

DIVISION B

ACCEPTABLE SOLUTIONS

Part 11 – Existing Buildings

Section 11.5. [Alternative Acceptable Solutions for Heritage Buildings]

11.5.1. APPLICATION

11.5.1.1. Alternative Acceptable Solutions

- 1) This Subsection provides alternative *acceptable* solutions for the restoration and rehabilitation of *heritage buildings*.
- 2) The alternative *acceptable* solutions provided in Table 11.5.1.1. apply to existing conditions only and do not apply to new work which must conform to the requirements for new *construction* in other Parts of this By-law.
- 3) Site-built and custom-built replica wood doors, wood framed windows and wood framed skylights, intended to preserve the *heritage* look of a *building* that separated conditioned space and unconditioned space from the exterior, are exempt from the provisions of Subsection 9.7.4. and Article 5.10.2.2. provided the replica
 - a) complies with Clause 9.7.5.1.(1)(a) or (b) as applicable,
 - b) does not create an *unsafe condition*, and
 - c) is *acceptable* to the *Chief Building Official*.

(See Appendix A.)

Table 11.5.1.1. Alternate Acceptable Solutions for Heritage Buildings		
No.	By-law Requirement	Alternate Compliance Method
1	Fire Separations Sentence 3.1.3.1.(1) and Table 3.1.3.1.; Subsection 9.10.9. 2 h <i>fire separation</i> required between some <i>major occupancies</i> .	Except for F1 <i>occupancies</i> , 1 h <i>fire separation</i> is <i>acceptable</i> , if the <i>building</i> is <i>sprinklered</i> .
2	Fire Separations Sentence 3.1.3.1.(1) and 3.1.3.1.; Subsection 9.10.9. 1 h <i>fire separation</i> required between some <i>major occupancies</i> .	1/2 h <i>fire separation</i> is <i>acceptable</i> if the <i>building</i> is <i>sprinklered</i> .
3	Noncombustible Construction Subsection 3.1.5. and Article 9.10.6.1.	1. Roofs may be of <i>combustible construction</i> provided the <i>building</i> is <i>sprinklered</i> . 2. Up to 10 per cent gross <i>floor area</i> to a

	All materials used in <i>noncombustible construction</i> must be <i>noncombustible</i> unless otherwise permitted.	maximum of 10 per cent of any one <i>floor area</i> may be of <i>combustible construction</i> provided the <i>building</i> is <i>sprinklered</i> .
4	<p>Fire-resistance Rating Sentence 3.1.7.1.(1); Article 9.10.3.1.</p> <p>Where a material, assembly of materials or structural member is required to have a <i>fire-resistance rating</i> it shall be tested in accordance with CAN/ULC-S101.</p>	<p>A <i>fire-resistance rating</i> may also be used based on:</p> <ol style="list-style-type: none"> 1. HUD No. 8 Guideline on Fire Ratings of Archaic Materials and Assemblies. 2. Fire Endurance of Protected Steel Columns and Beams, DBR Technical Paper No. 194. 3. Fire Endurance of Unit Masonry Walls, DBR Technical Paper No. 207. 4. Fire Endurance of Light-Framed and Miscellaneous Assemblies, DBR Technical Paper No. 222.
5	<p>Rating of Supporting Construction Article 3.1.7.5.; Article 9.10.8.3.</p> <p>Supporting assemblies to have <i>fire resistance rating</i> at least equivalent to that of the supported floor.</p>	<p>Heavy timber construction is permitted to have a <i>fire resistance rating</i> less than would be required by the By-law provided the <i>building</i>:</p> <p>(a) is <i>sprinklered</i>, and (b) does not exceed 6 <i>storeys</i> in <i>building height</i>.</p>
6	<p>Continuity of Fire Separations Sentence 3.1.8.3.(1) and 3.1.8.3.(2); Article 9.10.9.2.</p> <p><i>Fire separations</i> are required to be continuous above the ceiling space.</p>	<p><i>Fire separations</i> are not required to be continuous above the ceiling space where:</p> <p>(a) the ceiling space is <i>non-combustible construction</i>,</p> <p>(b) both <i>fire compartments</i> are <i>sprinklered</i>, or</p> <p>(c) the ceiling has a minimum rating of 30 minutes.</p>
7	<p>Wired Glass Sentences 3.1.8.5.(1) and 3.1.8.14.(2); Articles 9.10.13.1. and 9.10.13.5.</p> <p>6 mm wired glass in steel frame required in <i>fire separations</i>.</p>	<p>For fixed transoms or sidelights, 6 mm wired glass fixed to a wood frame of at least 50 mm thickness with steel stops is permitted in a required <i>fire separation</i>.</p>
8	<p>Mezzanines Sentences 3.2.1.1.(3) to 3.2.1.1.(6); Article 9.10.4.1.</p> <p><i>Mezzanines</i> enclosing more than 10 per cent above the horizontal plane are considered as <i>storey</i> in <i>building height</i>.</p>	<p>Enclosed <i>mezzanines</i> may be up to 40 per cent of the <i>storey</i> in which they occur and not be considered a <i>storey</i> in <i>building height</i> if the <i>building</i> is <i>sprinklered</i>.</p>
9	<p>Building Height Articles 3.2.2.20. to 3.2.2.88.</p> <p><i>Noncombustible construction</i> required for <i>buildings</i> over 3 <i>storeys</i> in <i>building height</i>.</p>	<p><i>Buildings</i> may be of <i>combustible construction</i> up to 6 <i>storeys</i> provided:</p> <p>(a) the <i>building</i> is <i>sprinklered</i></p> <p>(b) the <i>building</i> contains Group C, D, E, F2 or F3 <i>occupancies</i>, and</p> <p>(c) floor assemblies not required to exceed</p>

