

Section 11.3. Alternative Compliance Measures for Existing Conditions to Assist Rehabilitation

11.3.1. Application

11.3.1.1. Application of Alternative Compliance Measures for Existing Conditions

(See Note A-11.3.1.1.)

- 1) Except as permitted in Sentence (3), the alternative compliance measures provided in this Section are to be applied to existing conditions only and are not to be applied to new *construction* (new *construction* must comply with the requirements of this By-law).
- 2) Where the *building* is a *heritage building*, the alternative compliance measures in Section 11.5 may be applied to existing conditions.
- 3) The alternative compliance measures provided in Subsection 11.3.2. do not apply to newly constructed *buildings*.
- 4) *Alterations* to newly constructed *buildings*, as determined by Sentence (3), shall comply with Parts 1 to 10 and Part 12 of Division B in Book I and Parts 1 to 2 of Division B in Book II.

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11.3.1.2. Conditions for Using Alternative Compliance Measures

- 1) Where a *building* or a portion of a *building* is required to comply with this By-law under Subsection 11.2.1., the provisions contained in this Section may be applied as alternative compliance measures to those requirements contained elsewhere in this By-law, under the conditions specified in Sentences (2) to (7), provided the *building* was originally constructed pursuant to a *building permit* issued prior to November 1, 1999.
- 2) Except for *additions*, and new *construction*, where Subsection 3.2.2. requires that the *construction* of a *building* be *noncombustible*, the applicable Article in Subsection 11.3.2. may be applied as an alternative provided all of the requirements of the Article have been met.
- 3) Except for *additions* and new *construction*, where the spatial separation and exposure protection requirements of Subsection 3.2.3. or 9.10.14. require that the exterior wall *construction* of a *building* to be *noncombustible*, Subsection 11.3.3. may be applied.
- 4) Where the fire containment measures of a *building* are deficient, Subsections 11.3.4. and 11.3.6. may be applied.
- 5) Where the *exits* or *means of egress* in a *building* are deficient, Subsections 11.3.5. and 11.3.6. may be applied.
- 6) Where a *building* is *sprinklered* throughout, Subsection 11.3.6. may be applied.
- 7) Where a *building* is a *heritage building*, Section 11.5. may be applied.

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11.3.2. Construction and Building Safety Alternatives

11.3.2.1. Group A1 up to 600 Auditorium Occupants

- 1) A Group A, Division 1 *occupancy* having an *occupant load* of no more than 600 may be permitted within the *first storey* and *second storey* of a *building* provided the *building* conforms to Sentences (2) and (3).
- 2) A *building* referred to in Sentence (1) may be of *heavy timber construction* or *noncombustible construction* used singly or in combination, and
 - a) floor assemblies shall be *fire separations*
 - i) with a *fire-resistance rating* not less than 1 h, or
 - ii) of *heavy timber construction* with a *fire-resistance rating* not less than 1 h, and
 - b) *loadbearing* walls, columns and arches shall
 - i) have a *fire-resistance rating* not less than that required for the supported assembly, or
 - ii) be of *heavy timber construction* with a *fire-resistance rating* not less than 1 h.

- 3)** A *building* referred to in Sentence (1) shall
- be provided with a fire alarm and detection system conforming to Subsection 3.2.4., notwithstanding any exemptions permitted by Article 3.2.4.1.,
 - be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
 - be upgraded to provide all *exit* locations with a maximum travel distance of 22.5 m for *sprinklered buildings* and 15 m for *unsprinklered buildings*,
 - except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
 - be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
 - except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
 - except as permitted in Subsections 11.3.5. and 11.3.6. and as required by Clause (d), be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.2. Group A1 up to 300 Auditorium Occupants

1) A Group A, Division 1 *occupancy* having an auditorium *occupant load* of no more than 300, may be permitted within the *first storey* and second *storey* of a *building*, provided the *building* conforms to Sentences (2) and (3).

