



## 2024 Guidelines for Private Fire Hydrant Inspections and/or Repairs

This document contains important information regarding approval from the Director of Water Services regarding:

- Repairs, Replacements and Installations of Private Hydrants
- Inspection, Operation and Flushing of Private Fire Hydrants

It is important that any company, that is requesting authorization from the Director to perform hydrant inspections and/or repairs, follow these guidelines. Failure to comply may result in either fines or revoking of authorization. Private hydrants will not be utilized for the hydrant control unit program (HCU). All supervisors/foreman or anyone directing work on private hydrants require an application.

### Environmental Issues:

**Sediment and erosion control MAY be required.** If sediment and/or dirt is found in the gutters, parking lot or on the street on which you are flushing, provide controls around the storm sewer catch basins BEFORE hydrant testing. These alternatives might also be considered:

- The sediment may be swept up by hand before flushing.
- Coordinate testing with parking lot sweeping – arrange with property owner
- Extend the hydrant discharge line past the sediment.
- If a park or boulevard is available, the water can be directed onto the grassed area. However, the individual performing the testing must ensure soil erosion does not take place and existing landscaping will not be damaged.

**Note: When testing hydrants,** inspection personnel will be required to **channel all water released through a sock filter containing "sodium sulphite tablets" (sodium thiosulphate or Vitamin C are acceptable alternatives for dechlorination)**, to remove the chlorine content from the treated water. Typically, **ten (10) tablets in a "sock"** will be effective. The City of Calgary adds chlorine at its water treatment plants to ensure water quality. Chlorine has been shown to have a detrimental effect upon "aquatic life" in waterways. The sodium sulphite sock filter will remove the chlorine content levels acceptable to Alberta Environment before the water enters the storm sewer. Records may be requested by Alberta Environment or other governmental agencies.

### Important Guidelines for Hydrant Testing:

**Ball type hydrant valves MUST NEVER BE USED** during hydrant testing (To avoid pressure transients commonly known as water hammer). Only gate valves may be used.

No hydrant valve will be operated in such a way as to cause pressure transients or water hammer. They will be opened slowly (at least 1 minute to fully open) and closed slowly (at least 1-2 minutes to fully closed).

**Note:** After testing the hydrant, contractors are reminded to ensure the hydrant caps are on **tight** with a hydrant wrench, to prevent someone from removing the cap and vandalising the hydrant. If a contractor leaves the hydrant before it is fully drained (to inspect other hydrants on the site), they are to replace the cap loosely until they are able to return to recheck the drainage.

Tracking activity – company must be able to produce documentation for all hydrant activity including dates and locations of repairs, testing, flushing, etc.

Contractors should be aware of issues around the safe operation of AVK hydrants. The number of AVK hydrants on private property is unknown. For information on the AVK hydrants, see attached letter from The City of Calgary (appendix). Any AVK hydrants found without nozzle position clips should be reported. Canada Valve Fire Hydrants in the years 1974 to 1982 could potentially fail and have the nozzles blow out due to the lead pour. Lead has been found in hydrants in years prior and after as well. Short body TC hydrants may also contain lead at the nozzles.

Private hydrants are not allowed for the Hydrant Control Unit Program (HCU) without special permission.

Contractors must have **safety procedures** in place for all hydrant operations. Some, not all, are included in the list below:

**Recommended Safety Procedures:**

1. Always ensure the hydrant is shut off before attempting to remove the port caps.
2. Always remove all caps, 65mm and 125mm, and inspect the threads **before** all hydrant flush and pressure testing. **Note: Cross-threaded caps have blown off and injured the individuals performing the test.**
3. All personnel should position themselves away from the outlet ports before and during the hydrant flush and pressure testing.
4. Never step over or straddle the charged hose line during the flush and pressure test.
5. Safely secure the 65mm hose on the flow apparatus **before** flowing water through the hose. Use hose rope to secure the hose onto the hydrant gate.
6. Release pressure in hydrant outlet ports through the pressure gauge valve **before** attempting to remove the test equipment.
7. Never allow water to be directed onto the sidewalk during the flush and pressure test.
8. Before applying the port caps, ensure all hydrants are draining properly (**check for suction**). After a short period of time, if the hydrant shows **no sign of draining** (no suction) or is a non-draining hydrant, the hydrant should be pumped dry before replacing the port caps. During freezing conditions, undrained hydrant barrels have split.

Contractors must have **operational procedures** in place for hydrant inspections. An example of a Spring/Fall inspection procedure is included below.

**Spring Testing – Inspection and Flow**

1. Locate hydrant shut off valve.
2. Manually check the hydrant to confirm it is secured in the ground and all the bolts are in place.
3. Inspect outer shell and flange for cracks. Confirm that the hydrant is shut down (hydrant spindle should not move clockwise).
4. Remove and inspect all caps and gaskets.