		1 h <i>fire separation</i> requirements may be of <i>heavy timber construction</i> .
10	<p>Spatial Separation Subsection 3.2.3.; Subsection 9.10.14. The area of <i>unprotected opening</i> shall not exceed the limits in Tables 3.2.3.1.A to 3.2.3.1.E</p>	<p>The area of <i>unprotected opening</i> is not limited provided:</p> <p>(a) the <i>limiting distance</i> is a minimum 1 m, (b) the <i>building</i> has a supervised <i>sprinkler system</i> in conformance with Sentence 3.2.4.10.(3), and (c) the <i>sprinkler system</i> is designed to notify the fire department in conformance with Sentence 3.2.4.8.(4).</p>
11	<p>Construction of Exposing Building Face Article 3.2.3.7.; Article 9.10.14.5. The <i>exposing building face</i> is required to have a <i>fire-resistance rating</i> and/or be of <i>noncombustible construction</i>.</p>	<p><i>Exposing building face</i> is not required to have a <i>fire resistance rating</i> if the <i>building</i> is <i>sprinklered</i>. Also, the <i>exposing building face</i> is not required to be of <i>noncombustible construction</i> if it is protected by an exterior <i>sprinkler system</i> conforming to NFPA 13.</p>
12	<p>Roof Covering Rating Sentence 3.1.15.2.(1) Class A, B or C roof covering in conformance with CAN/ULC-S107 required.</p>	<p>For existing roofs not covered by a Class A, B or C roofing, a manually operated deluge system in accordance with NFPA 13 is permitted.</p>
13	<p>Smoke Alarms Sentences 3.2.4.21.(5) and 3.2.4.21.(6); Sentence 9.10.18.3.(1) <i>Smoke alarms</i> are required to be connected to an electric circuit.</p>	<p><i>Smoke alarms</i> may be battery operated in <i>one-family dwellings</i> only.</p>
14	<p>Interconnected Floor Space Subsection 3.2.8.; Sentence 9.10.1.3.(6)</p>	<p>1. Open stairs in <i>buildings</i> of maximum 4 <i>storeys</i> in <i>building height</i> need not comply with Subsection 3.2.8. provided:</p> <p>(a) the <i>building</i> contains a Group C or D <i>occupancy</i>, (b) the <i>building</i> is <i>sprinklered</i> with fast-response sprinklers, (c) corridors opening into the <i>interconnected floor space</i> are separated from the <i>interconnected floor space</i> by a <i>fire separation</i> with the rating required for the corridor, and (d) <i>smoke detectors</i> are installed in the rooms opening into the <i>interconnected floor space</i> and the <i>smoke detectors</i> are connected to the fire alarm system.</p> <p>2. Open stairs in <i>buildings</i> of maximum 3 <i>storeys</i> in <i>building height</i>, or the first 2 <i>storeys</i> and basement, need not comply with Subsection 3.2.8. provided:</p> <p>(a) the <i>building</i> contains a Group C or D <i>occupancy</i>, (b) the <i>building</i> is <i>sprinklered</i> with fast-</p>