2) A *building* referred to in Sentence (1) may be of *combustible construction* or *noncombustible construction* used singly, or in combination, and

- floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
- loadbearing* walls, columns and arches supporting an assembly shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) A *building* referred to in Sentence (1) shall

- be provided with a fire alarm and detection system conforming to Subsection 3.2.4., notwithstanding any exemptions permitted by Article 3.2.4.1.,
- be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
- be upgraded to provide all *exit* locations with a maximum travel distance of 22.5 m for *sprinklered buildings* and 15 m for *unsprinklered buildings*,
- except as permitted in Subsection 11.3.3. and Table 11.5.1.1., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
- be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
- except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
- except as permitted in Subsections 11.3.5. and 11.3.6. and as required by Clause (d), be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.3. Group A2 in Building More Than 3 Storeys

1) A Group A, Division 2 *occupancy* may be permitted within the first 3 *storeys* of a *building* which is more than three *storeys* in *building height*, provided the *building* conforms to Sentence (2), and provided

- where the *occupancy* is located on the third *storey* or where the *building area* exceeds 400 m², the entire *building* shall be *sprinklered* or
- where the *occupancy* is located on the *first storey* or second *storey* or the *building area* does not exceed 400 m² the *building* shall be *sprinklered* up to and including the *storey* containing the Group A2 *occupancy*.

2) A *building* referred to in Sentence (1) shall conform to Sentences 11.3.2.4.(2) and (3).

11.3.2.4. Group A2 Up to 3 Storeys

- 1)** A Group A, Division 2 *occupancy* may be permitted in a *building* no more than three *storeys* in *building height*, provided
 - a) the *building* conforms to the construction requirements of Sentences (2) and (3), and
 - b) the entire *building* is *sprinklered*, where
 - i) the *building area* exceeds 400 m², or
 - ii) the *occupancy* is located on the third *storey*.
- 2)** A *building* referred to in Sentence (1) may be of *combustible* or *noncombustible construction* used singly or in combination, and
 - a) floor assemblies shall be *fire separations* and, if of *combustible construction*, shall have a *fire-resistance rating* not less than 45 min,
 - b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
 - c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1., and the *building area* is not more than
 - i) 800 m² if facing one street,
 - ii) 1 000 m² if facing 2 streets, or
 - iii) 1 200 m² if facing 3 streets, and
 - d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - i) have a *fire-resistance rating* not less than 45 min, or
 - ii) be of *noncombustible construction*.
- 3)** A *building* referred to in Sentence (1) shall
 - a) be provided with a fire alarm and detection system conforming to Subsection 3.2.4., notwithstanding any exemptions permitted by Article 3.2.4.1.,
 - b) be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
 - c) except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
 - d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
 - e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
 - f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.5. Group B2 Ambulatory Occupants

- 1)** A Group B, Division 2 *occupancy* containing only occupants that are capable of walking up or down stairs unaided may be permitted within the first 3 *storeys* of a *building*, provided the entire *building* is *sprinklered* and conforms to Sentences (2) and (3).
- 2)** A *building* referred to in Sentence (1) may be of *combustible construction* or *noncombustible construction* used singly or in combination, and
 - a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
 - b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and
 - c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.
- 3)** A *building* referred to in Sentence (1) shall
 - a) be provided with a fire alarm and detection system conforming to Subsection 3.2.4. where the *building* contains more than 2 *storeys* including *storeys* below grade or where the *building area* exceeds 250 m² regardless of the *occupant load*,

- b) be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
- c) except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
- d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
- e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
- f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.6. Group B2 Non-ambulatory Occupants

1) A Group B, Division 2, non-ambulatory *occupancy* may be permitted only within a *storey* of a *building* which has direct or ramped access to ground level, provided the entire *building* is *sprinklered* and conforms to Sentences (2) and (3).

2) A *building* referred to in Sentence (1) may be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, and
- c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

3) A *building* referred to in Sentence (1) shall

- a) be provided with a fire alarm and detection system conforming to Subsection 3.2.4.,
- b) be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
- c) except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
- d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
- e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
- f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.7. Group C More Than 3 Storeys

1) A Group C *occupancy* may be permitted in a *building* more than 3 *storeys* in *building height* provided the entire *building* is *sprinklered* and conforms to Sentences (2) to (4).

