

## Section 11.2. Upgrade Application

### 11.2.1. Upgrade Requirements

#### 11.2.1.1. Upgrade Objectives

- 1) An *alteration* to an *existing building* shall trigger upgrading of the *existing building* to meet the following objectives
  - a) all *unsafe conditions* shall be corrected to an *acceptable* level,
  - b) all new materials and *construction* work shall comply with this By-law,
  - c) the *building* shall be upgraded to an *acceptable* level of
    - i) fire, life and health safety,
    - ii) structural safety,
    - iii) non-structural safety,
    - iv) accessibility for persons with disabilities, and
    - v) water efficiency,
  - d) any significant extension of the design life of an *existing building* beyond its original design life shall require upgrading to an *acceptable* level,
  - e) an *alteration* to an individual *suite* within an *existing building* will not trigger upgrades within any other *suites* except where the *alteration* creates non-conformity with the By-law within such other *suites*, and
  - f) the level of life safety and *building* performance shall not be decreased below the existing level.

2) An *alteration* to an *existing building* shall not trigger upgrading of the *existing building* to meet the rainwater management requirements described in Article 2.4.2.5. of Division B of Book II (Plumbing Systems) of this By-law.

#### 11.2.1.2. General Requirements

(See Note A-11.2.1.2.)

- 1) Where *construction* of *existing buildings* occurred before the effective date of this By-law, reconstruction or *alteration* of *existing buildings* is not a requirement of this By-law, except as required by Articles 11.2.1.3. to 11.2.1.11. inclusive.
- 2) Except as permitted by Sentences (3) to (9), and Articles 11.2.1.3. to 11.2.1.11., where an *alteration* is made to an *existing building*, the *alteration* shall comply with this By-law and the *existing building* shall be
  - a) upgraded to an *acceptable* level as defined in the *existing building* Upgrade Mechanism Model in Notes to Part 11, except that existing lighting exceeding the Lighting Power Density of ASHRAE 90.1-2016 shall be removed within existing spaces of a *suite* within the scope of a *project*,
  - b) upgraded to the satisfaction of the *Chief Building Official* where the *owner* demonstrates that the design levels, as defined by the Upgrade Mechanism Model in Notes to Part 11, present a hardship for the *owner*, or
  - c) upgraded to the satisfaction of the *Chief Building Official* through alternative upgrades, that demonstrate equivalent improvement where specific characteristics of the *building* are intended to be retained.
- 3) Except as required by changes of *major occupancy* in a *small suite*, where an *alteration* does not involve an *addition* or a change in *major occupancy*, further upgrading to an *existing building* is not a requirement of this By-law provided
  - a) *construction* or a full upgrade of the *building* occurred by means of a *building permit* issued on or after November 1, 1999,
  - b) all *unsafe conditions* are corrected to the satisfaction of the *Chief Building Official*, and
  - c) all new work is in compliance with this By-law.
- 4) Where a voluntary upgrade for fire alarm systems, *sprinkler systems*, *exits*, accessibility, seismic work, washrooms or kitchens for *single room accommodations*, energy efficiency or *building* envelope repair is carried out, no further upgrade of the *building* is required except that, where other work is included in the application, the upgrade requirement will only be based on the non-voluntary work proposed.
- 5) Where *building* envelope repair involves more than 60% of an opaque portion of a *building* face, the *building* envelope on the entire vertical section of that *building* face shall be replaced and upgraded to the thermal resistance and air-tightness requirements of Part 10, except where
  - a) the scope of work is limited to the replacement of windows
  - b) the *building* is two *storeys* in *building height* or less and is required to comply with Part 9 per Division A,

Article 1.3.3.3., or

c) the *building* face has heritage merit and is required to be retained as part of an approved retention plan.

6) Where a *building* is *altered* and is a *post disaster building* as defined in Table 4.1.2.1., or where there is a major *addition* to a *post disaster building*, the entire *building* shall be upgraded to design upgrade levels F4, S4, N4 and A4 as detailed in the Upgrade Mechanism Model in Note A-11.2.1.2.

7) Where there is a temporary change of *major occupancy* in a *building* for a temporary emergency shelter or an *arts and culture indoor event*, the upgrade requirements shall be based solely on Section 11.6.

8) Except as permitted by Sentence (9), where there is a change of *major occupancy* in a *building*, and the aggregate area of the change in *major occupancy* within any 5 year period is greater than 50% of the *building area* in a one *storey building* or greater than 100% of the *building area* in a *building* of more than one *storey*, the entire *building* shall be upgraded to design upgrade levels F4, S4, N4 and A4 as detailed in the Upgrade Mechanism Model in Notes to Part 11 except where

- a) the change in *major occupancy* is to a single *suite* of not more than 100 m<sup>2</sup>, and the work does not exceed 5% of the *building area*, or
- b) such upgrades are in conflict with an approved heritage retention plan.