		<p>response sprinklers,</p> <p>(c) <i>smoke detectors</i> are installed in the rooms opening into the <i>interconnected floor space</i> and the <i>smoke detectors</i> are connected to the fire alarm system, and</p> <p>(d) at least one <i>means of egress</i> is not through the <i>interconnected floor space</i>.</p>
15	<p>Separation of Suites Article 3.3.1.1.; Article 9.10.9.13., Article 9.10.9.14. <i>Suites</i> are required to be separated from adjoining <i>suites</i> by 3/4 h or 1 h rated <i>fire separations</i>.</p>	<p>Existing <i>fire separations</i> of 30 min, such as wood lath and plaster in good condition, are <i>acceptable</i> in <i>sprinklered buildings</i> not exceeding 6 <i>storeys</i> in <i>building height</i>.</p>
16	<p>Corridor Fire Separation Article 3.3.1.4.; Article 9.10.9.15. <i>Public corridors</i> are required to be separated from the remainder of the <i>building</i> by a <i>fire separation</i> having a <i>fire resistance rating</i> of at least 3/4 h.</p>	<p>Existing corridors with 30 min <i>fire-resistance ratings</i>, such as wood lath and plaster in good condition, are <i>acceptable</i> in <i>residential occupancies</i> provided the <i>building</i>:</p> <p>(a) does not exceed 6 <i>storeys</i> in <i>building height</i>, and</p> <p>(b) is fully <i>sprinklered</i> with fast-response sprinklers.</p>
17	<p>Corridor Width Articles 3.3.1.9. and Subsection 3.4.3.; Article 9.9.3.3. <i>Public corridors</i> and <i>exit</i> corridors are permitted to have a minimum width of 1 100 mm.</p>	<p><i>Public corridors</i> and <i>exit</i> corridors are permitted with a minimum width of 800 mm provided:</p> <p>(a) the <i>occupant load</i> of the <i>building</i> is maximum 20 people, and</p> <p>(b) the <i>building</i> does not exceed 3 <i>storeys</i> in <i>building height</i>.</p>
18	<p>Door Swing Articles 3.3.1.10. and 3.4.6.12.; Article 9.9.6.5. Doors required to swing in the direction of <i>exit</i> travel.</p>	<p>Second egress door from a room is not required to swing in the direction of <i>exit</i> travel provided:</p> <p>(a) the <i>building</i> is <i>sprinklered</i> and the system is supervised in conformance with Sentence 3.2.4.9.(2), and</p> <p>(b) the <i>occupant load</i> of the <i>building</i> is a maximum of 100 people.</p>
19	<p>Stairs, Ramps, Handrails and Guards Article 3.3.1.14., Article 3.3.1.16., Article 3.3.1.18., Article 3.4.6.4., Article 3.4.6.6.; Section 9.8.</p>	<p>Existing conditions that do not comply fully with the requirements are permitted if they are <i>acceptable</i> to the <i>Chief Building Official</i>.</p>
20	<p>Transparent Doors and Panels Article 3.3.1.19.; Article 9.6.1.4. Glass in doors and sidelights are required to be protected by <i>guards</i> and to be safety glass.</p>	<p>Existing glass or transparent panels that do not comply fully with the requirements are permitted if sufficiently discernible or <i>guards</i> are provided in hazardous situations.</p>