2) A *building* referred to in Sentence (1) shall have a maximum height of less than 18 m measured between *grade* and the uppermost floor level of the top *storey*,

3) A *building* referred to in Sentence (1) may be of *combustible construction* or *noncombustible construction* used singly or in combination, and

- a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 1 h, and
- c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

4) A *building* referred to in Sentence (1) shall

- a) be provided with a fire alarm and detection system conforming to Subsection 3.2.4.,
- b) be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
- c) except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
- d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,

- e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
- f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.8. Group D Occupancies

- 1) A Group D *occupancy* may be permitted in a *building* that exceeds 3 *storeys* in *building height* provided that the entire *building* is *sprinklered* and conforms to Sentence (2) to (4).
- 2) A *building* referred to in Sentence (1) may be of *combustible construction* or *noncombustible construction* used singly or in combination, and
 - a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
 - b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 1 h,
 - c) roof assemblies shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 *storey* in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1. and the *building area* is not more than
 - i) 2 400 m² if facing one *street*,
 - ii) 3 000 m² if facing 2 *streets*, or
 - iii) 3 600 m² if facing 3 *streets*, and
 - d) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.
- 3) Notwithstanding the requirements of Sentence (2), the floor, *mezzanine*, and roof assemblies, are permitted to have a *fire-resistance rating* of 45 min provided
 - a) it is not more than 6 *storeys* in *building height*, and
 - b) it has a *building area* not more than the value in Table 11.3.2.8.

Table 11.3.2.8.
Maximum Building Area, Group D, up to 6 Storeys
 Forming part of Sentence 11.3.2.8.(3)

No. of Storeys	Maximum Area, m ²		
	Facing 1 Street	Facing 2 Streets	Facing 3 Streets
1	not limited	not limited	not limited
2	7 200	not limited	not limited
3	4 800	6 000	7 200
4	3 600	4 500	5 400
5	2 880	3 600	4 320
6	2 400	3 000	3 600

- 4) A *building* referred to in Sentence (1) shall
 - a) be provided with a fire alarm and detection system conforming to Subsection 3.2.4., notwithstanding any exemptions permitted by Article 3.2.4.1.,
 - b) Be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
 - c) except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
 - d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
 - e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
 - f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

11.3.2.9. Group E Occupancies

- 1)** A Group E occupancy may be permitted in a *building* conforming to Sentences (2) to (5) except that where the *building* exceeds 1000 m² in *building area* or 3 storeys in *building height* the entire *building* shall be sprinklered.
- 2)** A *building* referred to in Sentence (1), that is not more than 4 storeys in *building height* and the *building area* is no more than 1800 m² is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, provided
- floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
 - mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
 - roof assemblies shall have a *fire-resistance rating* not less than 45 min, except that in a *building* not more than 1 storey in *building height*, the *fire-resistance rating* is permitted to be waived provided the roof assembly is of *noncombustible construction* or is constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1.,
 - loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - have a *fire-resistance rating* not less than 45 min, or
 - be of *noncombustible construction*, and
 - loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.
- 3)** A *building* referred to in Sentence (1), that is not more than 6 storeys in *building height* and the *building area* conforms to Table 11.3.2.2.9., is permitted to be of *noncombustible construction*, provided
- floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
 - mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
 - loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.
- 4)** A *building* referred to in Sentence (1), is permitted to retain existing *combustible construction*, provided
- floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1.5 h,
 - mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
 - loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.
- 5)** A *building* referred to in Sentence (1) shall be upgraded as follows
- where required to have a *sprinkler system*, the *building* shall be provided with a fire alarm and detection system conforming to Subsection 3.2.4.,
 - be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
 - except as permitted in Subsection 11.3.3., be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3.,
 - be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
 - except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
 - except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

Table 11.3.2.9.
Maximum Building Area, Group E, Existing Building
 Forming part of Sentence 11.3.2.9.(3)