5. All fire hydrants require de-chlorination.
6. Check main spindle and operating housing through streamer port.
7. Re-install streamer port cap and **tighten with hydrant key**.
8. Attach the pressure gauge device to a 65mm port and tighten (**open valve**).
9. Attach hydrant gate valve to other 65mm port and tighten. **Ensure gate is closed**. Connect 65mm hose to gate and tighten. Secure this hose to flushing device (ensure device is secure) and direct flow appropriately.
10. Listen to top nut with geophones or stethoscope for any leaks.
11. **Open hydrant slowly** (counter clockwise) until fully open (avoid water hammer).
12. Allow air to escape through valve on pressure gauge device. Close valve when water begins escaping.
13. Record static pressure in PSI **before** starting the flush.
14. To perform a flush inspection:
  - Open the hydrant gate, **slowly and fully (this should take at least 1-2 minutes)** and flow water through the 65mm fire hose until water runs clear (may take a few minutes).
  - Check pressure, if it drops significantly when 65mm gate valve is fully open, check hydrant valve to ensure it is fully open.
  - Observe hydrant for leaks.
15. **Slowly (at least 1 minute)** shut off water flow using the 65mm hydrant gate (avoid water hammer).
16. Shut down hydrant (clockwise) once water flow through the 65mm hose is stopped.
17. Open valve on pressure gauge to relieve pressure and remove testing equipment.
18. Before securing the port caps, ensure hydrants are drained (**check for suction**). If the hydrant shows no sign of draining, it must be pumped out before securing the cap. Do not leave the hydrant caps off the nozzle.

### **Fall Inspection – Barrel check and inspection**

1. Visually locate hydrant shut off valve.
2. Manually check the hydrant to confirm it is secured in ground and all bolts are in place.
3. Inspect outer shell and flange for cracks. Confirm that the hydrant is shut down (hydrant spindle should not move clockwise).
4. Remove the 125mm-steamer cap or one 65mm port cap.
5. Listen on top nut with stethoscope for any leaks.
6. Check hydrant barrel for water with rope and weight. If hydrant barrel is wet, it must be pumped out.

7. Replace all port caps and tighten.

**Bylaw Reference:**

Please be advised that **Bylaw** number **40M2006**, Part XV, Section 40, part (1), (a - c), which states:

“PART XV: FIRE HYDRANTS AND HYDRANT CONNECTION UNITS

FIRE HYDRANTS

40.

- (1) Unless authorized by the Director of Water Services, no Person shall:
  - (a) Open or close any hydrant or hydrant valve.
  - (b) Connect any device of any kind to a fire hydrant, including a pipe, hose, fixture, or appliance; or
  - (c) Use water from a fire hydrant, regardless of whether that hydrant is located on private or public property, for any purpose other than fire protection.”

The Calgary Fire Department requires companies and personnel to take an authorized course either through AWWOA or Local 496 in regards to repairing private fire hydrants. At the request of the Calgary Fire Department personnel will be required to provide proof that they have attained a certificate of attending such training. The expected timeline of completion of these courses is December 2024.

In order to obtain approval from the Director of Water Services, you must read and agree to the guidelines and submit a signed copy to the Director along with your application. Upon approval, you will be granted a letter of approval for one year. Approval will be required annually. You will need to produce a copy of the approval letter if asked by either Bylaw officers or Water Services personnel. Approvals expire December 31, 2024.

On behalf of \_\_\_\_\_, I have read and agree to follow the guidelines contained in this document. (Company name)

Signature \_\_\_\_\_ Date: \_\_\_\_\_

Name (Please Print): \_\_\_\_\_

Company Name: \_\_\_\_\_

## Application for Approval to Operate Private Fire Hydrants

**Applicants Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Company Name:** \_\_\_\_\_

**Address:** \_\_\_\_\_

**Phone:** \_\_\_\_\_ **Postal Code:** \_\_\_\_\_

E-mail address: \_\_\_\_\_

**Please check all types of work that above named company does involving private fire hydrants:**

<input type="checkbox"/> Hydrant inspection	<input type="checkbox"/> Fire Flow Testing
<input type="checkbox"/> Hydrant flushing	<input type="checkbox"/> Pressure Testing
<input type="checkbox"/> Hydrant Repairs/Replacements	<input type="checkbox"/> New Hydrant installations
<input type="checkbox"/> Other – please describe	<input type="checkbox"/> Other – please describe

Note: a signed copy of the guidelines must be attached with this application

Completed applications can be sent to Water Services. Some follow-up may be required in order to determine whether or not approval can be granted.

If applying by mail send to:      **Attn: Field Services – Hydrant Technician**  
 City of Calgary – Water Services  
 PO Box 2100, Stn M #329  
 Calgary, AB T2P 2M5

If applying by e-mail send to:      hydranttechnician@calgary.ca

Office use only	Approved By:
Date Received:	Approval Date: