

M Sprinklers & Fire Alarms in Residential Buildings MASTER Requirement SPR101



D I S T R I C T O F N O R T H V A N C O U V E R

Purpose

The purpose of this handout is to clarify District of North Vancouver requirements for sprinklers and fire alarms in residential buildings.

Background

The British Columbia Building Code (BCBC) sets out sprinkler requirements by occupancy group, division and construction type. The District of North Vancouver Building Bylaw requires, with few exceptions, that single family homes in fire limits areas as well as all mercantile, industrial, assembly, institutional, business and multi-family residential buildings be sprinklered. The BCBC sentence 3.2.4.1.1 states that...*"A fire alarm shall be installed in a building in which an automatic sprinkler system is installed"*. The intent of this bulletin is to clarify fire alarm and sprinkler requirements in residential buildings in the District of North Vancouver.

Requirements

Buildings that are Sprinklered as a Requirement of the BCBC

All buildings are required to be sprinklered to the standard as prescribed by the code. NFPA 13D is not an accepted standard for row housing, townhouses or stacked units.

All Part 3 buildings that are required to be sprinklered by the BCBC must have a fire alarm system installed according to BCBC subsection 3.2.4. Part 9 buildings that are required to be sprinklered by the BCBC are subject to the fire alarm requirements per 9.10.18.

Buildings that are Sprinklered as a Requirement of the DNV Building Bylaw (and not the BCBC)

All buildings are required to be sprinklered to the applicable standard as prescribed by the BCBC. NFPA 13D is not an accepted standard for row housing, townhouses or stacked units containing more than two dwelling units.

Single Family Dwellings:

- The DNV Building Bylaw requires all single family homes in Fire Limits areas to be to be sprinklered.
- A sprinkler system in a single-family house must be installed to BCBC 3.2.5.13. Automatic Sprinkler Systems and the version of NFPA 13D referenced therein.
- Each dwelling unit must have its own sprinkler water supply.
- A one tank-type water closet must be installed and be supplied with water from the sprinkler head that is located farthest from the main supply.
- Backflow caused by back-siphonage or back pressure from fire sprinkler systems shall be prevented by the installation of dual check valve when the building is sprinklered to NFPA 13D and a flow through system is installed.
- Fire Alarms are not required to be installed in single-family dwellings.
- Attached and detached garages are not required to be sprinklered.

A Building Containing **Two** Dwelling Units:

- The DNV Building Bylaw requires all buildings containing two dwelling units to be to be sprinklered.
- A sprinkler system in a building containing two dwelling units must be installed to BCBC 3.2.5.13. Automatic Sprinkler Systems and the version of NFPA 13D referenced therein.
- Each dwelling unit must have its own sprinkler water supply.
- A one tank-type closet must be installed and be supplied with water from the sprinkler head that is located farthest from the main supply.
- Backflow caused by back-siphonage or back pressure from fire sprinkler systems shall be prevented by the installation of dual check valve when the building is sprinklered to NFPA 13D and a flow through system is installed.

- Fire Alarms are not required to be installed in two-family dwellings.
- Attached and detached garages are not required to be sprinklered.

A Building Containing **More Than Two** Dwelling Units:

- The DNV Building Bylaw requires all buildings containing more than two dwelling units to be to be sprinklered.
- A sprinkler system in a building containing more than two dwelling units must be installed to BCBC 3.2.5.13. Automatic Sprinkler Systems and the applicable version of either NFPA 13 or NFPA 13R referenced therein.
- A fire alarm is not required to be installed unless a fire alarm is required by BCBC 9.10.18 or 3.2.4 except that the sprinkler flow switch will cause an audible signal device(s) conforming to BCBC 3.2.4.18 to sound.
- Attached and detached garages are required to be sprinklered.
- Unless a monitored alarm system is installed in accordance with BCBC Section 3.2.4 a common supply main must serve both the sprinkler and domestic systems. Where a common supply main is used a single valve must be provided to shut off both the domestic and sprinkler systems, and a separate shutoff valve shall be provided for the domestic system only.
- The Fire Department connection must be 2 1/2" in diameter or more to be consistent with DNV equipment standards.

Part 9 Buildings on a Separate Basement Storage Garage Building

Unless a fire alarm is required by 9.10.18 each Part 9 building shall be configured as a single sprinkler zone and shall be equipped with a waterflow-detecting device. Each waterflow-detecting device shall be connected to initiate an alert or an alarm signal on the fire alarm system. The sprinkler flow switch will cause an audible signal device(s) conforming to BCBC 3.2.4.19 to sound in the affected zone. The actuation of each waterflow detecting device shall be indicated on the fire alarm system annunciator servicing the storage garage. The sprinkler flow switch will cause an audible signal device(s) conforming to BCBC 3.2.4.19 to sound the affected zone. All control valves and flow switches must be monitored in conformance with BCBC 3.2.4.9.

Owner/Timing:

Owners, designers and contractors are advised to contact the District of North Vancouver Plan Review, Building and Plumbing Inspection sections early in the design process to confirm requirements.

Related Requirements/Documents/Forms

MASTER Requirement SPE103: Fire Limits Area – Sprinklers

MASTER Requirement BLD101: Letters of Assurance

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