No. of Storeys	Maximum Area, m ²		
	Facing 1 Street	Facing 2 Streets	Facing 3 Streets
1	Unlimited	Unlimited	Unlimited
2	7 500	Unlimited	Unlimited
3	5 000	6 250	7 500
4	3 750	4 688	5 625
5	3 000	3 750	4 500
6	2 500	3 125	3 750

11.3.2.10. Group F2 or F3 Occupancies

1) A Group F, Division 2 or 3 *occupancy* may be permitted in a *building*, provided that the *building* conforms to Sentences (2) to (5) except that where the *building* exceeds 1000 m² in *building area*, or 2 *storeys* in *building height*, the entire *building* shall be *sprinklered*.

2) A *building* referred to in Sentence (1) and in conformance with Table 11.3.2.10. is permitted to be of *combustible construction* or *noncombustible construction* used singly or in combination, provided

- a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 45 min,
- b) *mezzanines* shall have, if of *combustible construction*, a *fire-resistance rating* not less than 45 min,
- c) roof assemblies shall be
 - i) *noncombustible construction*,
 - ii) *combustible construction* with a *fire-resistance rating* of no less than 45 min in *buildings* with a *building area* no greater than 4800 m², or
 - iii) *combustible construction* constructed as a *fire-retardant-treated wood* roof system conforming to Article 3.1.14.1. in a *building* of not more than 1 *storey* in *building height*,
- d) *loadbearing* walls, columns and arches supporting an assembly required to have a *fire-resistance rating* shall
 - i) have a *fire-resistance rating* not less than 45 min, or
 - ii) be of *noncombustible construction*, and
- e) *loadbearing* walls, columns and arches supporting a *fire separation* shall have a *fire-resistance rating* not less than that required for the *fire separation*.

3) A *building* referred to in Sentence (1) is permitted to be of *noncombustible construction*, provided

- a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1 h,
- b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

4) A *building* referred to in Sentence (1), is permitted to retain existing *combustible construction*, provided

- a) floor assemblies shall be *fire separations* with a *fire-resistance rating* not less than 1.5 h,
- b) *mezzanines* shall have a *fire-resistance rating* not less than 1 h, and
- c) *loadbearing* walls, columns and arches shall have a *fire-resistance rating* not less than that required for the supported assembly.

5) A *building* referred to in Sentence (1) shall be upgraded as follows

- a) Where required to have a *sprinkler system*, the *building* shall be provided with a fire alarm and detection system conforming to Subsection 3.2.4.,
- b) Be provided with lighting and emergency power systems conforming to Subsection 3.2.7.,
- c) be upgraded to provide exterior wall and opening protection conforming to Subsection 3.2.3., except as permitted in Subsection 11.3.3.,

- d) be structurally upgraded to the design upgrade level S3 as defined in the Upgrade Mechanism Model in Division B Appendix A,
- e) except as permitted in Subsections 11.3.4. and 11.3.6., be upgraded to comply with the fire containment requirements within a *floor area* conforming to this By-law, and
- f) except as permitted in Subsections 11.3.5. and 11.3.6., be upgraded to provide *exit* systems conforming to Section 3.4.

Table 11.3.2.10.
Maximum Building Area, Group F, Division 2 or 3, Existing Building
 Forming part of Sentence 11.3.2.10.(2)

No. of Storeys	Maximum Area, m ²		
	Facing 1 Street	Facing 2 Streets	Facing 3 Streets
1	9 000	11 250	13 500
2	4 500	5 625	6 750
3	3 000	3 750	4 500
4	2 250	2 812	3 375
5	1 800	2 250	2 700
6	1 500	1 875	2 250

11.3.2.11. Combustible Construction for Minor Repairs

(See Article 1.5.2.9. of Division C.)

11.3.2.12. Open Air Repair and Storage Garages

- 1) *Open-air storeys* of a *storage garage* or *repair garage* located below *grade* need not be *sprinklered*.

