



Hamilton

***Major Changes to the Sewer & Drain  
and Water Works By-laws  
Presenters: Calvin Huizinga & Janice Takahashi***

September 11, 2023



## OVERVIEW

- The revisions to the **Sewer and Drain By-law** and the **Water Works By-law** aim to modernize the content by aligning with current practices, including industry best practices, and City policies.
- Prior to bringing the revised By-laws to Council, Hamilton Water would like to provide an opportunity to inform stakeholders on the significant changes that may impact them.
- The **Sewer and Drain By-law** is used to regulate the installation, use, maintenance, and repair of Sewers and Drains in the City of Hamilton.
- The **Water Works By-law** is used to regulate the management, distribution and maintenance of the Water Works Systems.





## PUBLIC INFORMATION CENTRE

### **SEWER AND DRAIN BY-LAW & WATER WORKS BY-LAW**

Friday, June 23, 2023 - 10a.m. to 2p.m.  
Hamilton Museum of Steam and  
Technology (900 Woodward Ave.)

Tuesday, June 27, 2023 - 4 to 6 p.m.  
Canadian Warplane Heritage Museum  
(9280 Airport Rd, Mount Hope)





## NEW BY-LAW ITEM: REQUIRED DISCONNECTION OF DOWNSPOUTS

- Follows industry best practices.
- Helps protect the sewer system from surcharging and overflowing to the environment during heavy rain.
- City of Hamilton can help (see link/website).

*City of Hamilton information on disconnecting downspouts:*

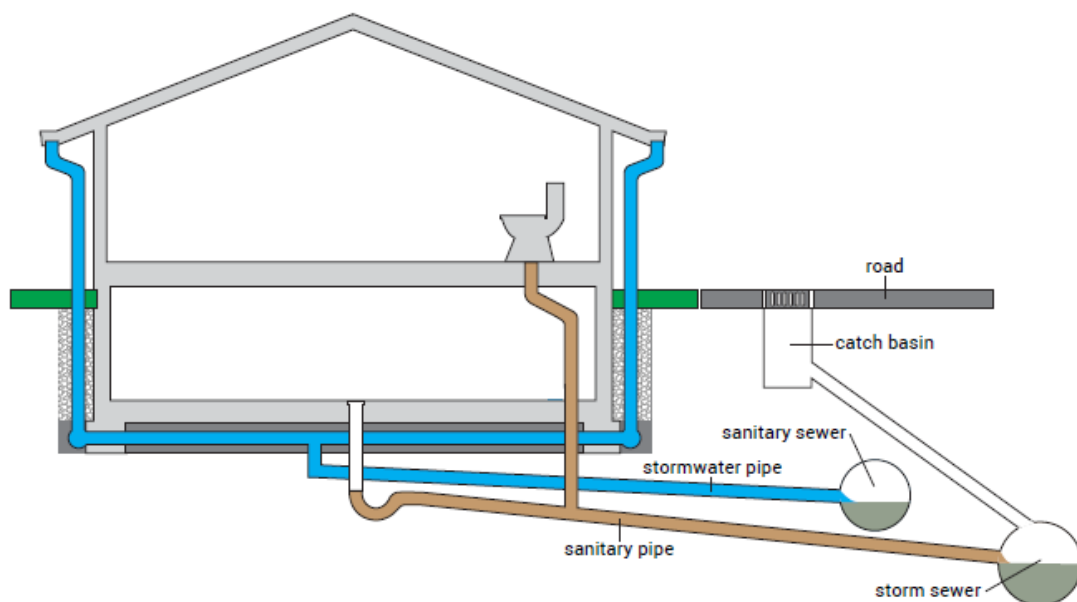
[www.hamilton.ca/downspoutdisconnection](http://www.hamilton.ca/downspoutdisconnection)



# NEW BY-LAW ITEM: SEWER LATERAL CROSS CONNECTIONS

The City of Hamilton has been operating the Sewer Lateral Cross Connection Program since 2002.

Under the new By-law, Property Owners will be required to comply with dye test investigations when requested by the City (at the City's expense) when the City has reason to believe that a Cross Connection may exist (main sewer CCTV inspection, storm sewer water quality sampling results).



