevent contamination of the water distribution system.

M. **Safety**

The District of Peachland will provide programs to help ensure the safety of personnel involved with the Cross Connection Control Program (Occupational Health & Safety Regulations.)

N. **Forms & Letters**

The District of Peachland will provide letters and notifications to Owner/ Occupiers, including program announcements, survey summary, intent of compliance request letter, backflow test required and reminder notification, etc. Changes in policy and related program announcements will be distributed to pertinent municipal departments, engineering and commercial service providers.

The District of Peachland has developed a test report form for all testable backflow assemblies that are installed on the water distribution system(s) within the municipal boundaries.

O. **Public Education**

The District of Peachland will provide information to Owner/Occupiers informing them of the hazards of cross connections and backflow to help educate and protect the users of the water distribution system from contamination.

P. **References**

A reference library of cross connection control industry related publications will be maintained by the District of Peachland that will continue to provide up to date information relating to cross connection control issues and best management practices.

Q. **Standards & Guidelines**

British Columbia Building Code

All new construction and renovations undertaken in the District of Peachland are subject to the requirements of B.C. Building Code. Part 7.6 of the B.C. Building Code, 'Protection from Contamination,' refers to backflow prevention. Section 7.6.2.12 states that, 'Backflow preventers shall be selected, installed, maintained and field tested in conformance with CSA B64.10.'

Accepted Standard – CSA B64.10-01/B64.10.1-01

The selection, installation, maintenance and field testing of backflow preventers in the District of Peachland shall be in accordance with CSA B64.10-01 or the latest updated version of this standard. In case of a discrepancy between the accepted CSA standard

and a bulletin of the District of Peachland Cross Connection Control Bylaw, the criterion of the bulletin will prevail.

Accepted Standard – CSA B64 Series 01

All backflow preventers installed in the District of Peachland shall be approved in accordance with CSA standard B64 Series 01. The backflow preventers must be approved for the application for which they are being used.

Accepted Procedure and Practice PNWS section AWWA

Outlines the testing procedures recognized by the American Water Works Association, British Columbia section, for testing backflow prevention assemblies and will provide additional standards not addressed by the above aforementioned.

University of Southern California Foundation for Cross Connection Control and Hydraulic Research (USC FCCCHR)

Is the authorized approval agency that provides a list of approved Backflow Prevention Assemblies by manufacturer and model number, as tested and approved by the USC FCCCHR.

Chemigation Guidelines for British Columbia – a BCMAP publication

The Chemigation Guidelines for British Columbia provide information on backflow prevention requirements for all types of water supplies and additional safety information pertaining to chemigation.

Producers obtaining water from streams or other natural sources are not under the authority of a water supplier. The chemigation manual should be used by agricultural producers as a chemigation standard in instances where a higher authority has not established a standard.

R. Contact Information

The District of Peachland Cross Connection Control Manager can be contacted at:

The District of Peachland
Public Works Department
Address: 5806 Beach Avenue
Peachland, B.C. VOH 1X7
Phone: 250-767-2647 or 250-767-2108
Fax: 250-767-3433 or 250-767-6370
E-mail: dallin@peachland.ca or dgold@peachland.ca
Web site: www.peachland.ca

S. Bylaw Amendments

Date of Change	Update or Amendment