11.3.3. Spatial Separation Alternatives

11.3.3.1. General

1) Except for *additions* and new *construction*, where the exterior wall of a *building* is required by Parts 3 and 9 to be of *noncombustible construction*, the provisions of this Subsection may be used as an alternative compliance measure to the spatial separation requirements of Parts 3 and 9.

11.3.3.2. Exterior Wall Construction

- 1) In a *building* of Group B or C *occupancy*, existing *combustible construction* may be retained in an existing exterior wall provided
 - a) the wall has at least a 1 h *fire-resistance rating*,
 - b) the *building* is *sprinklered*, and
 - c) all voids in the wall are completely filled with *noncombustible insulation* and *fire stopped*.
- 2) In a *building* of other than Group B or C *occupancy*, existing *combustible construction* may be retained in an existing exterior wall provided the wall has at least a 1 h *fire-resistance rating*, and
 - a) the *building* is *sprinklered*, or
 - b) all voids in the wall are completely filled with *noncombustible insulation* and *fire stopped*.
- 3) When an existing exterior wall requires a 2 h *fire-resistance rating*, existing *combustible construction* may be retained provided
 - a) the wall has at least a 1 h *fire-resistance rating*,
 - b) the *building* is *sprinklered*, and
 - c) all voids in the wall are completely filled with *noncombustible insulation* and *fire stopped*.

11.3.3.3. Exterior Cladding

- 1) Existing *combustible* cladding may be retained provided
 - a) the *building* is *sprinklered* using fast-response heads,
 - b) the exterior cladding is treated with *acceptable* exterior quality fire retardant intumescent paint, (See Note A-11.3.3.3.(1)(b).) and
 - c) all exterior windows contain wired or safety glass in steel frames.

11.3.3.4. Existing Unprotected Openings

- 1) Where the *limiting distance* is less than 900 mm, existing *unprotected openings* may be retained, provided
 - a) the openings are constructed with non-operable *losures* of glass block, wired glass, tempered glass or laminated safety glass, and the *building* is *sprinklered* using fast-response heads,
 - b) the openings are constructed of glass block, wired glass, tempered glass or laminated safety glass in operable frames, the *building* is *sprinklered* using fast-response and openings are protected with close spaced sprinkler in accordance with Sentence 3.2.3.13.(5)., or
 - c) *acceptable* self-closing fire protection shutters are installed at the existing opening locations, where the fire shutter operation is not obstructed by the openable window, and where the opening is not required for an escape function as outlined in Article 9.9.10.1.
- 2) Where a *limiting distance* is 900 mm or more, existing *unprotected openings* which have a total area exceeding the values listed in or extrapolated from Tables 3.2.3.1.B, 3.2.3.1.C, 3.2.3.1.D, 3.2.3.1.E or 9.10.14.4.A, may be retained, provided
 - a) the openings are constructed of glass blocks or wired glass in fixed frames, or
 - b) the *building* is to be *sprinklered* using fast-response heads.
- 3) Where *construction* on an *existing building* consists of renovation where the *exposing building face* is not being altered, the existing *unprotected openings* of that *building face* may be retained and no additional protection shall be required provided
 - a) the work consists of a interior work only,
 - b) no additional principal *dwelling units* are being added,
 - c) the openings on the vertical *building face* are less than 10% of the entire *exposing building face*, and
 - d) the *limiting distance* is greater than 600 mm.
- 4) Notwithstanding the requirements of this Article, the replacement of existing windows that do not substantially alter the existing spatial separation configuration by more than 2% shall not require additional protection provided that the openings are constructed of glass block, wired glass, tempered glass or laminated safety glass. (See Note A-11.3.3.4.(4).)

11.3.4. Alternatives for Fire Containment and Separation**11.3.4.1. Public Corridors**

- 1) Existing *public corridor* walls, serving Group A Division 2, D, E, F Division 2 and F Division 3 *occupancies*, required to have a *fire-resistance rating* exceeding 45 min may be terminated at the underside of a 30 min ceiling membrane, where the *public corridors* are equipped with *acceptable* smoke detectors connected to the *building* fire alarm system.