## WHAT IS A CROSS CONNECTION? (NEW BY-LAW DEFINITION)

"Cross Connection" means where a fixture, appurtenance, Sanitary Building Drain, and/or Sanitary Sewer Lateral that has the potential to discharge Sewage is connected to any Stormwater Building Drain, Storm Sewer Lateral or Storm Sewer.

[www.hamilton.ca/crossconnection](http://www.hamilton.ca/crossconnection)

## ONE PARCEL: ONE LATERAL

Sewer laterals are the pipes that connect individual properties to the main sewer system. Usually, each property has its own separate lateral.

**Previously,** under certain circumstances, this requirement could be waived:

1. For up to three separate residential parcels of land, 3 separate non-residential parcels of land, or up to three separate condominium corporations, an exemption could be given subject to specific conditions, agreements, and approval of the City at its sole discretion. Or,
2. If a property is used for purposes other than industrial or commercial activities, and if the building on that property was constructed prior to 1975, the existing Sewer Lateral serving the building can be used for multiple lots. This is permitted if the main sewer to which the building is connected was also constructed before 1975.

**Now,** all individual parcels of land require their own individual sewer lateral connections to the main sewer. The permission to connect up to 3 separate parcels to one lateral has been removed. This is in accordance with industry best practice and in line with many other local municipalities.

The only permitted exceptions going forward will be:

1. Where land is used for single family residential purposes, up to 2 parcels, buildings, or Premises may be connected to one existing sewer lateral under specific conditions.
2. All dwellings within a row of attached dwellings may be connected to one shared lateral under specific conditions.

Both these situations will carry forward as previously outlined in the existing Sewer & Drain By-law.

**Existing Shared Services:** Up to three Properties can remain connected to one Service Connection if it legally existed prior to the enactment of this By-law and remains in use.



# WATER WORKS BY-LAW REFERENCE MANUAL

## CHANGE:

The Water Works By-law Resource Manual was created to support the By-law. This manual contains detailed information and links that help the user to ensure that they meet the requirements of the By-law.

## RATIONALE:

The By-law outlines the requirement and the manual may provide additional details such as links to City policies, specifications, permit information, and application processes. As construction and industry standards and City policies change, the manual will be updated to reflect these changes.

## IMPACTS:

The goal of the manual is to provide users with a tool to easily access information related to requirements within the By-law.



# SERVICE LINE SIZING

## CHANGE:

The City's minimum standard for a Service Line is currently  $\frac{3}{4}$ " (20mm). If a Property Owner upgrades their private portion of a Service Line to 1" (25mm), and the public portion is  $\frac{3}{4}$ " (20mm), the City will not upgrade the public portion to 1" (25mm).

## RATIONALE:


This change aligns with the current Building Code requirements. If a Service Line upsize is required, the Sizing of Water Service Pipe Form must be completed and used by the Building Division to determine the correct and approved Service Line size.

## IMPACTS:

1. If a Property Owner upgrades a substandard private Service Line (less than  $\frac{3}{4}$ " (20mm) or is made of a substandard material like lead) to a 1" (25mm) copper Service Line and the public Service Line is also substandard the City will upgrade the public portion to a 1" (25mm) copper Service Line.
2. If a Property Owner upgrades to a Service Line 1" (25mm) or greater, they must upgrade both the private and public portions of the Service Line.

**Note:** A permit must be obtained before starting the work. The private Service Line installation must be inspected and approved by a Hamilton Water - Water Distribution Operator before turning on the water.

**Definition:** "Service Line" means the line connecting a Watermain to a Premises or Property consisting of a Private Service Line and Public Service Line



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900030001000

Attachment Folder No. \_\_\_\_\_

### Sizing of Water Service Pipe for Buildings Containing More than One Dwelling Unit

Size and capacity of potable water system pipe shall be designed in accordance with 7.6.3.1, of Division B, of the Ontario Building Code (OBC). Where both hot and cold water is supplied to fixtures in residential buildings containing more than one unit, the water system may be sized in accordance with the tables in Part 1 and Part 2 of this form, provided, the minimum water pressure at the entry to the building is 200 kPa, the total maximum length of the water system is 90 m, and the hydraulic loads for maximum separate demands on water distribution system piping are not less than 100% of the total hydraulic load of the fixture units given in Tables 7.6.3.2.A, 7.6.3.2.B, 7.6.3.2.C and 7.6.3.2.D, of Division B, of the OBC for private use.

