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Proposed Change 1917

Code Reference(s):	NBC20 Div.B 3.2.4.1. (first printing)
Subject:	Automatic Sprinkler System
Title:	Standardization of Terminology in NBC Sprinkler Requirements
Description:	This proposed change is one of a series of proposed changes that standardize the terminology related to sprinklers in the NBC.
Related Proposed Change(s):	PCF 1910, PCF 1912, PCF 1915, PCF 1916, PCF 1920, PCF 1921, PCF 1922, PCF 1924, PCF 1925, PCF 1926, PCF 1927, PCF 1928, PCF 1929, PCF 1930, PCF 1931, PCF 1932, PCF 1933, PCF 1934

This change could potentially affect the following topic areas:

- | | |
|--|---|
| <input type="checkbox"/> Division A | <input checked="" type="checkbox"/> Division B |
| <input type="checkbox"/> Division C | <input checked="" type="checkbox"/> Design and Construction |
| <input type="checkbox"/> Building operations | <input type="checkbox"/> Housing |
| <input type="checkbox"/> Small Buildings | <input checked="" type="checkbox"/> Large Buildings |
| <input checked="" type="checkbox"/> Fire Protection | <input type="checkbox"/> Occupant safety in use |
| <input type="checkbox"/> Accessibility | <input type="checkbox"/> Structural Requirements |
| <input type="checkbox"/> Building Envelope | <input type="checkbox"/> Energy Efficiency |
| <input type="checkbox"/> Heating, Ventilating and Air Conditioning | <input type="checkbox"/> Plumbing |
| | <input type="checkbox"/> Construction and Demolition Sites |

Problem

Currently, various wordings and phrases are used in the National Building Code of Canada (NBC) 2020 to describe whether or not sprinklers are mandated in the space or area in question. Inconsistent use of terminology could create confusion or misunderstanding.

This proposed change standardizes Code wording to clarify where sprinklers are mandated by the NBC by using the defined term "sprinklered" and thereby eliminates any potential confusion.

Justification

As defined in the NBC, “sprinklered (as applying to a building or part thereof) means that the building or part thereof is equipped with a system of automatic sprinklers.”

In the NBC 2020 and National Fire Code of Canada (NFC) 2020, 11 different phrases are used to indicate where sprinklers are mandated, while 8 different phrases are used to indicate where sprinklers are not mandated. In all cases, the defined term “sprinklered” could be used. Not standardizing this terminology could potentially cause confusion among architects and designers as to where sprinklers are mandated. Revising the Code wording to use the defined term “sprinklered” would introduce consistency as well as eliminate any potential confusion.

Table 1 shows the different phrases used in the NBC and NFC to indicate where sprinklers are mandated, along with their frequency.

Table 1. Existing Phrases Indicating Where Sprinklers Are Mandated in the NBC and NFC

Phrase	Code	Number of Occurrences
“... to have an automatic sprinkler system installed throughout ...”	NBC	1
“... an automatic sprinkler system shall be installed in ...”	NBC	1
“... sprinklers shall be installed in ...”	NBC	2
“... sprinklers shall be provided for ...”	NBC	1
“... sprinklers shall not be omitted in ...”	NBC	1
“... in which an automatic sprinkler system is installed ...”	NBC	1
“... in which a sprinkler system is installed ...”	NBC	2
“... in which a sprinkler system has been installed ...”	NBC	1
“... area served by the sprinkler system ...”	NBC	1
“... sprinklers are installed in ...”	NBC	1
“... shall be equipped throughout with a sprinkler system ...”	NFC	1

Table 2 shows the different phrases used in the NBC and NFC to indicate where sprinklers are not mandated, along with their frequency.

