

7.6.2.12. Backflow Preventers

1) No bypass piping or other device capable of reducing the effectiveness of a *backflow preventer* shall be installed in a water supply system.

7.6.3. Size and Capacity of Pipes

(See Appendix A.)

7.6.3.1. Design

- 1) Every *water distribution system* shall be designed to provide peak demand flow when the flow pressures at the supply openings conform to Table 7.6.3.1
- 2) Except as permitted in Sentences 7.6.3.4.(2), (4), and (5), the maximum velocity in copper water pipes shall not exceed
 - a) 1.5 metres/sec for cold water pipes,
 - b) 1.2 metres/sec for hot water distribution systems and recirculating systems with operating temperatures not exceeding 60°C, or
 - c) 0.9 metres/sec for hot water distribution systems and recirculating systems with operating temperatures exceeding 60°C.

7.6.3.2. Hydraulic Load

- 1) Except as provided in Sentence (3), the hydraulic load of a *fixture* or device that is listed in Table 7.6.3.1. shall be the number of *fixture units* given in the Table.
- 2) Except as provided in Sentences (1) and (3), the hydraulic load of a *fixture* that is not listed in Table 7.6.3.1. is the number of *fixture units* listed in Table 7.6.3.2.
- 3) Where *fixtures* are supplied with both hot and cold water, the hydraulic loads for maximum separate demands shall be 75% of the hydraulic load of the *fixture units* given in Table 7.6.3.1. and 7.6.3.2. when using a detailed engineering design method.
- 4) Where fixtures for one- and two-family dwellings are supplied with both hot and cold water, the hydraulic loads for maximum separate demands for water distribution piping shall be not less than 100 per cent of the hydraulic load of the fixture units given in Table 7.6.3.1. (private use) or Table 7.6.3.2. (public use).

7.6.3.3. Static Pressure

1) Where the static pressure <at any *fixture*> may exceed 550 kPa, a pressure-reducing valve shall be installed to limit the maximum static pressure <at the *fixture*> to 550 kPa.

7.6.3.4. Size

1) Except as provided in Sentence (2), every *water service pipe* shall be sized according to the peak demand flow but shall not be less than 3/4 inch *size*.

2) For one- and two-family dwellings and duplexes, the size of a water service pipe that supplies a fixture or device shall be determined by Table 7.6.3.3., but shall not be less than 3/4 in.

3) Except as provided in Sentence (5), the *size* of a pipe that supplies a *fixture* or device shall conform to Table 7.6.3.1.

Table 7.6.3.1. Sizing of Water Distribution Systems Forming Part of Sentences 7.6.3.1.(1), 7.6.3.2.(1), (2) and (3), and 7.6.3.4.(2)				
Fixture or Device	Minimum Size of Supply Pipe, inches	Minimum Flow Pressure, ⁽¹⁾ kPa (gauge)	Hydraulic Load, fixture units	
			Private Use	Public Use
Bathroom group				
(a) with flush tank	n/a	n/a	6	—
(b) with direct flush valve	n/a	n/a	8	—
Bathtub (with or without shower)	½	50	2	4
Clothes washer	½	100	3	—
Dishwasher, domestic	½	100	3	—
Drinking fountain	¾	100	½	1
Hose bibb	½	100	(2)	(2)
Lavatory	¾	50	1	2
Sink				
(a) kitchen, domestic	½	50	2	—
(b) kitchen, commercial	½	50	—	4
(c) service	½	50	—	3
(d) service with direct flush valve	¾	100	—	5
Shower head	½	50	2	4
Urinal				
(a) with flush tank	½	50	—	3
(b) with direct flush valve	¾	100	—	5
(c) with self-closing metering valve	½	—	—	—
Water Closet				
(a) with flush tank	¾	50	3	5
(b) with direct flush valve	1	100	6	10

Notes to Table 7.6.3.1.

- (1) Measured immediately upstream of faucet or supply valve.
- (2) A continuous load of 0.38 L/s.

