

Proposed Changes to the British Columbia Building Code 2024

Title: National Building Code Secondary Suites

Subject/description: Proposal to primarily accept the smoke-tight barrier solution for secondary suites from the model National Building Code (NBC) as an additional option in the British Columbia Building Code (BCBC).

Applicable Code references: Part 9 of Division B

Problem

B.C. has had provisions for secondary suites in the British Columbia Building Code (BCBC) since 1995. The National Building Code (NBC) introduced provisions for accommodating the design and construction of a secondary suites in its 2010 edition. In 2019 (Revision 2 to the BCBC 2018), the Province substantially harmonized its unique secondary suite provisions with the form, approach, and most of the technical requirements of the NBC with the aim to increase options for the design and construction of new secondary suites in buildings.

One technical difference that the Province did not adopt was the NBC's solution of a smoke-tight barrier. Although the BCBC offers a comparable solution, it requires a slightly more robust assembly in trade for additional area allowances and for secondary suites to be more easily constructed in more housing forms (such as row houses).

For small housing forms such as single detached houses and side-by-side houses, they may not require the area and building form flexibility for a secondary suite to be a viable project and may see some benefit to constructing to slightly relaxed assembly requirements that are commensurate with the lesser risk that small units have.

Adopting the NBC's solution for a smoke-tight barrier would be an additional option alongside the existing options in the BCBC which may, for some small secondary suite projects, provide a slightly more cost-effective solution.

It is proposed that the existing options in the BCBC remain the same and that the NBC's solution for a smoke-tight barrier be adopted as an additional option for designers to consider.

Justification

While the NBC's smoke-tight barrier is less robust than an assembly that acts as a fire separation, the NBC has some additional requirements to help mitigate the risks which the

BCBC doesn't have. These include a limitation on the size of the secondary suite (80 square metres or 861 square feet) as well as a configuration limit that the secondary suite floor area must be less than 80 percent of the floor area of the other dwelling unit in the house. The NBC also requires that two adjacent houses with secondary suites must be separated from any other house (such as a 3rd row house) or other occupancy with firewalls. (The smoke alarm requirements in the NBC are the same as the BCBC requirements when using fire separations with a 15 min fire-resistance rating. The NBC requires full interconnection of all smoke alarm devices in the house with no other option. There are also some differences in the NBC for means of egress.)

The BCBC's fire separation with a 15 min fire-resistance rating differs from the NBC's smoke-tight barrier in that it also requires fire blocking in wall cavities and that it requires firestopping at penetrations. The NBC's smoke-tight barrier provisions do not discuss wall cavities, nor do they discuss penetrations other than by doors. The NBC's smoke-tight barrier is to be continuous and required for walls and floor-ceiling assemblies that separate the dwelling units from each other. Other assemblies such as exterior walls are not specifically addressed as far as the application of smoke-tight barriers apart from some exterior walls that meet at an angle.

For some secondary suite projects, it may be advantageous to construct assemblies that are smoke-tight barriers over assemblies that are fire separations. However, it would be necessary to then also comply with all of the NBC's mitigating requirements related to smoke-tight barriers. It is not acceptable to use the NBC's smoke-tight barrier solution when using the BCBC's area allowances (i.e. greater than 80 square metres). It is also not acceptable to use the NBC's smoke-tight barrier solution when using the BCBC's options for interconnection of smoke alarms – houses with smoke-tight barriers must have all smoke alarms fully interconnected between both dwelling units.

The NBC is a developed as a consensus-based document and can be relied upon as a credible ruleset.

Proposed Change

In this document:

Black text represents 2020 National Model Code content adopted in the British Columbia Building Code 2024

Blue text represents unique-to-British Columbia content adopted in the British Columbia Building Code 2024 and blue underlined text represents new proposed amendments to 2020 National Model Code content that was not previously adopted and is now proposed for adoption

Green underlined text represents 2020 National Model Code content that was not previously adopted and is now proposed for adoption

~~Red text~~ represents content proposed for deletion

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Part 1 of Division A

1.4.1.2. Defined Terms

1) The words and terms in italics in this Code shall have the following meanings:

Secondary suite means a self-contained *dwelling unit* located within a *building* or portion of a *building*

- completely separated from other parts of the *building* by a vertical fire separation that has a fire-resistance rating of not less than 1 h and extends from ground or lowermost assembly continuously through or adjacent to all storeys and spaces including service spaces of the separated portions,
- of only *residential occupancy* that contains only one other *dwelling unit* and common spaces, and
- where both *dwelling units* constitute a single real estate entity. (See Note A-1.4.1.2.(1).) (See also Articles 9.1.1.1. and 9.1.2.1. of Division B.)

A-1.4.1.2.(1)

Secondary Suite

A secondary suite is a self-contained dwelling unit that is part of a house containing not more than two dwelling units (including the secondary suite) and any common spaces such as common storage, common service rooms, common laundry facilities or common areas used for egress. Secondary suites are typically created within an existing single dwelling unit—commonly called a “house”—either constructed as an addition or an alteration to an existing house or incorporated during the construction of a new house. A secondary suite may have more than one storey and may be on the same level as the other dwelling unit of the house or be above or below it.

Examples of buildings where secondary suites are permitted include individual detached houses, or where the secondary suite is located in a portion of a building, semi-detached houses (half of a double and also known as a side-by-side) and row houses where a vertical fire separation separates the portion from the remainder of the building.

Where a building has multiple vertically separated occupancies, the secondary suite can only be created in a vertically separated portion of the building that is of residential occupancy. A vertical fire separation that extends continuously through all crawlspaces, storeys and attic spaces of the building is required to vertically separate the building.

Apartment buildings have dwelling units above and below others that share a horizontal assembly and are therefore not permitted to have secondary suites. Figure A-1.4.1.2.(1)-C shows building types where secondary suites are permitted as well as building types where other dwelling units or other occupancies are located above or below such that secondary suites are not permitted.

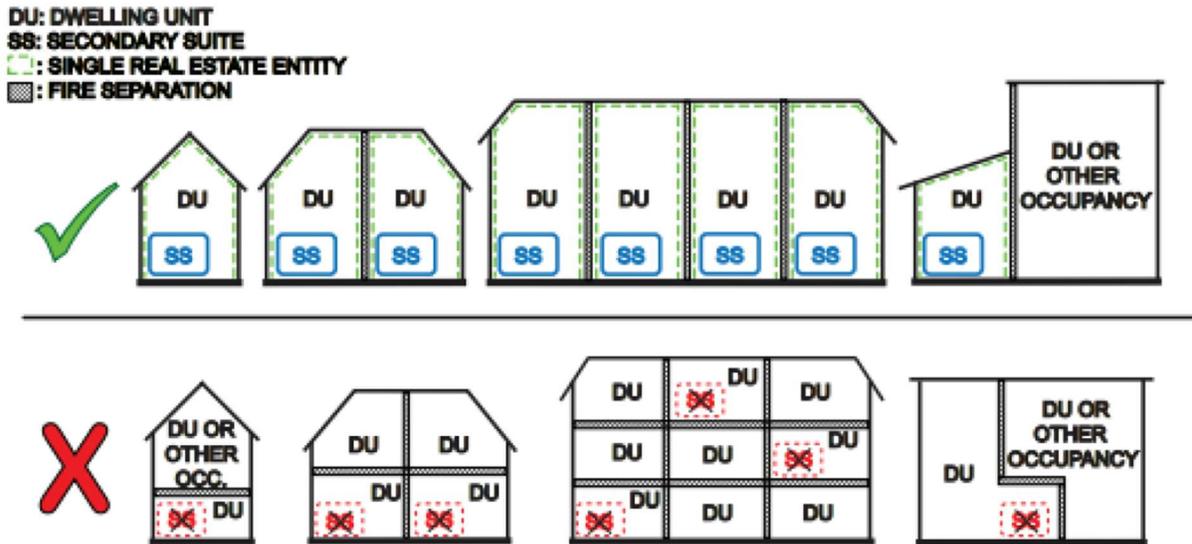


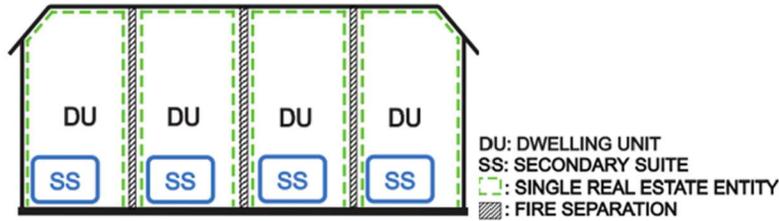
Figure A-1.4.1.2.(1)-C
Building Types where Secondary Suites are Permitted

Neither the secondary suite nor the other dwelling unit in a house can be strata-titled or otherwise subdivided from the remainder of the house under provincial or territorial legislation. This means that both dwelling units are registered under the same title.

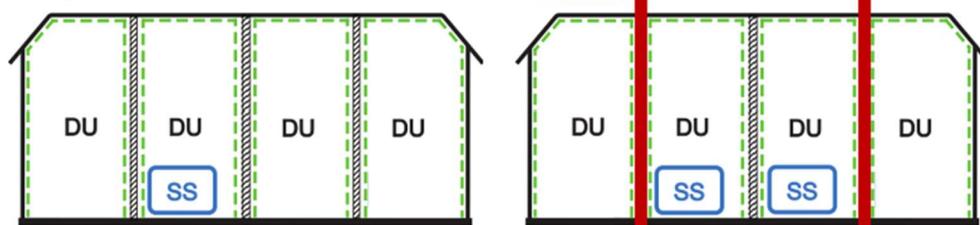
[See Figure A-1.4.1.2.\(1\)-C2 for row house building types with secondary suites with fire separations and secondary suites with smoke-tight barriers in lieu of fire separations within houses.](#)

Proposed Code

British Columbia Building Code permits every rowhouse to have a secondary suite



National Building Code permits a rowhouse to have a secondary suite, **BUT** if an adjacent house wants to add a secondary suite then **firewalls** must be added



[Figure A-1.4.1.2.\(1\)-C2](#)
[Row House Building Types with Secondary Suites](#)

Part 9 of Division B

9.1.1. Application

9.1.1.2. Compliance of Secondary Suites

(See Note A-9.1.1.2.)

