A By-law to amend By-law No. 11894 Re: 3205-3221 West 41<sup>st</sup> Avenue and 5590 Balaclava Street

After the public hearing on December 12, 2017, Council resolved to amend By-law No. 11894 regarding 3205-3221 West 41<sup>st</sup> Avenue and 5590 Balaclava Street. The Director of Planning has advised that there are no prior to conditions, and enactment of the attached By-law will implement Council's resolution.



#### BY-LAW NO.

#### A By-law to amend CD-1 (674) By-law No. 11894

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

- 1. This By-law amends the indicated provisions of By-law 11894.
- 2. In Section 4.2, Council strikes out "1 087.0 m<sup>2</sup>" and substitutes "1,226.0 m<sup>2</sup>".
- 3. In Section 8 (e), Council strikes out "0.2 shared vehicle parking space" and substitutes "0.02 shared vehicle parking space".
- 4. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
- 5. This By-law is to come into force and take effect on the date of its enactment.

, 2018	day of	ENACTED by Council this	
Mayor			
City Clerk			

A By-law to amend By-law No. 11658 Re: 2133 Nanton Avenue (formerly known as 4255 Arbutus Street)

After the public hearing on December 12, 2017, Council resolved to amend By-law No. 11658 regarding 2133 Nanton Avenue (formerly known as 4255 Arbutus Street). The Director of Planning has advised that there are no prior to conditions, and enactment of the attached By-law will implement Council's resolution.

2133 Nanton Avenue (formerly known as 4255 Arbutus Street)



#### A By-law to amend CD-1 (642) By-law No. 11658

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

- 1. This By-law amends the indicated provisions of By-law 11658.
- 2. In Section 4.2, Council strikes out "an insurance office," and substitutes "a financial institution, insurance office,".
- 3. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
- 4. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this	day of	, 2018
		Mayo
		Mayor
	. *	City Clerk

A By-law to amend By-law No. 5705 Re: 2657-2693 West 10th Avenue and 2676-2696 West Broadway

After the public hearing on December 12, 2017, Council resolved to amend By-law No. 5705 regarding 2657-2693 West 10th Avenue and 2676-2696 West Broadway. The Director of Planning has advised that there are no prior to conditions, and enactment of the attached By-law will implement Council's resolution.



#### A By-law to amend CD-1 (158) By-law No. 5705

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

- 1. This By-law amends the indicated provisions of By-law 5705.
- 2. In Section 3.2, Council adds "Cultural and Recreational Uses, limited to Fitness Centre," as subsection (a), and renumbers the subsequent subsections in alphabetical order.
- 3. Council strikes out section 4.1 and substitutes:
  - "4.1 All cultural and recreational, institutional, office, retail and service uses must only be carried on in the Northerly Portion of CD-1 (158)."
- 4. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
- 5. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this	day of	, 2018
,		Mayor
		City Clerk

A By-law to amend the Zoning & Development By-law
Re: Districts Schedules, Heritage Conservation Amenity Shares
and housekeeping

Following a public hearing on December 12, 2017, Council approved proposed amendments to the Zoning and Development By-law. Enactment of the attached By-law will implement Council's resolution.

Zoning By-law Amending By-law re: C3-A and C-5, C-5A and C-6 Districts Schedules, Heritage Conservation Amenity Shares And Housekeeping



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# A By-law to amend the C3-A and C-5, C-5A and C-6 Districts Schedules Regarding Heritage Conservation Amenity Shares and the FC-2 District Schedule regarding Schedule G and Housekeeping

- 1. This By-law amends the indicated provisions of the Zoning and Development By-law No. 3575.
- 2. In the C-3A District Schedule, in subsection 4.7.8, at the end of the first paragraph, Council strikes out "." and adds ", except that this provision shall not apply to a development where there has been an increase in floor space ratio pursuant to section 4.7.1(b)."
- 3. In the C-5, C-5A and C-6 Districts Schedule, in subsection 4.7.8, at the end of the first paragraph, Council strikes out "." and adds "or a development where there has been an increase in floor space ratio pursuant to section 4.7.1.1(b)."
- 4. In the FC-2 District Schedule, in section 4.7.12, Council strikes out "Schedule G" and substitutes "Schedule H".
- 5. Council strikes out:

#### "Schedule G"

#### Stipulated Rents at initial occupancy for secured market rental housing

This is Schedule G to By-law No. 3575, being the "Zoning and Development By-law"

	Targeted Rents in Below Market Units (35% of all units)	Income Level Served in Below Market Units
Studio	\$950	\$33,000 – \$46,000
1-Bed	\$1200	\$41,000 \$58,000
2-Bed	\$1600	\$55,000 - \$77,000
3-Bed	\$2000	\$69,000 - \$96,000

Note: Income levels served assume 25% to 35% of income is spent on rent."

and substitutes:

#### "Schedule H"

#### Stipulated Rents at initial occupancy for secured market rental housing

This is Schedule H to By-law No. 3575, being the "Zoning and Development By-law"

	Targeted Rents in Below Market Units (35% of all units)	Income Level Served in Below Market Units
Studio	\$950	\$33,000 - \$46,000
1-Bed	\$1200	\$41,000 – \$58,000
2-Bed	\$1600	\$55,000 - \$77,000
3-Bed	\$2000	\$69,000 - \$96,000

Note: Income levels served assume 25% to 35% of income is spent on rent."