9) Where there is a change of *major occupancy* in a *building*, the upgrade requirements of Flow Chart #2 of the Upgrade Mechanism Model in Division B Appendix A need not be provided where

- a) the change in *major occupancy* is to a single *suite*,
- b) the aggregate *suite* area does not exceed the lesser of 50% of the *building area* or 300 m<sup>2</sup>,
- c) the *major occupancy* of the *suite* is Group D or Group E, and
- d) the use and aggregate *suite* area complies with Table 11.2.1.2.-A.

**Table 11.2.1.2.-A**  
**Maximum Aggregate Suite Area**  
Forming part of Sentence 11.2.1.2.(9)

Major Occupancy	Suite Use	Aggregate Suite Use	
		≤200 m <sup>2</sup>	201 to 300 m <sup>2</sup>
Group D	Administrative & Business Offices	Y	Y
	Barber and Hairdressing Shop Beauty Salon	Y	Y
	Health Care Offices (non-surgical, non-sedation)	Y	Y <sup>(1)</sup>
Group E	General Retail (Non-hazardous materials)	Y <sup>(1)</sup>	N <sup>(2)</sup>

**Notes to Table 11.2.1.2.-A:**

<sup>(1)</sup> Provided the Hazard Index of the space is not increased (see Table A-11.2.1.2.D)

<sup>(2)</sup> Except as *acceptable* to the *Chief Building Official*.

### 11.2.1.3. Sprinkler Installation Requirements for the Addition of Dwelling Units in Multi-family Buildings

(See Note A-11.2.1.3.)

1) Except as provided in Sentences (2) and (4) and Sentence 11.2.1.4.(3), where an *alteration* to an *existing building* creates or adds one or more *dwelling units*, the *building* shall be *sprinklered* in conformance with Table 11.2.1.3.

2) Where the *alteration* in Sentence (1) involves the *addition* of existing *floor area* to an existing *dwelling unit*, and that converted space is greater than 50% of the *floor area* of the original *dwelling unit*, the *altered dwelling unit* shall be considered as a new *dwelling unit* and the *building* shall be *sprinklered* in conformance with Table 11.2.1.3.

3) If sprinklers are required by Table 11.2.1.3., they shall be installed throughout the *storey* on which the new *dwelling unit* is to be located and all *storeys* below the new *dwelling unit*.

4) A *building* need not be *sprinklered* in accordance with Sentence (1), if the *construction value* of the *alteration* does not exceed \$250,000.

**Table 11.2.1.3**  
**Sprinkler Installation Determination where Dwelling Units are Added**  
 Forming part of Sentences 11.2.1.3.(1), (2), and (3)

Existing Dwelling Units	New Dwelling Units <sup>(1)</sup> Added Over Any 5 Year Period <sup>(2)</sup>				
	1	2-3	4-5	6	>6
0-1	Spr R	Spr R	Spr R	Spr R	Spr R
2-4	-	Spr R	Spr R	Spr R	Spr R
5-10	-	-	Spr R	Spr R	Spr R
11-20	-	-	-	Spr R	Spr R
>20	-	-	-	-	Spr R

**Notes to Table 11.2.1.3.:**

- (1) The creation of *dwelling units* over the previous 5 years from the date of the proposed *building permit* application.  
 (2) Sprinklers required.

**11.2.1.4. Upgrade Requirements for a Residential Building Containing not more than Two Principal Dwelling Units**

1) Except as permitted by Subsection 11.4, an *alteration* or *addition* to a solely residential *building* containing not more than two principal *dwelling units* shall comply with this By-law, and the existing portions of *building* shall be upgraded to an *acceptable* level as determined by Tables 11.2.1.4.(1)-A, 11.2.1.4.(1)-B, and 11.2.1.4.(1)-C.

**Table 11.2.1.4.(1)-A**  
**Fire and Life Safety Upgrade requirements for Residential Buildings containing not more than Two Principal Dwelling Units**  
 Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Smoke Alarms <sup>(1)</sup>	CO Alarms <sup>(2)</sup>	Guards <sup>(3)</sup>	Spatial Separation <sup>(4)</sup>	Structural <sup>(5)</sup>
Renovation	Y	Y	Y	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y
Horizontal Addition Floor Area					
up to 25% <sup>(6)</sup>	Y	Y	Y	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y
Vertical Addition Floor Area					
up to 25% <sup>(6)</sup>	Y	Y	Y	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-A:**