1) Secondary suites shall comply with all applicable requirements in Part 9 except that

a) *secondary suites* constructed with *fire separations* separating each *dwelling unit* from the other and from their ancillary and common spaces in the house shall comply with all requirements in Part 9 related to *fire separations* for *secondary suites*, and

b) *secondary suites* that are not constructed with *fire separations* separating each *dwelling unit* from the other and from their ancillary and common spaces in the house shall comply with all requirements in Part 9 related to smoke-tight barriers separating each *dwelling unit* from the other and from their ancillary and common spaces.

9.1.2. **Reserved** Limits on Floor Area

9.1.2.1. Floor Area Limits for Secondary Suites

1) Secondary suites described in Clause 9.1.1.2.(1)(a) constructed with *fire separations* separating each *dwelling unit* from the other and from their ancillary and common spaces in the house are not limited in *floor area* except as established by Article 1.3.3.3. of Division A.

2) Secondary suites described in Clause 9.1.1.2.(1)(b) that are not constructed with *fire separations* separating each *dwelling unit* from the other and from their ancillary and

common spaces in the house and which comply with all requirements related to smoke-tight barriers instead shall comply with the *floor area* limits of Sentence (3).

- 3) The total *floor area* of all *storeys* of a *secondary suite* described in Sentence (2) shall be not more than the lesser of
- a) 80% of the total *floor area* of all *storeys* of the other *dwelling unit*, excluding the *garage floor area* and common spaces serving both *dwelling units*, and
 - b) 80 m².

A-9.1.2.1. Compliance of Secondary Suites. While most secondary suite provisions will apply to all secondary suites, there is a distinction between secondary suites that have fire separations separating each *dwelling unit* from the other and from their ancillary and common spaces in the house and those that have smoke-tight barriers. When smoke-tight barriers are used, there are some permissions that cannot be applied, and some additional mitigating measures required. These provisions make reference back to the option to use smoke-tight barriers in described in Clause 9.1.1.2.(1)(b). Sentence (3) is an example of additional mitigating measures for secondary suites described in Clause 9.1.1.2.(1)(b).

9.9. Means of Egress

9.9.3.3. Width of Corridors

- 1) Except as provided by Sentence (2), the ~~The~~ width of every *public corridor*, corridor used by the public, and *exit* corridor shall be not less than 1 100 mm. (See also Subsection 9.9.5. for obstructions in corridors.)
- 2) Except for houses with *secondary suites* described in Clause 9.1.1.2.(1)(b), the ~~The~~ width of *public corridors* and *exit* corridors that serve only a house with a *secondary suite* including their common spaces shall be not less than 860 mm.

9.9.4.2. Fire Separations for Exits

- 2) Except as provided by Sentence (6), where ~~Where~~ an *exit* is located in a house with a *secondary suite* including their common spaces, the *exit* shall be separated from adjacent *floor areas* with a *fire separation*
 - a) having a *fire-resistance rating* not less than 15 min where all *smoke alarms* within the house are of photo-electric type and interconnected as described in Clause 9.10.19.5.(2)(a),
 - b) having a *fire-resistance rating* not less than 30 min where additional *smoke alarms* of photo-electric type are installed and interconnected as described in Clause 9.10.19.5.(2)(b),
 - c) having a *fire-resistance rating* not less than 45 min when *smoke alarms* are not installed and interconnected as described in Clauses (a) or (b), or
 - d) that is not required to have a *fire-resistance rating* if the *building* is *sprinklered*.

6) Where an exit is located in a house with a secondary suite including their common spaces described in Clause 9.1.1.2.(1)(b), the exit shall be protected by a continuous smoke-tight barrier of not less than 12.7 mm thick gypsum board installed on
a) both sides of walls separating the exit from the remainder of the building, and
b) the underside of floor-ceiling framing separating the exit from the remainder of the building.
(See Sentence 9.10.9.3.(2) for closures.)

9.9.4.6. Openings Near Exit Doors

1) Where an exterior exit door in one fire compartment is within 3 m horizontally of an unprotected opening in another fire compartment and the exterior walls of these fire compartments intersect at an exterior angle of less than 135°, the opening shall be protected with

- a) wired glass in fixed steel frames conforming to Article 9.10.13.5., or
- b) glass block conforming to Article 9.10.13.7.

2) Where an exterior exit door in one dwelling unit, ancillary space or common space in a house with a secondary suite described in Clause 9.1.1.2.(1)(b) is within 3 m horizontally of an unprotected opening in another dwelling unit, ancillary space or common space and the exterior walls of these spaces intersect at an exterior angle of less than 135°, the opening shall be protected with

- a) wired glass in fixed steel frames conforming to Article 9.10.13.5., or
- b) glass block conforming to Article 9.10.13.7.

9.9.5.9. Ancillary Rooms

1) Except as provided by Sentence (2), ancillary Ancillary rooms such as storage rooms, washrooms, toilet rooms, laundry rooms and service rooms shall not open directly into an exit.

2) Houses with a secondary suite described in Clause 9.1.1.2.(1)(b) need not comply with Sentence (1).

