

# Public Review

## Vancouver Building By-law (VBBL)

### Proposed change to Updates to Part 11

**Topic:** Updates to Part 11 to reflect proposed changes to Part 10 (10.2.1.5.)

**Code change number:** 24-0024

**Code reference:** 11.7.1.5. Residential Buildings of 1 to 3 Storeys, and Houses (excluding Hotels/Motels)

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### Description of the proposed change

- Update Part 11 (Section 11.7) to reflect proposed changes to Part 10 (10.2.1.5.)
- Majority of changes reflect housekeeping and code clarity
- A Sentence (3) has been added for Reconstruction projects, as they have unique requirements as effectively a new house, relative to other alteration projects. This includes separate requirements for HRV's, airtightness and electric heating & hot water

### Justification

- Ensure consistency in new building and alteration language
- Added clarity for Reconstruction project requirements by adding an additional Sentence (3).
- Natural gas appliances continue to be allowed as a 'relaxation' to new building electric equipment requirements for a number of reasons: 1) it has not yet been engaged on to require electric replacement equipment in existing buildings 2) it is unclear the financial and infrastructure related implications of requiring electric replacement equipment. This is a major part of upcoming retrofit regulation development as part of the Zero Emissions Building Retrofit Plan.

### Proposed VBBL content

#### **Legend**

Black Text – 2019 Vancouver Building By-law content

Underlined Black Text – Proposed modification to Vancouver Building By-law content

**11.7.1.5. Residential Buildings of 1 to 3 Storeys, and Houses (excluding Hotels/Motels)**

1) Except as otherwise required by Sentence (3), ~~Sentence (2) and Sentence 11.7.1.1.(7), Table 11.2.1.4.(2) or in this Subsection~~, alterations to energy systems or components of a *building* described in Sentence 10.2.1.5.(1), shall comply with

- a) the building envelope opaque elements with thermal performance requirements of Article 10.2.2.6, except as permitted by Sentence (2),
- b) the exterior closures and fenestration performance requirements of Article 10.2.2.7., except as permitted by Sentence (2),
- c) Articles 10.2.2.8 through 10.2.2.11. as applicable;
- d) domestic hot water requirements of Article 10.2.2.12. except the system may be gas-fired with a uniform energy factor of not less than 0.78 or a thermal efficiency of not less than 90%;
- e) space-heating appliance performance requirements of Articles 10.2.2.13. and 10.2.2.14, except a system may be gas-fired with an Annual Fuel Utilization Efficiency (AFUE) rating of not less than 92%, ~~as tested using CSA 2.6/ANSI Z83.8, “Gas unit heaters, gas packaged heaters, gas utility heaters and gas-fired duct furnaces”~~
- f) the domestic fireplace performance requirements of Article 10.2.2.15. Sentences 10.2.2.15.(1) to (4) and Article 10.2.2.16.,
- g) ~~the heat recovery ventilators requirements of Article 10.2.2.17., except a system that non-reconstruction projects may provide continuous exhaust ventilation in accordance with Section 9.32.,~~
- h) ~~Article 10.2.2.20. for all alterations, except Sentence (3) shall apply to reconstruction projects only;~~
- i) ~~Article 10.2.2.21. except an airtightness performance of 3.5 ACH may be used for reconstruction projects, and~~
- g) the ancillary equipment requirements of Article 10.2.2.19
- j) Article 10.2.2.22. as applicable.

2) Where it is deemed prohibitive by the *Chief Building Official*, an alteration or upgrade to a building may

- a) achieve the applicable standard of performance in Table 11.7.1.5 or as otherwise permitted by the *Chief Building Official*, and
- b) trade-off the remaining emissions-reduction outcomes with other building systems or components, acceptable to the *Chief Building Official*.

<b>Table 11.7.1.5. – Permitted minimum standards (with equivalent emissions reduction trade-offs selected and approved)</b>	
<b>10.2.2.6. Wall assemblies</b>	Shall achieve a minimum nominal RSI of 2.5 m <sup>2</sup> K/W in the affected assemblies with heat transfer, air leakage and condensation control per Section 9.25.

<p style="text-align: center;"><b>10.2.2.6.</b> <b>Roof assemblies</b></p>	<p>Shall achieve a minimum nominal RSI of 3.8 m<sup>2</sup>K/W in the affected assemblies with heat transfer, air leakage and condensation control per Section 9.25.</p>
<p style="text-align: center;"><b>10.2.2.7.</b> <b>Windows, Curtainwall, sliding or folding doors with glazing</b></p>	<p>Shall achieve a maximum nominal USI of 1.44 W/m<sup>2</sup>K</p>

3) Alterations designated as reconstruction (see Note A-11.2.1.2.), shall comply with:

- a) energy and emissions requirements following either the Performance Path in Sentence 10.2.1.5.(2) or the prescriptive path in Sentence 10.2.1.5.(3),
- b) domestic hot water requirements of Article 10.2.2.12.,
- c) space-heating appliance performance requirements of Articles 10.2.2.13. and 10.2.2.14.,
- d) the heat recovery ventilator performance requirements of Article 10.2.2.17.
- e) the gas piping requirements of Article 10.2.2.19, and
- f) the applicable airtightness requirements of Article 10.2.2.21. except an airtightness performance of 3.5 ACH may be achieved.