- (1) Smoke Alarms: to be installed in conformance with Subsections 3.2.4. and 9.10.19. as applicable.  
 (2) CO Alarms: to be installed in conformance with Subsections 6.9.3. and 9.32.4. as applicable<sup>(3)</sup> Sprinklers required.  
 (3) *Guards*: all unsafe *guards* to be upgraded to the satisfaction of the *Chief Building Official*.  
 (4) Spatial Separation: Spatial separation of the *building* shall comply with Subsections 3.2.3., 9.10.14. or 9.10.15. as applicable; or as permitted by Section 11.3.  
 (5) All existing wood frame walls to be anchored to existing concrete foundation walls for seismic resistance  
 (6) Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2)..  
 (7) Aggregate increase in *floor area* greater than 25% of the *building area*

**Table 11.2.1.4.(1)-B**  
**Egress and Exit Upgrade requirements for Residential Buildings containing not more than Two Principal Dwelling Units**  
 Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Means of Egress <sup>(1)</sup>	Handrails <sup>(2)</sup>	Exit Exposure <sup>(3)</sup>	Stair Dimensions <sup>(4)</sup>	Building Services <sup>(5)</sup>	Falling Hazards <sup>(6)</sup>
Renovation	N	Y	Y	Y	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y	Y
Horizontal Addition Floor Area						
up to 25% <sup>(7)</sup>	Y	Y	Y	Y	N	N

over 25% <sup>(8)</sup>	Y	Y	Y	Y	Y	Y
Vertical Addition Floor Area						
up to 25% <sup>(7)</sup>	Y	Y	Y	Y	N	N
over 25% <sup>(8)</sup>	Y	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-B:**

- (1) *Means of egress*: confirm that access to exit (9.9.9.) and means of escape (9.9.10.) from all *floor areas* is compliant with regards to travel distance and *fire separation* (where applicable).
- (2) Handrails: all unsafe handrails to be upgraded to the satisfaction of the *Chief Building Official*.
- (3) Exit Exposure: *Exits* to be confirmed to be compliant with regards to *exit exposure* where applicable.
- (4) Stair Dimensions: Existing stairs in *means of egress* to comply with the dimensional requirements of Subsection 9.8.2.
- (5) Building Services: Restrain *building service* piping, conduit, and *appliances* to resist lateral movement due to earthquake.
- (6) Falling hazards: Restrain falling hazards within 3 m of the egress path to resist lateral movement due to earthquake.
- (7) Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2).
- (8) Aggregate increase in *floor area* greater than 25% of the *building area*.

**Table 11.2.1.4.(1)-C**  
**Floor Area Upgrade Requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(1)

Scope of Work	Flame Spread <sup>(1)</sup>	Floor Fire Separations <sup>(2)</sup>	Suite Fire Separations <sup>(3)</sup>	Lighting & Emergency Lights <sup>(4)</sup>	Door Hardware <sup>(5)</sup>
Renovation	N	N	N	N	N
Relocation or Reconstruction	Y	Y	Y	Y	Y
Horizontal Addition Floor Area					
up to 25% <sup>(6)</sup>	N	N	N	N	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y
Vertical Addition Floor Area					
up to 25% <sup>(6)</sup>	N	N	N	Y	N
over 25% <sup>(7)</sup>	Y	Y	Y	Y	Y

**Notes to Table 11.2.1.4.(1)-C:**

- (1) *Flame spread rating*: Exposed wall and ceiling finishes of egress routes to meet the requirements of Subsection 9.10.17. in *exits*
- (2) *Floor fire separations*: Floor and occupied roof assemblies to be fire rated per Article 9.10.8.1.
- (3) *Suite fire separations* (where applicable): Residential *suites* to be provided with a *fire separation* in accordance with Article 9.10.9.14. and Section 9.37.
- (4) Lighting & Emergency Lights (where applicable): Lighting and emergency lighting to be provided in *means of egress* in accordance with Subsection 9.9.12.
- (5) Door Hardware: Door hardware within existing *floor areas* to be made adaptable as per Subsection 3.8.5.
- (6) Aggregate increase in *floor area* less than 25% of the *building area* (see flow chart #3 of Note A-11.2.1.2).
- (7) Aggregate increase in *floor area* greater than 25% of the *building area*.

2) Where an *alteration* or *addition* is made to an existing residential *building*, containing not more than two principal *dwelling units*, the energy efficiency of a *building* shall be upgraded to an *acceptable* level in conformance with Table 11.2.1.4.(2).