Table 2. Existing Phrases Indicating Where Sprinklers Are Not Mandated in the NBC and NFC

Phrase	Code	Number of Occurrences
“... do not require the installation of an automatic sprinkler system ...”	NBC	1
“... in which an automatic sprinkler system is not required to be installed ...”	NBC	1
“... sprinklers are not required in ...”	NBC	1

Table 2. Existing Phrases Indicating Where Sprinklers Are Not Mandated in the NBC and NFC (Continued)

Phrase	Code	Number of Occurrences
"... that is not protected by an automatic sprinkler system ..."	NBC	1
"... in which sprinklers are not installed ..."	NBC	2
"... where a sprinkler system is not installed ..."	NBC	1
"... in which an automatic sprinkler system is not installed ..."	NBC	2
"... need not be equipped throughout with a sprinkler system ..."	NFC	2

PROPOSED CHANGE

[3.2.4.1.] 3.2.4.1. Determination of Requirement for a Fire Alarm System

- [1] 1)** Except as permitted in Sentences (2) and (3), a fire alarm system shall be installed in *buildings* ~~in which an automatic sprinkler system is installed~~ *that are sprinklered*.
- [2] 2)** *Buildings* ~~in which a sprinkler system is installed~~ *that are sprinklered* in accordance with NFPA 13D, "Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes", need not comply with Sentence (1).
- [3] 3)** *Buildings* that contain fewer than 9 sprinklers conforming to Sentence 3.2.5.12.(4) need not comply with Sentence (1).
- [4] 4)** Except as permitted by Sentences (5), (6) and 3.2.4.2.(4), a fire alarm system shall be installed in a *building* that is not *sprinklered* throughout and that contains
- [a] a) a *contained use area*,
 - [b] b) an *impeded egress zone*,
 - [c] c) more than 3 *storeys*, including the *storeys* below the *first storey*,
 - [d] d) a total *occupant load* more than 300, other than in open air seating areas,
 - [e] e) an *occupant load* more than 150 above or below the *first storey*, other than in open air seating areas,
 - [f] f) a school, college, or child care facility, including a daycare facility, with an *occupant load* more than 40,
 - [g] g) a licensed beverage establishment or a licensed restaurant, with an *occupant load* more than 150,
 - [h] h) a *low-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
 - [i] i) a *medium-hazard industrial occupancy* with an *occupant load* more than 75 above or below the *first storey*,
 - [j] j) a *residential occupancy* with sleeping accommodation for more than

- 10 persons,
- [k] k) a *high-hazard industrial occupancy* with an *occupant load* more than 25, or
- [l] l) an *occupant load* more than 300 below an open air seating area.
- [5] 5)** A fire alarm system is not required in a *residential occupancy* that is not *sprinklered*, where
- [a] a) not more than 4 *suites* share a common *means of egress*, or
- [b] b) each *suite* has direct access to an exterior *exit* facility leading to ground level.
- [6] 6)** A fire alarm system is not required in a *storage garage* conforming to Article 3.2.2.92. that is contained in a *building* that is not *sprinklered* provided there are no other *occupancies* in the *building*.

Impact analysis

This proposed change clarifies Code language by using the defined term for consistency. This proposed change would facilitate interpretation of the Code requirements and eliminate potential confusion. As a result, it is expected that a consistent and appropriate level of safety would be provided without any confusion. No additional costs are expected.

Enforcement implications

This proposed change is intended to clarify the intent of the requirements, which should aid in the understanding and enforcement of the Code.

Who is affected

Authorities having jurisdiction, designers and contractors.

OBJECTIVE-BASED ANALYSIS OF NEW OR CHANGED PROVISIONS

[3.2.4.1.] 3.2.4.1. (**[1]** 1) [F11-OS1.5] [F13-OS1.5,OS1.2]

[3.2.4.1.] 3.2.4.1. (**[1]** 1) [F13-OP1.2]

[3.2.4.1.] 3.2.4.1. (**[2]** 2) no attributions

[3.2.4.1.] 3.2.4.1. (**[3]** 3) no attributions

[3.2.4.1.] 3.2.4.1. ([4] 4) [F11-OS1.5]

[3.2.4.1.] 3.2.4.1. ([5] 5) no attributions

[3.2.4.1.] 3.2.4.1. ([6] 6) no attributions