9.9.6.1. Obstructions by Doors

4) Doors serving a single dwelling unit or a house with a secondary suite described in Clause 9.1.1.2.(1)(b) need not comply with Sentences (2) and (3).

9.9.9.3. Shared Egress Facilities

2) Where a dwelling unit is located above another dwelling unit or common space in a house with a secondary suite, the upper dwelling unit shall be provided with a second and separate means of egress where an egress door from that dwelling unit opens onto an exterior passageway that

- a) has a floor assembly with a fire-resistance rating less than 45 min,
- b) is served by a single exit stairway or ramp, and

c) is located more than 1.5 m above adjacent ground level.

9.10. Fire Protection

9.10.3.1. Fire-Resistance and Fire-Protection

2) Except as permitted by Sentence (4), in a house with a *secondary suite* including their common spaces, where a minimum *fire-resistance rating* of 15 min is permitted, the construction described in Clause 9.11.1.1.(2)(a) is permitted to be used.

3) Except as permitted by Sentence (4), in a house with a *secondary suite* including their common spaces, where a minimum *fire-resistance rating* of 30 min is permitted, it is permitted to use construction having

a) walls and floor/ceiling assemblies framed with wood studs,

b) joist spaces filled with

i) preformed insulation of rock or slag fibres conforming to CAN/ULC-S702, "Mineral Fibre Thermal Insulation for Buildings," having a mass per unit area of not less than 1.22 kg/m² of floor surface, or

ii) wet-blown cellulose fibres conforming to CAN/ULC-S703, "Cellulose Fibre Insulation for Buildings," having a density of not less than 50 kg/m³ to a minimum depth of 90 mm on the underside of the subfloor and the sides of the structural members,

c) stud spaces of

i) *non-loadbearing* assemblies filled with preformed insulation of glass fibres conforming to CAN/ULC-S702.1, "Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification," having a mass per unit area of not less than 0.6 kg/m² of wall surface, and

ii) *loadbearing* assemblies filled with preformed insulation of rock or slag fibres conforming to CAN/ULC-S702.1, "Standard for Mineral Fibre Thermal Insulation for Buildings, Part 1: Material Specification," having a mass per unit area of not less than 1.22 kg/m² of wall surface, or filled with insulation of cellulose fibres conforming to CAN/ULC-S703, "Standard for Cellulose Fibre Insulation (CFI) for Buildings," having a density of not less than 50 kg/m³,

d) resilient channel on one side of the *fire separation* spaced 400 or 600 mm o.c., and

e) not less than 12.7 mm thick gypsum board on ceilings and on both sides of walls. (See also Clause 9.11.1.1.(2)(a).)

4) Fire-resistance ratings and fire-protection ratings are not required within a house with a *secondary suite* described in 9.1.1.2.(1)(b). (See applicable requirements for smoke-tight barriers in this Part.)

9.10.8.8. Floors of Exterior Passageways

- 3) No *fire-resistance rating* is required for floors of exterior passageways serving
- a) ~~reserved~~, except as required by Sentence 9.9.9.3.(2), a house, with a secondary suite described in Clause 9.1.1.2.(1)(b), or
 - b) a single *dwelling unit* where no *suite* is located above or below the *dwelling unit* (~~see also Sentence 9.9.9.3.(2)~~).

9.10.8.10. Application to Houses

- 1) Table 9.10.8.1. does not apply to
 - a) a *dwelling unit* that has no other *dwelling unit* above or below it,
 - b) except as provided by Sentence (2), houses with a secondary suite including their common spaces, or
 - c) a *dwelling unit* that is not above or below another *major occupancy*.
- 2) Table 9.10.8.1. does not apply to houses with a secondary suite described in Clause 9.1.1.2.(1)(b) provided the floor framing is protected on the underside by a continuous smoke-tight barrier of not less than 12.7 mm thick gypsum board.

9.10.9.9 Fire Separations and Smoke-tight Barriers between Rooms and Spaces within Buildings

9.10.9.1. Application

- 1) This subsection applies to
 - a) *fire separations* between rooms and spaces within *buildings*, except between rooms and spaces within a *dwelling unit*, and
 - b) ~~reserved~~: smoke tight barriers required in houses with a secondary suite including their common spaces described in Clause 9.1.1.2.(1)(b).

9.10.9.2. Continuous Barrier

- 2) ~~Reserved~~: Except as permitted in Article 9.10.9.3., a wall or floor assembly required to be a smoke-tight barrier shall be constructed as a continuous barrier against the spread of smoke. (See Note A-9.10.9.2.(2) and (3).)
- 3) Except as provided in Sentence (6), the continuity of a *fire separation* where it abuts another *fire separation* or smoke-tight barrier, a floor, a ceiling, or a roof shall be maintained by a *firestop* that, when subjected to the fire test method in CAN/ULC-S115, "Standard Method of Fire Tests of Firestop Systems," has an FT rating not less than the *fire resistance rating* for the abutting *fire separation*. (See Note A-9.10.9.2.(2) and (3).) (See also Note A-3.1.8.3.(2).)