11.3.4.2. Occupancy and Suite Separations

- 1) Existing vertical *occupancy fire separations* and *suite fire separations* in Group A Division 2, D, E, F Division 2 and F Division 3 *occupancies*, need not exceed a 1 h *fire-resistance rating* provided *acceptable smoke detectors* are installed on each side of such separations and are connected to the *building* fire alarm system.
- 2) Existing floor assemblies required by Sentence 3.3.1.1.(5) to be *fire separations*, need not exceed a 1 h *fire-resistance rating* provided the *suite* is *sprinklered*.

11.3.4.3. Alternative to 20 Minute Doors

- 1) An existing door assembly may be retained in place of a required door assembly with a 20 min *fire-protection rating* provided
- a solid core wood door has a minimum thickness of no less than 45 mm, or
 - a hollow core or panel type suite door has a layer of gypsum wallboard on the *suite* side covered by a minimum 0.9 mm thick sheet steel which extends over the edges of the door.

11.3.5. Alternatives for Exits and Means of EgressRev.
12997**11.3.5.1. General**

- 1) Except as permitted in Articles 11.3.5.2. through 11.3.5.4. and in Subsection 11.3.6., every *floor area* or other space shall be served with *exits* in conformance with Section 3.4.

Rev.
12997**11.3.5.2. Openings in an Exit Enclosure**

- 1) A maximum of 2 *suite* doors or 2 room doors per *storey* may be located within an *exit* enclosure provided
- the *exit* enclosure is not required to have a *fire-resistance rating* of more than 1 h,
 - the *suites* or rooms have a second and separate *means of egress*, and
 - the *suite* or room doors have a *fire-protection rating* of 45 min, are self-closing and self-latching and do not lock automatically.
- 2) *Exit* stairs shall be enclosed as required in Subsection 3.4.4. except that existing *exit* enclosures may have
- wired glass set in steel frames conforming to Article 3.1.8.14. only in the portion of the enclosure which faces a *public corridor*, and
 - in *sprinklered buildings*, *acceptable* hold-open devices actuated by *smoke detectors* and the *building* fire alarm system.

11.3.5.3. Group C Single Exit

- 1) A single *exit* is permitted from an existing non-*sprinklered dwelling unit* provided
- the *exit* is an exterior doorway located no more than 1.5 m above adjacent ground level,
 - the total area served by the *exit* door does not exceed 100 m²,
 - the maximum travel distance within the *dwelling unit* does not exceed 15 m, and
 - it is not necessary to travel up or down more than one *storey* to reach the *exit* door, or the uppermost floor level opens from a common area to an unenclosed balcony or deck no more than 6 m above adjacent ground level.

11.3.5.4. Existing Stairs in a Means of EgressRev.
12997

- 1) Existing stairs with rectangular treads in straight flights in an *exit* or a *means of egress*, other than those serving seating areas, may be retained provided that
- existing tread and riser dimensions within a *flight* comply with Table 11.3.5.4.(1),

Table 11.3.5.4.(1)
Dimensions of Existing Stairs
Forming Part of Sentence 11.3.5.4.(1)

	Maximum (mm)	Minimum (mm)
Rise	205	125
Run	355	200

- existing treads and landings shall
 - be dimensionally uniform,
 - have a finish that is slip resistant,
 - have nosings with distinct colour contrast for the full width of the leading edge of each tread visible in both direction of travel, and

- iv) have no projecting stair nosing, rakeback, or combination thereof, exceeding 38 mm or angle of more than 30 degrees from the vertical,
- c) lighting is provided to
 - i) an average level of not less than 100 lx at floor or tread level, and
 - ii) the minimum value of the illumination required by (i) shall be not less than 20 lx,
- d) emergency lighting is provided to
 - i) an average level of illumination of not less than 20 lx at floor or tread level,
 - ii) a minimum value of the illumination required by (i) shall be not less than 2 lx, and
 - iii) provided with emergency power in accordance with Article 3.2.7.4.,
- e) handrails are provided conforming to the requirements of Article 3.4.6.5., and
- f) tread and landings of exterior egress stairs are designed to be free of ice and snow accumulations.

