

BULLETIN 2024-002-BU

July 12, 2024

Spatial Separation for Garages in Part 9 Multiplex Residences

Multiplex buildings frequently include attached carports or open-air storage garages that serve one or more residential buildings on a single site with space constrained conditions. This bulletin identifies alternative compliance measures to facilitate the spatial separation for such garages with limited set back from the property line, in Part 9 construction.

Background

Multiplex buildings (Multiple Dwelling Buildings containing 3 or more dwelling units in an R1-1 zone) are frequently designed to include attached carports or open-air storage garages that serve one or more residential buildings on a site. Due to the limited space available on small residential lots, there is significant competition for space adjacent to the rear lane to provide building access and services, which influence project viability.

Common concerns could include:

- Minimum spatial separation for attached carports and storage garages;
- Pad mounted transformers plus clear spaces for maintenance and access;
- Requirement for access or egress from the buildings on site to the back lane;
- Minimum building set back requirements on both sides of a building.

This bulletin identifies a set of alternative compliance measures acceptable to the Chief Building Official that will facilitate the development of open-air storage garages facing adjacent properties for Multiplex buildings designed to Part 9 of the Building By-law.

Clarification/Requirements

An attached carport or open-air storage garage located beneath building floor area and supporting the storage of vehicles form a part of the building¹ regardless of whether or not this is substantially open. As such, they are required to comply with the spatial separation requirements of the Building By-law, typically Division B, Subsections 9.10.14. or 9.10.15. for most Multiplex projects.

For the purposes of establishing a practical approach toward addressing the site constraints for Multiplex projects, the Chief Building Official may consider attached carports or open-air storage garages to be subsidiary to the building to which it is attached, and permit 100% unprotected openings for the carports or garage where the design incorporates additional fire safety features as identified below:

Design of the Carport or Garage

1. The building containing the attached carport or open-air storage garage for not more than 5 motor vehicles, designed in accordance with Part 9 of the Building By-law.
2. The storage garage serves only the residential building to which it is attached and residential buildings on the same residential lot.
3. The perimeter walls are substantially open on at least 3 sides, with not less than 25% of the total area of those walls (around the carport or storage garage) open to the exterior in a manner that will provide cross ventilation of the garage.

¹Building By-law (2019) definitions:

“**Building** means any structure used or intended for supporting or sheltering any use or occupancy, including any float home or marina and any retaining structures greater than 1.2 m in height.”

“**Storage garage** means a building or part thereof intended primarily for the storage or parking of motor vehicles and containing no provision for the repair or servicing of such vehicles.”

4. The limiting distances to adjacent property lines or to an imaginary line between buildings on the same property is not less than 1.2 m.
5. A *fire separation* is provided between the carport/storage garage and all adjacent spaces in the building², with a minimum 1 h *fire-resistance rating*.
6. The garage or carport is provided with a smooth flat ceiling³, protected with sprinklers satisfying the following design criteria in addition to the requirements of the relevant sprinkler design standard:
 - a. The attached carport or open-air storage garage is protected by quick response sprinklers
 - b. A minimum design density of 0.15 USgpm/sq.ft.

Explanation

Conceptually, the above requirements provide a combination of specific fire safety measures that are broadly consistent with the protection that would be provided by a storage garage constructed in traditional lower density residential buildings. These promote a more resilient structure supplemented by additional protection, that better balances the various Multiplex design needs.

Cross Ventilation

The above fire protection requirements recognize that the open-air nature of attached carports or open-air storage garages, which are not typically subject to the same degree of fire intensity and smoke entrapment they are within an enclosed interior space. This assumption is dependent upon the degree of openness and the availability of cross-ventilation in order to ensure that the products of combustion are not confined which could increase the severity of a fire. Consequently, the arrangement of the parking should be such that barriers that would impede the free movement of the products of combustion resulting from a fire.

Spatial Separation

Multiplex buildings are fully residential, and generally contain a small number of suites with a combined floor area consistent with traditional detached houses or duplexes. Sprinklers are already required under covered areas where storage is expected by NFPA 13 and its derivative standards. The provisions of this bulletin provide for supplemental minimum water delivery requirements that are broadly consistent with the protection of storage garages in other larger multi-family residential buildings, which are intended to contain a fire and its effect to the area of origin, reducing the concerns related to unprotected openings.

Resiliency and Subsidiary Uses

The enhanced fire separation and sprinkler requirements espoused by this bulletin are intended to limit the likelihood of fire spread into the attached residential units and provide greater containment of a fire till the fire department can arrive and begin suppression operations. This may reduce the likelihood of occupants being displaced following a fire.

² The *fire separation* requirements for the garage/carport are supplementary to the construction requirements of Article 9.10.9.16. (including air barriers).

³ Having the meaning associated with the relevant sprinkler standard (NFPA 13, 13R, or 13D).

A further objective of this bulletin is to provide additional clarity with respect to the status of carports and garages for the use of persons that do not reside in the building to which they are attached. One of the concerns is that certain ownership arrangements (such as strata) do not afford the occupants of the attached residential structure control over the use of or conditions in the carport or garage below, which could lead to meaningful impacts to the building occupants or their possessions.

(Original signed by)

Saul Schwebs
Chief Building Official
Director, Building Code and Policy

(Original signed by)

Kevin Lau, P.Eng, CP
Manager, Building Policy Branch