A-9.10.9.2.(2) and (3) Continuity of Smoke-Tight Barrier. The continuity of a smoke-tight barrier where it abuts another smoke-tight barrier, a floor, a ceiling or a wall assembly is maintained by constructing smoke-tight joints (e.g., through the design of the gypsum board joints and framing members) or by filling all openings at the juncture of the

assemblies with a material that will ensure the integrity of the smoke-tight barrier at that location.

9.10.9.3. Openings to be Protected with Closures

- 3) Doors in smoke-tight barriers shall
a) be solid-core, wood doors at least 45 mm thick, and
b) have a self closing device.
(See Note A-9.10.9.3.(2).)

9.10.9.9. Penetrations by Raceways, Sprinklers and Fire Dampers

6) Except as required by Sentence (7), in ~~In~~ a house with a *secondary suite* including their common spaces, ducts penetrating *fire separations* need not be equipped with *fire dampers* in conformance with Article 3.1.8.10. provided they are *noncombustible* with all openings in the duct system serving only one *fire compartment*.

7) In a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), an air duct distribution system serving one of the *dwelling units* in the house shall not be directly interconnected with other parts of the house. (See Sentence 9.33.1.1.(5).)

9.10.9.16. Separation of Residential Suites

1) Except as provided in Sentences (2) to ~~(4)~~(5) and Article 9.10.21.2., *suites* in *residential occupancies* shall be separated from adjacent rooms and *suites* by a *fire separation* having a *fire-resistance rating* of not less than 45 min.

3) Except as provided in Sentence (4), *dwelling units* that contain 2 or more *storeys* including *basements* as well as houses with a *secondary suite* including their *common spaces* shall be separated from the remainder of the *building* by a *fire separation* having a *fire-resistance rating* of not less than 1 h. (See Note A-3.3.4.4.(1).)

4) Except as provided in Sentence (5), in ~~In~~ a house with a *secondary suite*, *dwelling units* shall be separated from each other and from ancillary spaces and common spaces with a *fire separation*
a) having a *fire-resistance rating* not less than 15 min when all *smoke alarms* within the house are of photo-electric type and interconnected as described in Clause 9.10.19.5.(2)(a) (see also Sentence 9.10.3.1.(2)),
b) having a *fire-resistance rating* not less than 30 min when additional *smoke alarms* of photo-electric type are installed and interconnected as described in Clause 9.10.19.5.(2)(b) (see also Sentence 9.10.3.1.(3)),
c) having a *fire-resistance rating* not less than 45 min when *smoke alarms* are not installed and interconnected as described in Clauses (a) or (b), or
d) that is not required to have a *fire-resistance rating* if the *building* is *sprinklered*.

5) Walls and floor-ceiling framing in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), that separate *dwelling units* from each other or *dwelling units*

from ancillary spaces and common spaces, need not comply with Sentence (1), where the walls and floor-ceiling framing are protected by a continuous smoke-tight barrier of not less than 12.7 mm thick gypsum board installed on

- a) both sides of walls, and
- b) the underside of floor-ceiling framing.

(See Sentence 9.10.9.3.(3) for closures and Sentence 9.10.19.5.(4) for interconnection of smoke alarms.)

9.10.9.17. Separation of Public Corridors

1) Except as otherwise required by this Part and as provided in Sentence (2) to ~~(5)~~ (6), *public corridors* shall be separated from the remainder of the *building* by a *fire separation* having not less than 45 min *fire resistance rating*.

4) Except as permitted by Sentence (6), a ~~A~~ public corridor located in a house with a secondary suite shall be separated from the remainder of the spaces in the house with a fire separation

- a) having a fire-resistance rating not less than 15 min when all smoke alarms within the house are of photo-electric type and interconnected as described in Clause 9.10.19.5.(2)(a) (see also Sentence 9.10.3.1.(2)),
- b) having a fire-resistance rating not less than 30 min when additional smoke alarms of photo-electric type are installed and interconnected as described in Clause 9.10.19.5.(2)(b) (see also Sentence 9.10.3.1.(3)),
- c) having a fire-resistance rating not less than 45 min when smoke alarms are not installed and interconnected as described in Clauses (a) or (b), or
- d) that is not required to have a fire-resistance rating if the building is sprinklered.

6) Where a public corridor is located in a house with a secondary suite described in Clause 9.1.1.2.(1)(b), a continuous smoke-tight barrier of not less than 12.7mm thick gypsum board shall be installed on

- a) both sides of walls separating the corridor from the remainder of the building, and
- b) the underside of floor-ceiling framing separating the corridor from the remainder of the building.

(See Sentence 9.10.9.3.(3) for closures and Sentence 9.10.19.5.(4) for interconnection of smoke alarms.)