- 6. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
- 7. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this	day of	, 2018
		Mayor
		City Clerk

### Building By-law amending By-law Re: Energy Efficiency

The attached By-law will implement Council's resolution of May 2, 2018 to amend the Building By-law regarding energy efficiency measures to take effect as noted in Clause 28.

## BY-LAW NO.

#### A By-law to amend Building By-law No. 10908 Regarding Energy Efficiency

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

- 1. This by-law amends the indicated provisions of Building By-law 10908.
- 2. In Book I, Division B, Part 1, Article 1.3.1.2., in Table 1.3.1.2.(1) Council:
  - (a) adds, in correct alphanumeric order:

ASTM E	779-10	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization	10.2.2.21.(1)
USACEL	JSACE	Air Leakage Test Protocol for Building Envelopes, Version 3	10.2.2.21.(1)

; and

(b) strikes:

CoV 2017	City of Vancouver Energy Modelling Guidelines	10.2.2.3.
1		

and substitutes:

CoV 2017	City of Vancouver Energy Modelling Guidelines	10.2.2.5.
L		31

; and

(c) strikes:

	CSA B55.1- 15	Test Method for Measuring Efficiency and Pressure Loss of Drain Water Heat Recovery Units	10.2.2.11.(3)
CSA	CSA B55.2- 15	Drain water heat recovery units	10.2.2.11.(3)

- 3. In Book I, Division B, Part 10, Article 10.2.1.3. Council:
  - (a) strikes out Sentence (1)(b)(ii), and substitutes:
    - "ii. Energy standards as per Articles 10.2.2.2. or 10.2.2.3., and thermal insulation conforming with 10.2.2.6., windows and doors conforming with 10.2.2.7., and be provided with heat recovery ventilators conforming with 10.2.2.17.,"; and

- (b) strikes out Sentences (1)(i), (j) and (k) and substitutes:
  - "i) conform with Article 10.2.2.15. where domestic gas fireplaces are provided,
  - j) provide documentation in conformance with Article 10.2.2.20, and
  - k) provide airtightness testing in accordance with Article 10.2.2.21.".
- 4. In Book I, Division B, Part 10, Article 10.2.1.4. Council:
  - (a) strikes out Sentence (1)(i), and substitutes:
    - "i) be provided with and heat recovery ventilators in conformance with Article 10.2.2.17.,";
  - (b) strikes the word "and" from Sentence (1)(j);
  - strikes the words "and a rating system audit" from Sentence (1)(k) and adds the word ", and" after "10.2.2.20."; and
  - (d) adds a new Sentence (1)(I) as follows:
    - "I) provide airtightness testing in accordance with Article 10.2.2.21.".
- 5. In Book I, Division B, Part 10, Article 10.2.1.5. Council:
  - (a) strikes out Sentence (1)(h), and substitutes:
    - "h) be provided with heat recovery ventilators in conformance with Article 10.2.2.17.,";
  - (b) strikes the word "and" from Sentence (1)(i);
  - (c) strikes the words "and a rating system audit" from Sentence (1)(j) and adds the word ", and" after "10.2.2.20."; and
  - (d) adds a new Sentence (1)(l) as follows:
    - "I) provide airtightness testing in accordance with Article 10.2.2.21.".
- 6. In Book I, Division B, Part 10, Article 10.2.2.5., Council strikes the title "Building Envelope Opaque Elements and Simulation Performance", and replaces it with "Building Energy and Emissions Performance".

7. In Book I, Division B, Part 10, Article 10.2.2.7., Table 10.2.2.7.(1), Council adds the following in a new cell located immediately above the cell for "Skylights, roof window and sloped glazing systems":