11.3.6. Alternatives for Sprinklered Buildings

11.3.6.1. General

- 1) The alternative compliance measures in Articles 11.3.6.2. to 11.3.6.9. may be used in a *building* where
 - a) the *building* is *sprinklered* in conformance with Subsection 3.2.5., and
 - b) the *building* has a fire alarm system in conformance with Subsection 3.2.4.

11.3.6.2. Group C and D Fire Containment

- 1) The *fire separation* between a Group C or D *occupancy* and the remainder of a *building* which is no more than 3 *storeys* in *building height* need not exceed a *fire-resistance rating* of 45 min.
- 2) Existing lath and plaster, properly restored to its original condition, may be *accepted* by the *Chief Building Official* as meeting the *fire separation* requirements in Sentence (1).

11.3.6.3. Occupancy Separations

- 1) The existing *fire-resistance rating* for an *occupancy* separation in a *building* need not exceed 1 h when the By-law requires 2 h for new *construction* and 45 min when the By-law requires 1 h for new *construction*.

11.3.6.4. Flame Spread Rating

- 1) The *flame-spread rating* for an existing wall or ceiling finish may be increased to 300 for no more than 25% of the wall or ceiling area, provided the wall or ceiling has no exposed foamed plastic.

11.3.6.5. Fire Dampers

- 1) Where a *fire separation* is permitted to have a 45 min *fire-resistance rating*, a *fire damper* is not required for existing *noncombustible* ducts less than 0.065 m² in cross-sectional area.

11.3.6.6. Plastic Sprinkler Piping

- 1) Plastic sprinkler piping may penetrate a vertical *fire separation* provided
 - a) the piping and its installation are listed by an *acceptable* testing agency, and
 - b) the piping is tightly fitted or fire stopped to maintain the integrity of the separation.

11.3.6.7. Smoke-Venting in High Buildings

- 1) Existing means of venting which are capable of removing smoke to aid firefighting may penetrate exterior openings and existing service shafts in adjacent fire compartments.

11.3.6.8. Alternatives for Dead-end Public Corridors

- 1) In a *building* provided with a *sprinkler system* with fast-response heads, existing *public corridors* which have *smoke detectors* installed and connected to the fire alarm system may contain existing dead-end *public corridors* of lengths not exceeding 10 m to the nearest exit in Group C *occupancies* and 15 m to the nearest *exit* in Group D, Group E, Group F Divisions 2 and Group F Division 3 *occupancies*.

- 2) In a *building* containing *exits* conforming to Article 11.3.6.9., one existing dead-end *public corridor* per floor may be permitted provided
- the existing dead-end *public corridor* does not exceed the lengths specified in Sentence (1),
 - each *exit* stair serving the existing dead-end *public corridor* contains a smoke barrier between each *storey* or *mezzanine*, which prevents smoke from entering stairways and allows access to other stairways, and which may have a door equipped with an *acceptable* hold-open device actuated by a local *smoke detector* circuit, and
 - the entire *building* is *sprinklered* with fast-response heads.

11.3.6.9. Alternatives for Exits

- Existing open *exit* stairways located at the ends of *public corridors* need not be enclosed provided
 - the *building* does not exceed 3 *storeys* in *building height*,
 - there is a smoke barrier located within each *public corridor* approximately midway between the *exit* stairways, which
 - has a door provided with an *acceptable* hold-open device actuated by the fire alarm system and *smoke detectors* on that floor,
 - is constructed of tempered or wired glass, or has a *fire-protection rating* of no less than 20 min, and
 - is designed to retard the passage of smoke,
 - the *public corridor* contains no dead-ends,
 - the *public corridor* on both sides of the smoke barrier is continuously pressurized, and
 - the entire *building* is *sprinklered* with fast-response heads.
- Wired glass in steel frame exposure protection for exterior fire escapes need not be provided in an *existing building* provided
 - there is at least one *exit* enclosure which conforms to this By-law and which leads directly to the exterior of the *building*,
 - access to the fire escape is by means of a full-size door at each floor level,
 - the fire escape leads directly to *grade* level or leads to *grade* level by means of an interior stair enclosure no less than 750 mm in width,
 - a sprinkler head is located on the ceiling adjacent to and within 1 500 mm of each opening requiring protection, and
 - the entire *building* is *sprinklered* with fast-response heads.
- Where a *building* is provided with a *sprinkler system* with fast-response heads, existing *exit* doors may be retained provided they do not swing over stairs or significantly impede safe egress and the *Chief Building Official* is satisfied that the existing *exit* door swing and existing *exit* and corridor widths substantially comply with the requirements of Section 3.4.