9.10.10.4. Location of Fuel-Fired Appliances

2) Except as required in the *appliance* installation standards referenced in Sentences 6.2.1.5.(1), 9.33.5.2.(1) and 9.33.5.3.(1), fuel-fired space-heating *appliances*, space-cooling *appliances*, service water heaters and laundry *appliances* need not be separated from the remainder of the *building* as required in Sentence (1),

- a) where the *appliances* serve

- i) not more than one room or suite, or
 - ii) a *building* with a *building area* of not more than 400 m² and a *building height* of not more than 2 *storeys*, or
- b) where the *appliances*
- i) serve a house with a *secondary suite* including their common spaces, ~~and~~
 - ii) except as permitted by Clause (iii), are located in a *service room* separated from the *dwelling units* or their common spaces by a *fire separation* having a *fire-resistance* rating not less than the *fire-resistance rating* required for the *fire separation* between the *dwelling units* or common spaces, and
 - iii) for a house, with a *secondary suite* described in Clause 9.1.1.2.(1)(b), are located in a *service room* where both sides of any wall assemblies and the underside of any floor-ceiling framing separating this room from both *dwelling units* or their common spaces are protected by a continuous smoke-tight barrier consisting of not less than 12.7 mm thick gypsum board.

9.10.11.2. Firewalls Not Required

- 1) Except as stated in Sentence (2), a ~~A~~-party wall on a property line of a *building* of residential occupancy need not be constructed as a *firewall*, provided it is constructed as a *fire separation* having not less than a 1 h *fire-resistance* rating, where the *party wall* separates
- a) two *dwelling units* where there is no *dwelling unit* above another *dwelling unit*,
 - b) a *dwelling unit* and a house with a *secondary suite* including their common spaces, or
 - c) two houses with a *secondary suite* including their common spaces.
- 2) ~~Reserved.~~ Where a *building of residential occupancy* contains more than 2 houses, a *party wall* that separates any 2 adjacent houses with a *secondary suite* described in Clause 9.1.1.2.(1)(b) from the rest of the *building*, shall be constructed as a *firewall* to create separate *buildings* each containing no more than two adjacent houses with a *secondary suite*.

9.10.12.3. Exterior Walls Meeting at an Angle

- 3) ~~Reserved.~~ Where interior walls between *dwelling units*, ancillary spaces or common spaces in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b) are not constructed as *fire separations*, the exterior wall of each *dwelling unit*, ancillary space or common space referred to in Sentence (1) within the 1.2 m distance shall be finished on the interior with not less than 12.7 mm thick gypsum board.

9.10.12.4. Protection of Soffits

- 1) Except as provided in Sentences (4) and (5), the construction described in Sentence (1) shall have no *unprotected openings* and shall be protected in accordance with Sentence (3), where the soffit encloses

- a) a common *attic* or *roof space* that spans more than 2 *suites* of *residential occupancy* and projects beyond the exterior wall of the *building*,
- b) a floor space where an upper *storey* projects beyond the exterior wall of a lower *storey* and
 - i) a *fire separation* is required at the floor between the two, or
 - ii) ~~reserved~~ the floor separates *dwelling units* from each other or a *dwelling unit* from an ancillary space or a common space in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), or
- c) a floor space where an upper *storey* projects beyond the exterior wall of a lower *storey*, and the projection is continuous across
 - i) a vertical *fire separation* separating two *suites*, or
 - ii) ~~reserved~~ a wall separating *dwelling units* from each other or a *dwelling unit* from an ancillary space or a common space in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b).

9.10.19.5. Interconnection of Smoke Alarms

2) Except as provided in Sentence (3) and as required by Sentence (4), in a house with a *secondary suite* and their common spaces

a) all *smoke alarms* shall be of photo-electric type and interconnected so that the actuation of any one *smoke alarm* causes all *smoke alarms* within the house with a *secondary suite* including their common spaces to sound when the *fire separations* described in Articles 9.9.4.2., 9.10.9.16. and 9.10.9.17. have a *fire-resistance rating* not less than 15 min (see also Sentence 9.10.3.1.(2)), or

b) an additional *smoke alarm* of photo-electric type shall be installed in each *dwelling unit* and common space and be interconnected so that the actuation of one *smoke alarm* will cause the additional *smoke alarms* in the other *dwelling unit*, *dwelling units* or common spaces to sound when the *fire separations* described in Articles 9.9.4.2., 9.10.9.16. and 9.10.9.17. have a *fire-resistance rating* not less than 30 min (see also Sentence 9.10.3.1.(3)).

3) Except as required by Sentence (4), additional ~~Additional~~ *smoke alarms* and interconnection of *smoke alarms* between *dwelling units* and common spaces in a house with a *secondary suite* is not required if

a) the *fire separations* described in Articles 9.10.9.16. and 9.10.9.17. have a *fire-resistance rating* not less than 45 min, or

b) the *building* is *sprinklered*.

4) *Smoke alarms*, in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), shall be wirelessly interconnected or interconnected by hard-wiring so that the activation of any one *smoke alarm* causes all *smoke alarms* within the house with a *secondary suite* to sound.

Section 9.32. Ventilation

9.32.1.1. Application

1) Except as required by Article 9.32.4.2., this Section applies to the ventilation of rooms and spaces in *residential occupancies* by natural ventilation and to self-contained mechanical ventilation systems serving only

a) one *dwelling unit*, or

b) except for *secondary suites* described in Clause 9.1.1.2.(1)(b), a house with a *secondary suite* including their common spaces.