21	<p>Dead-end Corridors Sentence 3.3.1.9.(7); Article 9.9.7.3.</p> <p>Dead-end corridors are permitted to a maximum length of 6 m.</p>	<p>1. Dead-end corridors are permitted to a maximum length of 10 m in Group C occupancies provided:</p> <ul style="list-style-type: none"> (a) the <i>building</i> is <i>sprinklered</i> with fast-response sprinklers, and (b) <i>smoke detectors</i> are installed in the corridor system. <p>2. Dead-end corridors are permitted to a maximum of 15 m in length in Group D, E, F2 and F3 occupancies provided:</p> <ul style="list-style-type: none"> (a) the <i>building</i> is <i>sprinklered</i> with fast-response sprinklers, and (b) <i>smoke detectors</i> are installed in the corridor system.
22	<p>Exits Article 3.4.2.1.; Article 9.9.8.2.</p> <p>Floor areas shall be served by not fewer than 2 <i>exits</i> except as permitted by Sentence 3.4.2.1.(2)</p>	<p>Floor areas may be served by a single <i>exit</i> within the limits of Sentence 3.4.2.1.(2) provided:</p> <ul style="list-style-type: none"> (a) the <i>building</i> does not exceed 3 storeys in <i>building height</i>, (b) the <i>building</i> is <i>sprinklered</i> with fast-response sprinklers, and (c) all floor areas are protected by a system of <i>smoke detectors</i> connected to a fire alarm system.
23	<p>Reduction of Exit Width Sentence 3.4.3.3.(2); Article 9.9.6.1.</p> <p>Swinging doors in their swing shall not reduce the effective width of <i>exit</i> stairs and landings to less than 750 mm.</p>	<p>Existing swinging doors in their swing are permitted to reduce the effective width of <i>exit</i> stairs and landings to a minimum of 550 mm provided:</p> <ul style="list-style-type: none"> (a) they serve Group C or D occupancies, (b) the <i>building</i> does not exceed 4 storeys in <i>building height</i>, and (c) the <i>building</i> is <i>sprinklered</i>.
24	<p>Fire Separation of Exits Article 3.4.4.1.; Subsection 9.9.4. Article 3.4.4.1.; Subsection 9.9.4.</p> <p><i>Exits</i> are required to be separated from the remainder of the floor area by a <i>fire separation</i> having a <i>fire-resistance rating</i> of not less than 3/4 h.</p>	<p>1. <i>Buildings</i> of 3 storeys or less may have <i>exits</i> that are separated by a <i>fire separation</i> that does not have a <i>fire-resistance rating</i> provided:</p> <ul style="list-style-type: none"> (a) the <i>building</i> is <i>sprinklered</i> with fast-response sprinklers, and (b) the <i>sprinkler system</i> is supervised in accordance with Sentence 3.2.4.9.(2). <p>2. <i>Buildings</i> not exceeding 6 storeys in <i>building height</i> may have <i>exits</i> that are separated by a 45 min <i>fire separation</i> provided the <i>building</i> is <i>sprinklered</i>.</p>
25	<p>Exits Through Lobbies Article 3.4.4.2.; Article 9.9.8.5.</p> <p>Rooms adjacent to the lobby are required to be separated by a <i>fire separation</i>.</p>	<p>Rooms adjacent to the lobby are not required to be separated by a <i>fire separation</i> provided:</p> <ul style="list-style-type: none"> (a) the floor area is <i>sprinklered</i> with fast-response sprinklers, and (b) <i>smoke detectors</i> are installed in the adjacent rooms.
26	<p>Rooms Opening into an Exit Sentence 3.4.4.4.(7); Article</p>	<p><i>Service rooms</i> and ancillary rooms may open directly into an <i>exit</i> provided:</p>

