District of North Vancouver
Fire and Rescue Services
2410 Dollarton Highway
North Vancouver, BC V7H 2Y1
DNV.org/fire

DNVFRS - DEVELOPMENT SITE WATER SUPPLY REQUIREMENTS

As Per BCBC Part 3 Provisions for Firefighting 3.2.5. & BCFC Part 5 Construction and Demolition Sites 5.6.

BCBC Part 3

3.2.5.7. Water Supply

1) Every building shall be provided with an adequate water supply for firefighting. (See Note A-3.2.5.7.(1).)
2) Buildings that are sprinklered throughout with a sprinkler system conforming to Article 3.2.5.12. or have a standpipe system conforming to Article 3.2.5.8. to 3.2.5.10. are deemed to comply with Sentence (1).

3.2.5.8. Standpipe Systems

1) Except as permitted by Sentence 3.2.5.9.(4), a standpipe system shall be installed in a building that is
   a) more than 3 storeys in building height,
   b) more than 14 m high measured between grade and the ceiling of the top storey, or
   c) not more than 14 m high measured between grade and the ceiling of the top storey but has a building area exceeding the area shown in Table 3.2.5.8. for the applicable building height unless the building is sprinklered throughout.

3.2.5.9. Standpipe System Design

1) Except as provided in Sentences (2) to (6), Articles 3.2.5.10. and 3.2.5.11., and Sentence 3.2.4.9.(2), the design, construction, installation and testing of a standpipe system shall conform to NFPA 14, “Installation of Standpipe and Hose Systems.”
2) A dry standpipe that is not connected to a water supply shall not be considered as fulfilling the requirements of this Article.
3) If more than one standpipe is provided, the total water supply need not be more than 30 L/s.
4) A standpipe need not be installed in a storage garage conforming to Article 3.2.2.90., provided the building is not more than 15 m high.
5) The residual water pressure at the design flow rate at the topmost hose connection of a standpipe system that is required to be installed in a building is permitted to be less than 690 kPa provided

   a) the building is sprinklered throughout,
   b) the water supply at the base of the sprinkler riser is capable of meeting, without a fire pump, the design flow rate and pressure demand of the sprinkler system, including the inside and outside hose allowance, and

c) fire protection equipment is available to deliver, by means of the fire department connection, the full demand flow rate at a residual water pressure of 690 kPa at the topmost hose connection of the standpipe system (see Note A-3.2.5.9. (5)(c)).

6) A fire department connection shall be provided for every standpipe system.

BCFC Part 5

BCFC Section 5.6. Construction and Demolition Sites

5.6.1.6. Standpipe Systems (See Note A-5.6.1.6.)

1) Where a standpipe system is to be installed in a building under construction or alteration, the system shall be installed progressively in conformance with Subsection 3.2.5. of Division B of the British Columbia Building Code in areas permitted to be occupied.

2) Where a standpipe system is to be installed in portions of a building under construction or alteration that are not occupied, the following shall apply:

a) a permanent or temporary standpipe system is permitted in accordance with Clauses (b) and (c),

b) the standpipe system shall be provided with conspicuously marked and readily accessible fire department connections on the outside of the building at street level and shall have at least one hose outlet at each floor,

c) the pipe size, hose valves and water supply shall conform to Subsection 3.2.5. of Division B of the British Columbia Building Code,

d) the standpipe system shall, as a minimum, be securely supported and restrained on alternate floors,

e) at least one hose valve for attaching fire department hose shall be provided at each intermediate landing or floor level in the exit stairway, f) valves shall be kept closed at all times and guarded against mechanical damage,

g) the standpipe shall be not more than one floor below the highest forms, staging, and similar combustible elements at all times, and

h) temporary standpipe systems shall remain in service until the permanent standpipe installation is complete.

3) Where a building being demolished floor by floor is equipped with a standpipe system, the system, together with fire department connections and valves, shall be maintained in operable condition on all storeys below the one being demolished, except for the storey immediately below it.

Important Note

Prior to construction proceeding above grade, a water supply must be connected to the fire suppression system. The water supply must be capable of supplying full water demand to the system as designed by the sprinkler engineer.

The standpipe systems will be installed progressively in conformance with BCBC 3.2.5. The Standpipes must be wet unless there is a threat of freezing as per A- 5.6.1.6. Manual dry standpipes do not comply

with the BC Building Code 3.2.5.9. *(A dry standpipe that is not connected to a water supply shall not be considered* as *fulfilling the requirements)*
The Fire Department Connection *(FDC)* must always be accessible from the exterior of the construction fencing and clearly labeled.

Standpipe System Riser Schematic Submission

The primary requirement for the standpipe system is the capability to deliver the full demand flow rate of 500 GPM at a residual pressure of 100 PSI (600kPa) at the most remote hose connection *(topmost floor).*

Required System Acceptance Testing NFPA 14

In accordance with *NFPA 14, Chapter 11 – System Acceptance (Sections 11.1 and 11.5),* standpipe systems shall be acceptance tested prior to occupancy to verify the required flow and pressure. Acceptance testing and all associated documentation shall be submitted to the Authority Having Jurisdiction (AHJ). Flow testing shall be conducted using an AHJ-approved method, and results shall be reflected on required standpipe signage where applicable. *All test records shall be completed, retained, and made available to the AHJ upon request.*

Important Note: ***All requirements in this guideline must be met in full and must also comply with the District of North Vancouver Fire Bylaw.***

Contact Information:
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