

2024 BC Plumbing Code

Section 2.7. Non-Potable Water Systems

2.7.1. Non-Potable Water Systems

2.7.1.1. General

(See Note A-2.7.1.1.)

- 1) Non-potable water systems shall be designed, fabricated and installed in accordance with this Subsection and good engineering practice. (See Note A-2.7.1.1.(1).)
- 2) Except as provided in Sentence (3) and Subsection 2.7.2., non-potable water systems shall only be used to supply water closets, urinals, trap seal primers, and directly connected underground irrigation systems that only dispense water below the surface of the ground.
- 3) Non-potable water systems shall not be used to supply fixtures in healthcare facilities.
- 4) Where a non-potable water system is supplied by a potable water system, the potable water system shall be protected in accordance with Article 2.6.2.1.
- 5) Where the static pressure at any fixture in a non-potable water system may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure at the fixture to 550 kPa.

2.7.1.2. Identification and Marking

- 1) Non-potable water piping and outlets shall be identified and marked in accordance with CAN/CSA-B128.1, "Design and Installation of Non-Potable Water Systems."

2.7.1.3. Location of Pipes

- 1) Non-potable water piping shall not be located directly above
 - a) areas where food, drink or products that are intended for human consumption are prepared, handled, dispensed or stored, or
 - b) a non-pressurized or pressurized potable water tank.

2.7.1.4. Location of Outlets

- 1) Except as provided in Subsection 2.7.2., an outlet from a non-potable water system shall not be located where it can discharge into
 - a) a fixture into which an outlet from a potable water system is discharged, or
 - b) a fixture that is used for the preparation, handling or dispensing of food, drink or products that are intended for human consumption.

2024 BC Plumbing Code

2.7.2. Non-Potable Rainwater Harvesting Systems

2.7.2.1. General

- 1) For the purposes of this Subsection, rainwater shall mean storm water discharged from an above-ground roof surface. (See Note A-2.7.2.1.(1).)
- 2) For the purposes of this Subsection, a non-potable rainwater harvesting system shall mean a storage tank, a pump, pipes, fittings and other plumbing appurtenances used to collect and distribute rainwater, but shall not include a rain barrel not connected to a plumbing system.

2.7.2.2. Permitted Applications

- 1) Non-potable rainwater harvesting systems are only permitted to supply
 - a) water closets and urinals,
 - b) clothes washers,
 - c) floor-mounted service sinks and laundry trays,
 - d) trap primers,
 - e) irrigation systems,
 - f) hydronic systems,
 - g) make-up water systems for heat rejection systems, or
 - h) any other application where the harvested rainwater is not expected to be ingested or inhaled.(See Note A-2.7.2.2.(1) and 2.7.2.4.(3) and (4).)

2.7.2.3. Roof Design

- 1) Roof surfaces that supply rainwater to a non-potable rainwater harvesting system shall be inaccessible to vehicular and pedestrian traffic. (See Note A-2.7.2.3.(1).)
- 2) Roofing components and conveyance systems in contact with rainwater that is supplied to a non-potable rainwater harvesting system shall be constructed of materials that will not introduce substances into the rainwater that could adversely affect its intended end use. (See Note A-2.7.2.3.(2).)

2.7.2.4. Non-Potable Rainwater Harvesting System Design

- 1) Non-potable rainwater harvesting systems and their connections shall be designed, fabricated and installed in accordance with this Subsection and good engineering practice. (See Note A-2.7.2.4.(1).)
- 2) Non-potable rainwater harvesting systems shall not collect water discharged from an evaporative heat rejection system.
- 3) Non-potable rainwater harvesting systems shall be provided with a means to treat the harvested rainwater in such a manner that the quality of the delivered non-potable water conforms to appropriate provincial or territorial requirements or, in the absence of such requirements, the systems shall conform to Sentence (4). (See Note A-2.7.2.2.(1) and 2.7.2.4.(3) and (4).)

2024 BC Plumbing Code

4) Except as provided in Sentence (3), non-potable rainwater harvesting systems shall be provided with

- a) a water treatment system consisting of
 - i) a debris screen with a mesh size of not more than 6 mm ahead of the storage tank inlet,
 - ii) a first-flush diversion system with a capacity of not less than 0.3 L/m² of roof area ahead of the storage tank inlet,
 - iii) a calming inlet or settling chamber ahead of the storage tank inlet,
 - iv) a device to prevent the entrainment of sediment into the pump, and
 - v) where the harvested rainwater is used for an indoor application, a filter with a mesh size of not more than 50 µm ahead of the storage tank inlet, or
- b) a means to treat the harvested rainwater in such a manner that the delivered non-potable water contains not more than the maximum acceptable levels of contaminants stated in CSA B805/ICC 805, "Rainwater harvesting systems."
(See Note A-2.7.2.2.(1) and 2.7.2.4.(3) and (4).)

5) Where the static pressure at any fixture in a non-potable rainwater harvesting system may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure at the fixture to 550 kPa.

6) Storage tanks in non-potable rainwater harvesting systems shall be designed and installed in accordance with

- a) CAN/CSA-B126.0, "General requirements and methods of testing for water cisterns," and
- b) CAN/CSA-B126.1, "Installation of water cisterns."

7) Storage tanks in non-potable rainwater harvesting systems shall be equipped with an overflow that directs excess rainwater to

- a) a public storm sewer,
- b) a public combined sewer,
- c) a storm water management system, or
- d) a designated storm water disposal location.

8) Where the storage tank outlet is located below the level of the adjoining street, the storage tank overflow required by Sentence (7) shall

- a) terminate with an indirect connection that is not located within the building, or
- b) be equipped with a backwater valve.

9) Make-up water connections to non-potable rainwater harvesting systems shall

- a) be equipped with a reduced pressure principle backflow preventer, or
- b) have an air gap.

10) Where a fixture combines water from a non-potable rainwater harvesting system and potable water at the fixture supply fitting, the potable water system shall be protected by a backflow preventer as described in Sentence 2.6.2.1.(3).