Address \_\_\_\_\_

Date \_\_\_\_\_

#### PART 1 - Hydraulic Load (Fixture Unit Calculation)

Fixture or Device	Fixture Units	Quantity	Total Hydraulic Load (Fixture Units x Quantity)
Bathroom Group with 6 LPP or less flush tank*	3.6		
Bathroom with or without shower head	1.4		
Clothes washer	1.4		
Dishwasher (domestic)	1.4		
Hose bibb (1/2")	2.5		
Lavatory	0.7		
Shower head	1.4		
Shower, spray, multi-head, fixture unit per head	1.4		
Sink, bar	1		
Sink, kitchen	1.4		
Sink, laundry	1.4		
Water Closet (6 LPP or less with flush tank)	2.2		
Other:			
<b>Total Fixture Units</b>			

(Fixture Units from Table 7.6.3.2.A, of Division B of the OBC)  
\* Bathroom group consists of 1 water closet, 1 basin (lavatory), and 1 bathtub or 1 shower.

#### PART 2 - Sizing of Water Service Pipe

Size of Water Pipe	Water Velocity (m/s)	
	2.4 (copper piping, cold water)	Other Pipe Material*
1/2"	Hydraulic Load (Fixture Units)	
3/4"	Up to 7	
1"	7.1 to 16	
1 1/4"	16.1 to 31	
1 1/2"	31.1 to 57	

(Above information obtained from Table 7.6.3.4, of Division B of the OBC)

\* If a water velocity of other than 2.4 m/s is proposed, provide documentation showing maximum permitted water velocity with maximum hydraulic loads for each water pipe size as recommended by the pipe and fitting manufacturer.

#### PART 3 - Design of Water Service Pipe

Total Hydraulic Load (fixture units): \_\_\_\_\_

Water Service Pipe size (inches): \_\_\_\_\_

**Water Meter Size**

3/4" Water Service Pipe = 5/8" (16 mm) Water Meter  
 1" Water Service Pipe = 3/4" (21 mm) Water Meter  
 1 1/2" Water Service Pipe = 1" (25 mm) Water Meter

**Designer Information**

Name \_\_\_\_\_

SCIN \_\_\_\_\_

Signature \_\_\_\_\_

Revised May 17, 2021



# SERVICE CONNECTIONS

## CHANGE:

Only one Service Connection is allowed per Property, and only one Property can be serviced through a single Service Connection, unless:

- Existing shared services: Up to three Properties can remain connected to one Service Connection if it legally existed prior to the enactment of this By-law and remains in use.

The General Manager may approve multiple Service Connections in the following cases:

1. Non-Residential Property: Service Connections required for any land use on the Non-Residential Property
2. Residential Property: Service Connections for each separate building containing residential uses on the Residential Property as follows:
  - One additional Service Connection for each separate building containing residential uses on a Multi-Residential Property, where the Residential Units are arranged vertically within a building or buildings, and each building seeking the additional Service Connection has a height exceeding eighty-four (84) metres.
  - Additional Service Connections, up to the total number of Residential Units on a Multi-Residential Property where the Residential Units are arranged horizontally within one or more buildings on the Property.
  - Further Service Connections for a Mixed-use Property.

Definition: “**Service Connection**” means the connection that joins a Service Line to the Watermain

## RATIONALE:

The By-law is being updated to clarify the number of Water Service Lines that can service a Property.

## IMPACTS:

Ensure necessary permits are obtained and requirements are met.

# WATER DISTRIBUTION SYSTEM OBSTRUCTIONS

## CHANGE:

Property Owners must not:

1. Place any structure, building material, or other material (including earth, snow, trees, shrubs, plants, fences, berms) or obstruction within one metre of any part of the Water Distribution System.
2. Allow any obstruction, including snow or ice accumulation within one metre of any part of the Water Distribution System on their Property or adjacent roads.
3. Conceal any part of the Water Distribution System with structures, plants, or objects.

## RATIONALE:

Maintaining access to the Water Distribution System is necessary for regular maintenance and emergency work conducted by the City.

## IMPACTS:

Property Owners are responsible for ensuring unobstructed access to the Water Distribution System on their Property and the adjacent City right-of-way.