	<p>9.9.5.9. <i>Service rooms</i> and ancillary rooms are not permitted to open directly into an <i>exit</i>.</p>	<p>(a) the rooms are <i>sprinklered</i> with fast-response sprinklers, and (b) weatherstripping is installed on the doors to prevent the passage of smoke.</p>
27	<p>Illumination of <i>Exit</i> Signs Sentences 3.4.5.1.(2) and 3.4.5.1.(4); Sentences 9.9.11.3.(2) to 9.9.11.3.(6) <i>Exit</i> signs are required to be illuminated continuously while the <i>building</i> is occupied.</p>	<p>Where <i>exit</i> signage may compromise historic appearances, or authenticity of displays, <i>exit</i> signs may be installed to light only on an emergency condition, such as by the fire alarm system or due to power failure.</p>
28	<p>Clearance from <i>Exit</i> Doors Sentence 3.4.6.11.(1); Article 9.9.6.6. Stair risers shall not be closer than 300 mm from an <i>exit</i> door.</p>	<p>Except as permitted in Sentences 3.4.6.10.(2) or 9.9.6.6.(2), existing <i>exit</i> doors shall not extend beyond the first riser.</p>
29	<p>Fire Escapes Subsection 3.4.7.; Sentence 9.9.2.1.(2) Fire escapes are required to conform to Subsection 3.4.7.</p>	<p>Existing fire escapes that do not completely conform to Subsection 3.4.7. are <i>acceptable</i> provided: (a) the fire escapes are <i>acceptable</i>, and (b) the <i>building</i> is <i>sprinklered</i>.</p>
30	<p>Fire Escape <i>Construction</i> Article 3.4.7.2.; Sentence 9.9.2.1.(2)</p>	<p>Existing <i>combustible</i> fire escapes are permitted if the <i>building</i> is permitted to be of <i>combustible construction</i> by Part 3, Part 9 or by this table.</p>
31	<p>Protection of Fire Escapes Article 3.4.7.4.; Sentence 9.9.2.1.(2) Openings in the exterior wall adjacent to the fire escape are required to be protected by closures.</p>	<p>Existing openings in the exterior wall adjacent to the fire escape are not required to be protected by closures provided: (a) the <i>building</i> is <i>sprinklered</i>, and (b) a sprinkler head is located within 1.5 m of the opening required to be protected by Article 3.4.7.4.</p>
32	<p><i>Vertical Service Space</i> Article 3.6.3.1. <i>Vertical service spaces</i> are required to be separated from the adjacent <i>floor area</i> by a rated <i>fire separation</i>.</p>	<p>Existing <i>vertical service spaces</i> that do not completely conform to the rated <i>fire separation</i> requirements are <i>acceptable</i> provided the <i>vertical service spaces</i> are <i>sprinklered</i>.</p>
33	<p>Height and Area of Rooms Subsection 3.7.1.; Section 9.5. The height and area of rooms are required to comply to minimum dimension requirements.</p>	<p>Existing rooms are not required to comply to the minimum dimension requirements of Subsection 3.7.1. or Section 9.5.</p>
34	<p>Washroom Requirements Subsection 3.7.2.; Section 9.31. <i>Buildings</i> are required to be provided with a minimum number of washroom fixtures.</p>	<p>Existing facilities are not required to completely comply to the requirements of Subsection 3.7.2. or Section 9.31. provided it is <i>acceptable</i> to the <i>Chief Building Official</i>.</p>

35	Access for Persons with Disabilities Section 3.8.	Sentences 3.8.1.1.(3) and 3.8.4.1.(1) shall apply to <i>existing buildings</i> .
36	Seismic Anchorage of Exterior Decoration Subsection 4.1.8.	Existing exterior decorations are not required to fully comply to the anchorage requirements of Subsection 4.1.8. provided: (a) adequate means of protection is provided, or (b) there is no exposure to the public.
37	Mechanical Systems Part 6 and Part 7	Existing mechanical systems in buildings are not required to fully comply to the requirements of Parts 6 or 7 provided: (a) it is not an <i>unsafe condition</i> , and (b) it is <i>acceptable</i> to the <i>Chief Building Official</i> .
38	Energy and Water Efficiency Parts 9, 10 and 11	The existing level of energy and water efficiency in a building is not required to comply with the requirements of Parts 9, 10 or 11 provided the level of energy efficiency is acceptable to the <i>Chief Building Official</i> .
