



Building Advisory B23-006
February 12, 2025

Subject: Triplex, Fourplex Buildings with Secondary Suites, and Emergency Access
(Part 9, Subsection 9.10.15 Houses)

Background

Developed in conjunction with Calgary Fire Department (CFD), this Advisory is to provide and improve the level of understanding and promote quality and completeness of applications to avoid delays in Building Permit processing for residential buildings containing three or four dwelling units (triplex or fourplex buildings) with secondary suites, divided by firewalls into separate buildings and clarify requirements related to emergency access for firefighting and critical medical interventions.

To facilitate the development of missing middle housing, there is a need to broaden the way in which designers can meet the intent and objectives of the National Building Code (Alberta Edition) [NBC (AE)] Sentence 9.10.11.2.(2). – Firewalls Not Required and the National Fire Code (Alberta Edition) [NFC(AE)] Sentence 2.5.1.1.(1) – Access to Buildings

As a design choice, the orientation of the firewall required by NBC (AE) to separate buildings each containing no more than 2 adjacent houses with secondary suites with entrances remote from the street may or may not require the installation of a sprinkler system within the rear component of the building so separated by the firewall.

Design evidence for acceptable emergency access for firefighting and rescue purposes is expected to be provided with all Building Permit applications.

Advisory

1.0 NBC (AE) requirements

Sentence 9.10.11.2.(2) of the NBC (AE) states: *“Where a building of residential occupancy contains more than 2 houses, a party wall that separates any 2 adjacent houses with a secondary suite from the rest of the building shall be constructed as a firewall to create separate buildings each containing no more than 2 adjacent houses with a secondary suite.”*

The (NBC (AE) also requires that every building have acceptable emergency access. This is critical to save lives in the event of an emergency and must allow emergency personnel and equipment to pass safely and efficiently.

1. Policy

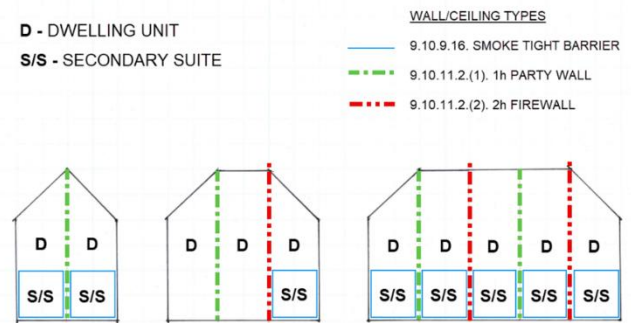
- Both buildings separated by a firewall that is designed perpendicular to the street are considered to have direct access to at least one face of the building by means of a street.
- If the required firewall is designed parallel with the street, the back building separated by firewall must be equipped with a sprinkler system designed and installed in compliance with the requirements of the National Fire Protection Association (NFPA) 13D, unless the following conditions are simultaneously met:
 - The distance measured from the street fire hydrant to the fire apparatus is no more than 45 metres and, the distance measured from fire apparatus to each entrance remote from the street is not more than 45 m and
 - The tri-plex/four-plex building is located within a seven-minute fire department response time and

- The rear yard allows for a ladder set up of maximum 60 degrees to reach windows from uppermost level, as required for firefighting or rescue purposes and
- No rear yard structure should take up the entire width of the residential lot.
- A triplex or fourplex building with secondary suites shall be located on a residential lot so that a path of travel for the responders from their vehicles to the principal entrance of the building is not more than 45 m.
- Every triplex or fourplex with a secondary suite shall have an acceptable access for emergency responders from a street or fire department access route. A minimum of 1m wide by 2.1 m clear height side yard access with no obstructions shall always be provided for the entrances remote from the street.

1.2 Application of NBC (AE) to triplex and fourplex buildings

Firewalls are required for buildings of residential occupancy containing more than 2 houses, to create separate buildings each containing no more than 2 adjacent houses with a secondary suite, as required by NBC (AE) Sentence 9.10.11.2.(2)

A party wall that separates any 2 adjacent houses with a secondary suite from the rest of the building shall be constructed as a firewall to create separate buildings each containing no more than 2 adjacent houses with a secondary suite. Furthermore, the construction of the firewall shall comply with the requirements as per Part 3 NBC (AE) Article 9.10.11.3 Construction of the Fire Walls.