# OPERATING WATER DISTRIBUTION SYSTEM ASSETS

## CHANGE:

Only the City, its employees, or contractors hired by the City are authorized to work on the Water Distribution System. This includes, but is not limited to, Public Fire Hydrants, Valves, Water Service Lines, and Watermains.

## RATIONALE:

To ensure compliance with applicable legislation, such as the Safe Drinking Water Act, 2002, S.O. 2002, c. 32 and its regulations, all work related to the Water Distribution System must be carried out by authorized personnel.

## IMPACTS:

A licensed water operator (Operator in Charge, where required) from the City must be present on site to supervise any work performed on the Water Distribution System.





## PRIVATE INFRASTRUCTURE REPAIRS

### CHANGE:

City inspection of repairs to Private Infrastructure (Water Service Lines and Watermains) is mandatory for Multi-Residential & Non-Residential properties. An Inspection Fee will be charged based on an hourly rate.

### RATIONALE:

To ensure the provision of safe drinking water to all residents and occupants by maintaining the integrity of Private Infrastructure.

### IMPACTS:

Example: Watermains (Service Lines) with a diameter of 4" (100mm) or greater necessitates compliance with the Watermain Disinfection Procedure.



## PRIVATE FIRE SERVICE LINES

### CHANGE:

A single check valve must be installed at property line for all site plans with private Watermains 4" (100mm) and greater with a dedicated Private Fire Service Line or on the Private Fire Service Line portion of a combined Service Line.

### RATIONALE:

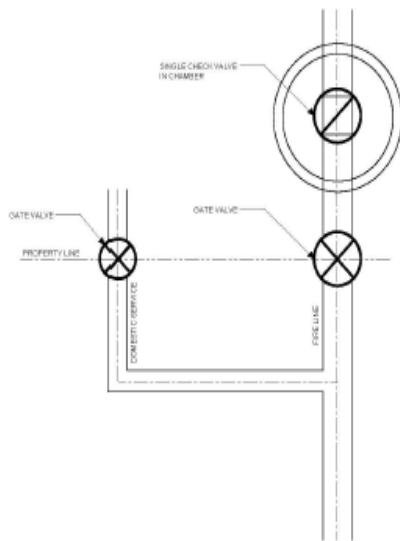
The purpose of this change is to safeguard the Water Distribution System by preventing the risk of contaminated water entering the Water Distribution System.

### IMPACTS:

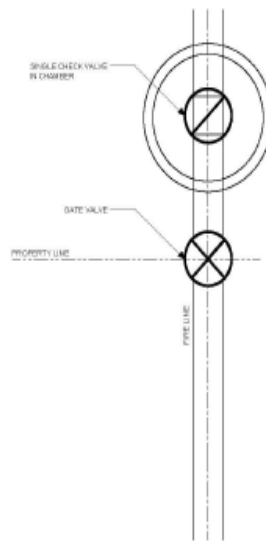
Property Owners are responsible for installing a single check valve at property line for all Private Fire Service Lines 4" (100mm) and greater.

Fire Line Valve Arrangements

Combined Fire and Domestic Service



Dedicated Fire Service



# WATER METERS – PRIMARY & SUBMETERS

## CHANGE:

1. One (1) Water Meter (Primary Meter) is required to be installed on every Service Line, excluding dedicated fire Service Lines.
2. The General Manager has the authority to approve the installation of additional Water Meters as outlined below:
  - For Multi-Residential Properties, Submeters will be approved only if there is 100% participation, meaning that all residential units on the property must have a submeter.
  - In Multi-Residential Properties with more than two storeys (excluding Stacked Townhomes and Secondary Dwelling Units), submeters and remote reading devices shall be installed in a common room on each level.
  - Stacked Townhomes require submeter installation in the basement or ground floor of each unit.
  - Mixed-use and Non-Residential Properties do not require 100% participation for Submeters.

## RATIONALE:

The By-law has been updated to provide clarity on the Primary and Submetering process.

## IMPACTS:

Property Owners must install a Water Meter on every Service Line regardless of the property type (excluding dedicated fire Service Lines). Some properties may also have the option to install Submeters based on the requirements above.