11.3.7. Alternatives for Accessibility

11.3.7.1. Protection on Accessible Floor Areas

- Every *floor area* that is not *sprinklered* throughout and that has an *accessible* path of travel shall
 - be served by an elevator
 - conforming to Sentences 3.2.6.5.(4) to (6),
 - protected against fire in conformance with Clauses 3.2.6.5.(3)(b) or (c), and
 - in a *building* over 3 *storeys* in *building height*, protected against smoke movement so that the hoistway will not contain more than 1% per cent by volume of contaminated air from a fire floor during a period of 2 h after the start of a fire, assuming an outdoor temperature equal to the January design temperature on a 2.5% per cent basis determined in conformance with Subsection 1.1.3.,
 - be divided into at least 2 zones by *fire separations* conforming to Sentences (2), (3) and 3.1.8.5.(6) so that (See Note A-3.3.1.7.(1)(b))

- i) *persons with disabilities* can be accommodated in each zone, and
- ii) the travel distance from any point in one zone to a doorway leading to another zone shall be not more than the value for travel distance permitted by Sentence 3.4.2.5.(1) for the *occupancy* classification of the zone, (See also Sentence 3.1.8.5.(6) for requirements regarding the passage of smoke.
- c) in the case of *residential occupancies*, be provided with balconies conforming to Sentence (4),
- d) have an *accessible exterior exit* at ground level, or
- e) have a ramp conforming to Subsection 3.8.3. leading to ground level.

(See Note A-11.3.7.1.(1).)

2) Except as permitted by Sentence (3), the *fire separations* referred to in Clause (1)(b) shall have a *fire-resistance rating* not less than 1 h.

3) The *fire-resistance rating* of the *fire separations* referred to in Clause (1)(b) is permitted to be less than 1 h but not less than 45 min provided the *fire-resistance rating* required by Subsection 3.2.2. is permitted to be less than 1 h for

- a) the floor assembly above the *floor area*, or
- b) the floor assembly below the *floor area*, if there is no floor assembly above.

4) A balcony required by Clause (1)(c) shall

- a) have direct *access* from the *suite* or *floor area*,
- b) be not less than 1.5 m deep from the outside face of the exterior wall to the inside edge of the balcony, and
- c) provide not less than 2 m² of balcony space for each *accessible* sleeping room or bed space.

5) The *floor area* on either side of a horizontal *exit* conforming to Article 3.4.6.10. is permitted to be considered as a zone in applying the requirements of Clause (1)(b).

11.3.8. Alternatives for Building Systems

11.3.8.1. Location of Exhaust Vents in a Building Containing not more than 2 Principal Dwelling Units

1) In a *building* containing not more than 2 principal *dwelling units*, exhaust vents serving heating and air conditioning equipment and similar appliances, other than direct vented fireplaces, shall

- a) not terminate within
 - (i) 1.2 m horizontally of an adjacent property line,
 - (ii) 1.8 m vertically of the underside of a soffit above, or
 - (iii) 1.2 m horizontally of any soffit vent above,
- b) be located as high as possible, and
- c) be directed upwards and away from the source *building* with
 - (i) a vertical discharge through the roof, or
 - (ii) a side discharge configuration that terminates vertically only in a manner that minimizes condensation on adjacent surfaces.