2) Mechanical ventilation systems other than self-contained systems serving a single *dwelling unit* or a house with a *secondary suite* including their common spaces, except for a house with a *secondary suites* described in Clause 9.1.1.2.(1)(b), shall conform to Part 6.

5) In a house that contains a *secondary suite* described in Clause 9.1.1.2.(1)(b), mechanical ventilation systems shall not serve more than one *dwelling unit*.

9.32.1.2. Required Ventilation

2) A self-contained heating-season ventilation system serving a single *dwelling unit* or a house with a *secondary suite* including their common spaces, except for a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), shall comply with Subsection 9.32.3. (See Note A-9.32.1.2.(2).)

A-9.32.1.2.(2) Application of and Ventilation of Houses Containing a Secondary Suite.

Ventilation for Smoke Control

The control of smoke transfer between dwelling units in a house with a secondary suite, or between the dwelling units and other spaces in the house, is a critical safety issue. Although providing a second ventilation system to serve the two dwelling units is expensive – and potentially difficult in an existing building – it is an ideal solution for achieving a minimum acceptable level of fire safety and required when dwelling units in a house with a secondary suite are separated using smoke-tight barriers.

Other solutions to providing separate ventilation systems for the dwelling units must address smoke control. Although smoke dampers restrict the spread of smoke by automatically closing in the event of a fire, their installation in a ventilation system that serves both dwelling units in a house with a secondary suite is not considered to be an ideal solution because they are very expensive, require regular inspection and maintenance, and must be reset after every activation.

Ventilation for Air Exchange

The provision of a ventilation system for the purpose of maintaining acceptable indoor air quality is a critical health issue. However, Sentence 9.32.1.2.(3) allows

exits and public corridors in houses with a secondary suite to be unventilated. Lack of active ventilation of these spaces is considered acceptable because occupants do not spend long periods of time there and because exits are somewhat naturally ventilated when doors are opened.

Considering the cost of installing separate ventilation systems, Sentence 9.32.1.2.(4) also exempts ancillary spaces in houses with a secondary suite from the requirement to be ventilated, provided that make-up air is supplied in accordance with Article 9.32.3.4.

9.32.3.1 Required Ventilation

1) Every *dwelling unit* that is supplied with electrical power shall be provided by a mechanical ventilation system that conforms to

- CAN/CSA-F326-M, "Residential Mechanical Ventilation Systems,"
- this Subsection, or
- except for a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), for ducted mechanical ventilation systems serving more than one *dwelling unit* in a house with a *secondary suite* including their common spaces, the mechanical ventilation system shall comply with this Subsection or Part 6. (See Sentence 9.32.1.1.(5).)

9.32.3.2. Design and Installation

4) Except as required by Sentence 9.32.1.1.(5), in ~~In~~ a house with a *secondary suite* including their common spaces, where a heating or ventilation system serves more than a single *dwelling unit*, the system shall be designed and installed to prevent the circulation of smoke upon a signal from a duct-type *smoke detector*. (See Note A-9.32.3.2.(4).) (See Sentence 9.32.1.1.(5) and also Sentence 9.33.1.1.(5) regarding ducts.)

9.32.3.4. Ventilation System Supply Air

2) Where the principal ventilation system is a ducted forced-air heating system, the ducted forced-air heating system shall

- provide supply air through the ducting to
 - each bedroom,
 - each floor level without a bedroom, and
 - except for a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b), ancillary spaces that contain an exhaust device, where the space is not within a *dwelling unit* in a house with a *secondary suite* and where the house with a *secondary suite* contains a fuel-fired *space-heating appliance* or fuel-fired water-heating *appliance* of other than *direct-vented* or *mechanically vented* types (see Sentence 9.32.1.1.(5) and also Sentence 9.33.1.1.(5) regarding ducts.)

- b) draw supply air from an outdoor inlet that is connected to the cabinet containing the furnace air circulating fan required by Clause (d) by ducting that measures, from that cabinet to the point at which the ducting intersects the return air plenum,
 - i) between 3 m and 4.5 m in length, or
 - ii) if a flow control device is used, not more than 4.5 m in length,
- c) draw supply air through ducting that is
 - i) rigid ducting with an equivalent diameter of at least 100 mm, or
 - ii) flexible ducting with an equivalent diameter of at least 125 mm, and
- d) have a furnace air circulating fan set to run continuously.

9.33. Heating and Air-conditioning

9.33.1.1. Application

3) Except as required by Sentence (5) unless, ~~Unless~~ the air duct distribution systems serving one of the *dwelling units* in a house with a *secondary suite* are designed and installed to prevent the circulation of smoke in accordance with Sentence 9.32.3.2.(4) and equipped with *fire dampers* in accordance with Sentence 9.32.3.2.(5), the air duct distribution system shall not be directly interconnected with other parts of the house.

5) Air duct distribution systems serving one of the *dwelling units* in a house with a *secondary suite* described in Clause 9.1.1.2.(1)(b) shall not be directly interconnected with other parts of the house.

9.33.4.4. Access

2) Except for *dwelling units* in a house with a *secondary suite* that is described in Clause 9.1.1.2.(1)(b), where ~~Where~~ a heating or air-conditioning system serves more than one *dwelling unit* in a house with a *secondary suite* including their common spaces, access required by Sentence (1) from more than one *dwelling unit*, common space or ancillary space is not required. (See Sentence 9.33.1.1.(5).)