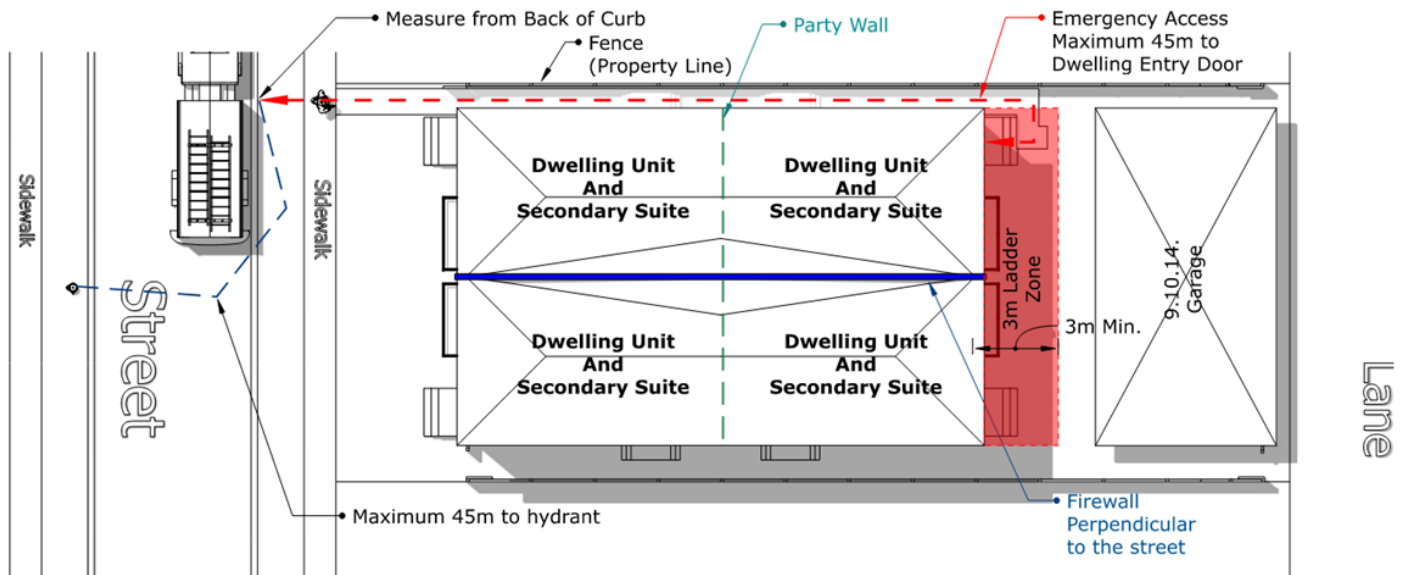


National Building Code 2023 (Alberta Edition)

2.0 Design orientation of the firewall

2.1 Firewall orientation – perpendicular with the street

Sentence 2.5.1.1.(1) – Access to Buildings from NFC(AE) requires direct access to at least one face of every building by means of a street, private roadway or yard.



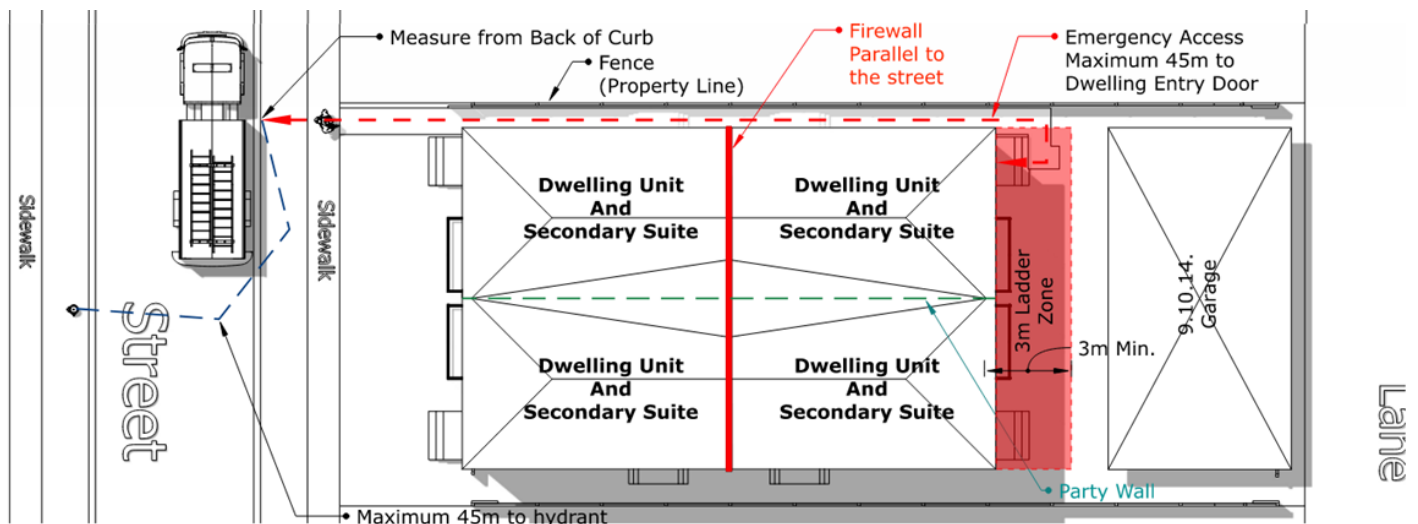
Both buildings so separated by a firewall are considered to have direct access to at least one face of the building by means of a street where the required firewall is designed to be oriented perpendicular to the street.

The triplex or fourplex building shall be accessed from the street or access route that has a path of travel to all units with entrances remote from the street (the back units) is no more than 45 m.