Table 7.6.3.2.
Hydraulic Loads of Fixtures Not Listed in Table 7.6.3.1.
Forming Part of Sentences 7.6.3.2.(2) and (3)

Size of Supply Pipe, inches	Hydraulic Load, fixture units	
	Private Use	Public Use
3/8	1	2
1/2	2	4
3/4	3	6
1	6	10

4) For one- and two-family dwellings and duplexes, the size of a water service pipe that supplies a fixture or device shall be determined by Table 7.6.3.3., but shall not be less than 3/4 in.

5) A tail piece or connector not more than 750 mm long and not less than 0.25 inch inside diameter may be used to supply water to a fixture.

Table 7.6.3.3.
Fixture Unit Table
Forming Part of Sentences 7.6.3.4.(2), (4) and (5)

Fixture Unit Table For Determining Water Pipe Sizes For Single Family Dwellings and Duplexes ^{(1) (2)}

Nominal Pipe Size inches ⁽³⁾	Hydraulic Load, fixture units
1/2	11
3/4	40
1	90
1 1/4	225

Notes to Table 7.6.3.4.:

⁽¹⁾ Minimum water pressure at property line shall be 200 kPa.

⁽²⁾ Total maximum length of water system shall be 90 metres.

⁽³⁾ The hydraulic load in fixture units for a water service pipe shall be determined from Table 7.6.3.1.

Section 7.7. Non-Potable Water Systems

7.7.1. Connection

7.7.1.1. Not Permitted

1) A non-potable water system shall not be connected to a potable water system.

7.7.2. Identification

7.7.2.1. Markings Required

1) Non-potable water piping shall be identified by markings that are permanent, distinct and easily recognized.

7.7.3. Location

7.7.3.1. Pipes

- 1) Non-potable water piping shall not be located
 - a) where food is prepared in a food-processing plant,
 - b) above food-handling equipment,
 - c) above a non-pressurized potable water tank, or
 - d) above a cover of a pressurized potable water tank.

7.7.3.2. Outlets

1) An outlet from a non-potable water system shall not be located where it can discharge into

- a) a sink or lavatory,
- b) a fixture into which an outlet from a potable water system is discharged, or
- c) a fixture that is used for the preparation, handling or dispensing of food, drink or products that are intended for human consumption.

(See Appendix A.)

Section 7.8. Objectives and Functional Statements

7.8.1. Objectives and Functional Statements

7.8.1.1. Attribution to Acceptable Solutions

1) For the purposes of compliance with this Code as required in Clause 1.2.1.1.(1)(b) of Division A, the objectives and functional statements attributed to the acceptable solutions in this Part shall be the objectives and functional statements listed in Table 7.8.1.1. (See A-1.1.2.1.(1) in Appendix A.)

Table 7.8.1.1.
Objectives and Functional Statements Attributed to the Acceptable Solutions in Part 2
Forming Part of Sentence 7.8.1.1.(1)

Acceptable Solutions	Objectives and Functional Statements ⁽¹⁾
7.1.2.1. Sanitary Drainage Systems	
(1)	[F72-OH2.1]
(2)	[F72-OH2.1]
	[F72-OP5]
7.1.2.2. Storm Drainage Systems	
(1)	[F72-OP5]
7.1.2.3. Water Distribution Systems	
(1)	[F46-OH2.2]
7.1.2.4. Separate Services	
(1)	[F71-OH2.1,OH2.3] [F70-OH2.1]
7.1.3.1. Lighting and Ventilation Requirements	
(1)	[F30-OS3.1] Applies to the requirement for lighting.
	[F40-OH1.1] Applies to the requirement for ventilation.
7.1.3.2. Accessibility	
(1)	[F82-OH2.1,OH2.2,OH2.3,OH2.4] Applies to the need for maintenance.
	[F40-OH2.1] [F41-OH2.4] [F71-OH2.3]
	[F71-OH2.3] [F81-OH2.4]
	[F81-OP5]