**Table 11.2.1.4.(2)**  
**Energy Efficiency Upgrade Requirements for Residential Buildings containing not more than Two Principal Dwelling Units**

Forming part of Sentence 11.2.1.4.(2)

	EnerGuide Assessment <sup>(1)</sup>	Air Tightness Upgrades <sup>(2)</sup>	Attic and Sloped Roof Insulation <sup>(3)</sup>	Electric Space and Hot Water Heating
<b>Alteration construction value</b>				
\$0.00 to \$19,999	N	N	N	N
\$20,000 to \$74,999	Y	N	N	N
\$75,000 to \$249,999	Y	N	N	N
≥\$250,000	Y <sup>(1)</sup>	Y	Y	Y
<b>Scope of Work</b>				
Strata Property Conversion <sup>(4)</sup>	Y	Y	Y	Y
Relocation	Y	Y	Y	N

**Notes to Table 11.2.1.4.(2):**

- (1) An EnerGuide Assessment completed within the last 4 years must be submitted, a post-*construction* assessment must also be completed where the cost of **value** exceeds \$75,000.
- (2) Where EGH>5 air changes per hour, air sealing is required.
- (3) Where attic insulation <R12 (2.11RSI), increase to R28 (4.93RSI); where attic insulation ≥R12 (2.11RSI), increase to R40 (7.04RSI); Insulation in existing attics shall not exceed R43.7 (7.7RSI). All flat roof and cathedral ceiling insulation shall be upgraded to ≥R14 (2.47RSI).
- (4) **An existing building or parcel converted into 2 or more strata lots.**

- 3) Except as permitted by Sentence (4), where an alteration is made to an existing residential building containing not more than two principal residential dwelling units, a sprinkler system shall be installed**
  - a) throughout the building, where more than one dwelling unit is created, reconstructed, or both,
  - b) throughout any storey on which a new principal dwelling unit is created, and all storeys below, or
  - c) throughout any storey on which an alteration to the building increases the aggregate area of an existing dwelling unit by more than 50% of the floor area. ; and
- 4) A building need not be sprinklered in accordance with Sentence (3), if the construction value of the alteration does not exceed \$250,000.**

**11.2.1.5. Self-contained Volumetric Spaces**

(See Note A-11.2.1.5)

- 1) Where an alteration to a building is a self-contained volumetric space that is separated from the remainder of the building by a non-combustible vertical fire separation with a 2 h fire resistance rating, the upgrade requirements of this Part do not apply to the remainder of the building provided
  - a) the self-contained volumetric space is upgraded in conformance with this By-law,
  - b) the self-contained volumetric space does not exit through the remainder of the building,
  - c) the building area of the self-contained volumetric space is not larger than 10% of the existing building area,
  - d) a non-combustible vertical fire separation with a 2 h fire resistance rating is constructed as a continuous vertical fire separation from the building foundation to the underside of the roof sheathing, and
  - e) the self-contained volumetric space does not reduce the existing structural capacity of the building.

**11.2.1.6. Relocated Buildings**

- 1) Except as permitted by Article 11.2.1.4., where a building is relocated from another municipality to the City, from another lot within the City or within its existing lot, the building shall be upgraded to Design Upgrade Levels F4, S4, N4 and A4, as determined by the Upgrade Mechanism Model in Notes to Part 11.

**11.2.1.7. Relocated Property Lines**

- 1) Where property lines are relocated closer to a building, the building shall be upgraded to conform to the spatial requirements, fire department access requirements and means of egress requirements of this By-law or the applicant shall demonstrate that the relocated property lines and the existing building configuration comply with this By-law.

**11.2.1.8. Demolished Buildings**

- 1) Where a building is being demolished in whole or in part, the demolition work shall conform to the requirements of Part 8 and any part of the building that remains after demolition shall be upgraded in conformance with Article 11.2.1.2.

**11.2.1.9. Damaged Buildings**

- 1) Where a building has been damaged, all work necessary to reconstruct the damaged portions of the building shall conform to this By-law and the Fire By-law and the remainder of the building shall be upgraded in conformance with Article 11.2.1.2.

**11.2.1.10. Fire Department Order**

- 1) Where an order issued under the Fire By-law requires upgrading of a building, the Chief Building Official may allow deviations from this By-law.

**11.2.1.11. Specific Upgrade Requirements for Float Homes and Marinas**

- 1) Except as permitted by Sentence (2), where a *marina* is *altered*, all new work shall comply with Subsection 12.2.2. and the *marina* shall be upgraded to an *acceptable* level as determined by the Upgrade Mechanism Model in Notes to Part 11.
- 2) Except as required by Sentence (3); Sentences 12.2.2.7.(1), and 12.2.2.8.(1) need not apply to a *marina*.
- 3) Where the total *construction* value of an *alteration* to a *marina* exceeds 50% of the replacement value of the *marina* as determined at the application stage for *alteration*, then the *marina* shall comply with Subsection 12.2.2.
- 4) Where a *float home* is *altered*
  - a) new work shall comply with Subsection 12.2.2. of Division B and this By-law, and
  - b) the *float home* shall be upgraded to an *acceptable* level in accordance with Article 11.2.1.4.
- 5) A *marina* shall have an *occupancy* classification as specified in Sentences 12.2.2.1.(4) and (5)