If this design option is chosen, sprinklers are not required for the back cut-off portion of the building so divided by a firewall with units having entrances remote from the street.

2.2 Firewall parallel with the street

If this design option is chosen, then the firewall creates a separate building that is not having direct access to at least one face, as required by Sentence 2.5.1.1.(1) – Access to Buildings from NFC(AE).



Even where the 45 m rule is maintained, the firewall creates a completely cut off portion from the remainder of the building that warrants special variations for fire department access that could be permitted, such could be a sprinkler system installation to NFPA 13D.

Installation of the sprinkler system can be omitted if the following four conditions can be simultaneously met:

- The distance measured from the street hydrant to the fire apparatus at the curb is not more than 45 m, and the distance measured from fire apparatus to each entrance remote from the street is not more than 45 m and
- The triplex/fourplex building is located within seven-minute fire department response time (the seven-minute response time standard is a commitment made by The City of Calgary and the Calgary Fire Department to ensure public safety. While this standard generally applies to redevelopments within city limits, developments situated near the city boundary may encounter difficulties in meeting this requirement. The Calgary Fire Department will assess this requirement for these developments during the Development Permit or Building Permit review process) and
- The rear yard allows for a ladder set up at maximum 60 degrees that could reach windows from the uppermost level, required for firefighting or rescue purposes (Part 9 of the NBC (AE) provides clear guidelines for limiting distances when determining spatial separation between buildings. When both buildings comply with cladding, unprotected openings and exterior walls construction requirements, the 1.2 m rule for spatial separation is a baseline. This provides 2.4 m total clearance between the triplex or fourplex and the garage. Yet, for operational firefighting and rescue purposes, additional provision is required. For example, the ground space needed for a ladder inclined at 60 degrees to reach a 3rd floor

window is minimum 3 m between the building and the rear yard structure/garage. Less rear yard distance would be required for one or two - storey triplex or fourplex buildings) and

- No rear yard structure should take up the entire width of the residential lot. A designer may attempt to propose a design for a triplex or fourplex with secondary suites with one side the exterior wall constructed on the property line, or inches away from property line. In this case, the other side would be open. Furthermore, a rear yard structure would have at least one side open to the back lane for property management perspective and ensures occupants have access to and from the back lane/garbage collection.

If one or more conditions from above cannot be met, a sprinkler system according to NFPA 13D must be designed by a professional engineer and installed in the cut-off portion of the building so divided by a firewall, within all units that have entrances remote from the street.

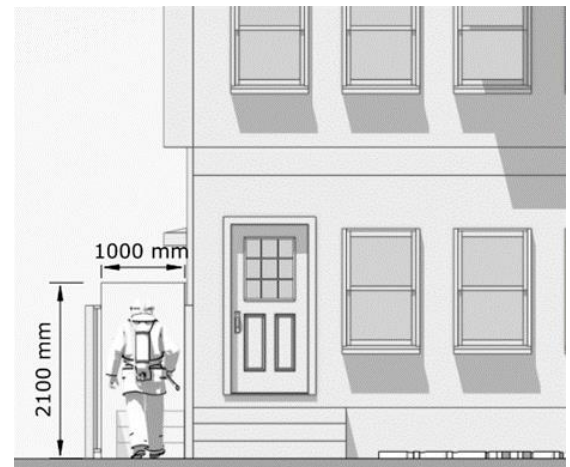
3.0 - Meeting emergency access requirements

Fire suppression activities involve firefighters wearing cumbersome and bulky personal protective equipment carrying and using hose lines and large manual and automatic tools. A minimum width of 1 meter is permitted to allow firefighters to conduct firefighting operations effectively and efficiently.

The emergency access to a triplex or fourplex with secondary suites with entrances remote from the street shall be provided entirely on the subject property, provided the length of the path of travel is never more than 45 m.

Acceptable design evidence for emergency access in all cases shall be provided in Building Permit applications via:

- A minimum 1 m. wide pedestrian pathway in the side yard on a residential lot, leading to all entrances remote from the street.
- A minimum 2.1 m clear height on the property, with any gates installed on the path of travel capable of being opened to provide clear width of at least 1 m.
- Electric and gas meters and other similar localized projections are allowed to project into this required 1 m path of travel width.
- Projections into the side yard emergency access not allowed include air conditioning units, fireplace vents, cantilevers, window wells, sheds, fences, and decks.
- Landings and stairs are not permitted to encroach in the 1 m width side yard emergency access unless stairs are on both sides of landing and maintain clearance of 2.1 m above.
- A fire hydrant must be located within 45 m of where a firefighting vehicle would park within the proximity of the subject property or at the intersection of a flanking street and the back lane.
- A maximum of 45 m in length measured from the public street where the fire apparatus would park to the entries of the building so separated by firewall, is also required.



Minimum Side Yard Access Dimensions

This interpretation was accepted by the Codes and Standards Technical Interpretation Committee (CSTIC – February 12, 2025).

Chief Building Official
The City of Calgary

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