9.36.6. Energy Step Code

9.36.6.2. Definitions

2) Notwithstanding Sentence 9.36.6.1.(1), for the purpose of this Subsection, the term "house" shall mean all houses, with or without a *secondary suite*, that

a) have HVAC systems that serve only the house, only the *secondary suite*, or both the house and the *secondary suite* including their common spaces (see Sentences 9.32.1.1.(5) and 9.33.1.1.(5),

b) have service water heating systems that serve only the house, only the *secondary suite*, or both the house and the *secondary suite* including their common spaces (see Sentences 9.32.1.1.(5) and 9.33.1.1.(5), and

c) except for common spaces in the house with the *secondary suite*, do not share common spaces intended for *occupancy* with other *dwelling units* or houses.
(See Note A-9.36.6.2.(2).)

9.37. Greenhouse Gas Emissions

9.37.1.2. Definitions and Abbreviations

2) Notwithstanding Sentence 9.37.1.1.(2), for the purpose of this Section, the term “house” shall mean all houses, with or without a *secondary suite*, that

a) have HVAC systems that serve only the house, only the *secondary suite*, or both the house and the *secondary suite* including their common spaces (see Sentences 9.32.1.1.(5) and 9.33.1.1.(5),

b) have service water heating systems that serve only the house, only the *secondary suite*, or both the house and the *secondary suite* including their common spaces (see Sentences 9.32.1.1.(5) and 9.33.1.1.(5), and

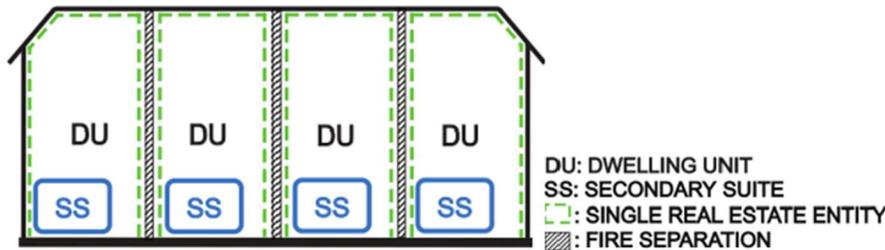
c) except for common spaces in the house with the *secondary suite*, do not share common spaces intended for *occupancy* with other *dwelling units* or houses.
(See Note A-9.36.6.2.(2).)

Impact analysis and cost implications

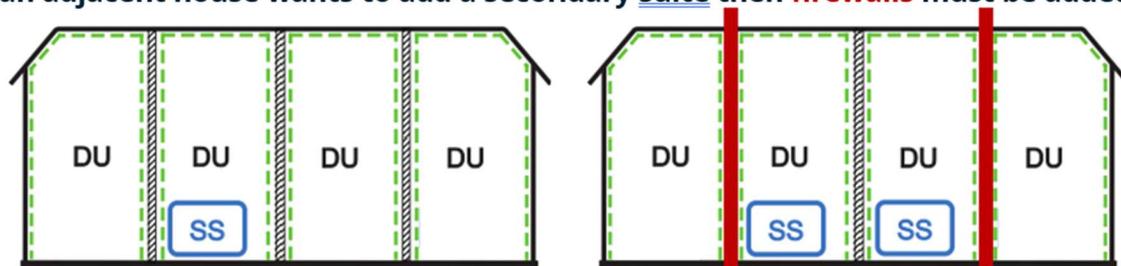
There are no changes proposed to the BCBC’s existing provisions for secondary suites which will still be available to designers. Adopting the NBC’s provisions for smoke-tight barriers is to be an additional and separate option and may, for some small secondary suite projects, be slightly more cost-effective (as details like fire stopping are not required).

For some building types however, such as row houses, the option to use the NBC’s smoke-tight barriers should be carefully considered as there are requirements for the building as a whole that must be met. If two adjacent houses of a rowhouse have secondary suites constructed using smoke-tight barriers, then those two houses must be separated from the remainder of the houses in the building with firewalls.

British Columbia Building Code permits every rowhouse to have a secondary suite



National Building Code permits a rowhouse to have a secondary suite, *BUT* if an adjacent house wants to add a secondary suite then **firewalls must be added**



Owners of rowhouse units may have an interest should a secondary suite project be proposed for adjacent units as there may be some coordination required should they also wish to add a secondary suite. Installation of firewalls to an existing building would be a proportionately large and costly project and should be coordinated with all owners of the rowhouse units. For secondary suite projects in rowhouses, the BCBC option remains available.

Enforcement implications

Can be enforced through the existing enforcement regimes. In the instance where rowhouse unit intends to construct a secondary suite, it will be necessary to determine if the adjacent units have a secondary suite that was constructed using smoke-tight barriers as the number of secondary suites may be limited without the use of firewalls.

Who is affected

Designers, builders, and regulators

Objective-based analysis of new or changed provisions

The options included in this code change proposal are additional acceptable solutions with the same attributions (Objectives and Functional Statements) as the existing acceptable solutions related to secondary suites.