# PHYSICAL LOCATION OF THE WATER METER

## CHANGE:

For Service Lines under 1-1/2" (38 mm) in diameter:

- If the point where the Service Line enters the Premises is less than 60 metres from the Property Line, the water meter shall be located where the Service Line enters the Premises.
- If the point where the Service Line enters the Premises is more than 60 metres from the Property Line, the water meter shall be located in a Water Meter Chamber at the Property Line.

For Service Lines 1-1/2" (38 mm) in diameter or larger:

- If the point where the Service Line enters the Premises is 10 metres or less from the Property Line, the water meter shall be located where the Service Line enters the Premises.
- If the point where the Service Line enters the Premises is more than 10 metres from the Property Line, the water meter shall be located in a chamber at the Property Line.

## RATIONALE:

The purpose of this change is to reduce the potential for unaccounted water loss by ensuring proper placement of water meters.

## IMPACTS:

Property Owners may need to install a water meter in a chamber at the Property Line.

# SERVICE LINE – CONNECTIONS AND PHYSICAL SEPARATION

## CHANGE:

1. Properties connected to the Water Distribution System shall not be serviced by an Auxiliary Water Supply.
2. The following shall not be connected to the Water Distribution System:
  - Any pipe, fixture, fitting, container, appliance, vehicle, machine, or the like in a way that could allow water to be drawn from or into the Water Distribution System under any circumstances.
3. Direct connections between Service Lines and the Watermain are not allowed for steam boilers, condensers, air conditioning units, or other equipment that may be damaged due to water shut-off or fluctuations in water pressure.
4. Direct connections between a Service Line from the Watermain and any food vat or equipment that could be adversely affected by fluctuations in water quantity or quality are not permitted.

## RATIONALE:

These changes help us to protect the Water Distribution System by eliminating the possibility of contaminated water from entering the Water Distribution System.

## IMPACTS:

1. Disconnection of auxiliary sources (such as wells, boilers, cisterns) is required before connecting to the Water Distribution System.
2. Connections must adhere to the By-law requirements.
- 3&4. Water for such equipment should be drawn from a tank that receives water discharged from the Service Line, or another suitable arrangement approved by the General Manager must be made.

# SET FINES SCHEDULE

## CHANGE:

A Set Fines Schedule has been established to assign fines for specific violations of the By-law, as outlined in Part 1 of the Provincial Offences Act.

## RATIONALE:

A Set Fines Schedule allows the City to issue a ticket for contraventions to the By-law.

## IMPACTS:

While the City has the authority to issue fines, it is important to note that larger penalties can still be pursued under Part 3 of the Provincial Offences Act.

**Note:** The Set Fines Schedule requires Court / Ministry of the Attorney General approval.





## CONNECTION WHERE LAND NOT DIRECTLY SERVICED

### CHANGE:

If a Property is adjacent to a road without a public Watermain, but has access to another public Watermain, the Property Owner may request connection to the alternative Watermain, provided that the Property has not been specially assessed for the cost of the connection.

### RATIONALE:

In cases where a Property cannot be directly serviced by a nearby Watermain, a request can be made to the General Manager Planning and Economic Development. In addition to the required Special Services Agreement or Joint Service Agreement, a legally enforceable Reciprocal Easement Agreement is required against each Property imposing the reciprocal obligations.

### IMPACTS:

For such connections to occur, a legally enforceable Reciprocal Easement Agreement must be registered against every Property involved. This Reciprocal Easement Agreement ensures that the Private Service Lines are interconnected on the private side of the Water Meter and outlines reciprocal maintenance obligations between the Property Owners. The City must be included as a party in this agreement to ensure compliance and consent.

## CITY CARRYING OUT WORK

### CHANGE:

If a person fails to comply with a direction, requirement, order, or condition of a Permit under this By-law or the Municipal Act 2001, the General Manager has the authority to undertake the necessary work at the expense of the person in question.

### RATIONALE:

To ensure the proper maintenance, repair, and protection of the Water Distribution System, it is necessary for the City to have authority to carry out work when Property Owners do not fulfill their obligations. In such cases, the City may complete the work and recover the costs from the Property Owner.

### IMPACTS:

The City has the authority to recover the costs of the work by taking legal action against the Property Owner or by completing the work and charging the Property Owner per the Fees and Charges By-law.







Thank you!