Skylights larger then 1220mm in two directions	2.95
/ Y	

- 8. In Book I, Division B, Part 10, Article 10.2.2.8.(2), Council:
  - (a) strikes the word "and" at the end of Sentence (2)(d);
  - (b) strikes the "." at the end of Sentence (2)(e) and substitutes ", and"; and
  - (c) adds a new Sentence (2)(I) as follows:
    - "f) a building pursuing certification with the Passive House (PHI) standard.".
- 9. In Book I, Division B, Part 10, Article 10.2.2.11., Council:
  - in Sentence (1), strikes out the words "except *row housing* that have no natural gas appliances";
  - (b) strikes Sentence (2); and
  - (c) strikes Sentence (3).
- 10. In Book I, Division B, Part 10, Article 10.2.2.12., Council strikes the words "shall have an energy factor of not less than 78 per cent, except that existing homes may have an energy factor of not less than 62 per cent", and replaces them with "shall have a uniform energy factor of not less than 0.78 or alternatively a thermal efficiency of not less than 90%, except that existing homes may have a uniform energy factor of not less than 0.62".
- 11. In Book I, Division B, Part 10, Article 10.2.2.15., Council:
  - (a) in Sentence (1)(a), strikes out "or";
  - (b) in Sentence (1)(b)(ii), strikes "." and substitutes ", or" to the end of the sentence; and
  - (c) adds "c) match ignition.".
- 12. In Book I, Division B, Part 10, Article 10.2.2.17., Council adds the words "except for mechanical ducts cast into concrete structure," at the beginning of Sentence (3)(g).

- 13. In Book I, Division B, Part 10, Article 10.2.2.20, Council:
  - a. strikes the title "EnerGuide Rating System Audit or Passive House Planning Package File (PHPP)", and replaces it with "Passive House Planning Package (PHPP), EnerGuide, or Other Energy Documentation"; and
  - b. strikes Sentence (1), and replaces it with
    - "1) In a *building* required to comply with this Article, at the time of building permit application, and at the time of final inspection, the owner shall provide to the Chief Building Official *acceptable* documentation, in the form of
    - a) a PHPP file from a Certified Passive House Consultant or Designer, or
    - b) an EnerGuide Rating System Audit, or
    - c) for *buildings* ineligible for an EnerGuide Rating System Audit, a Hot2000 file modelled in general mode and using the same baseload assumptions as Energuide for New Homes mode, or equivalent energy modelling documentation, *acceptable* to the Chief Building Official.".
- 14. In Book I, Division B, Part 10, Subsection 10.2.2., Council adds:

#### "10.2.2.21. Building and Dwelling Unit Airtightness Testing

- 1) In a *building* required to comply with this Article, the *building* and *dwelling units* shall be tested for airtightness in accordance with
- a) ASTM E 779, Standard Test Method for Determining Air Leakage Rate by Fan Pressurization,
- b) USACE Version 3, Air Leakage Test Protocol for Building Envelopes, or
- c) airtightness protocol recognized by Natural Resources Canada for use in homes and buildings labeled under the EnerGuide for New Homes program.
- 2) A *building* required to comply with this Article shall have maximum tested air leakage rates in conformance with Table 10.2.2.21., or sealed to the satisfaction of the Chief Building Official.

Table 10.2.2.21.	
Maximum Tested Air Leakage Rates	
Forming part of Sentence 10.2.2.21.(2)	
Building Classification	Maximum Tested Air Leakage Rate
Buildings, excluding 1 or 2 Family Dwellings and 1 to 3 Storey Residential	2.03 L/s/m² at 75 pascals

Ground-oriented dwelling units	3.5 air changes per hour at 50 pascals
f	

15. In Book I, Division B, Article 10.5.1.1., Council strikes Table 10.5.1.1., and replaces it with:

Table 10.5.1.1. Objectives and Functional Statements Attributed to the Acceptable Solutions in Part 10		
	entence 10.5.1.1.(1)	
Acceptable Solutions	Functional Statements and Objectives <sup>(1)</sup>	
10.2.2.2. ANSI/AS	HRAE/IESNA 90.1	
(1)	[F85, F86-OE1]	
10.2.2.3. Nationa	Energy Code of Canada for Buildings	
(1)	[F85, F86-OE1]	
10.2.2.5. Building	Energy and Emissions Performance	
(1)	[F85, F86-OE1]	
(2)	[F85, F86-OE1]	
10.2.2.6. Building	Envelope Opaque Elements	
(1)	[F85-OE1]	
(2)	[F85-OE1]	
10.2.2.7. Window	10.2.2.7. Windows, Glass Doors and Skylights	
(1)	[F85-OE1]	
10.2.2.8. Building Envelope Vestibules		
(1)	[F85-OE1]	
	tering in Buildings	
(1)	[F86, OE1]	
(2)	[F86, OE1]	
10.2.2.10. Lightir	ng Controls in Residential Buildings	
(1)	[F86, OE1]	
10.2.2.11. Hot W		
(1)	[F85-OE1]	
(2)	[F85, F86-OE1]	
(3)	[F100-OE1]	
10.2.2.12. Domes	tic Gas-Heated Hot Water Heaters	
(1)	[F86-OE1]	
10.2.2.13. Domes	tic Gas-Heated Boilers	
(1)	[F86-OE1]	
10.2.2.14. Domes	10.2.2.14. Domestic Gas-Heated Furnaces	

(1)	[F86-OE1]
10.2.2.15. Domest	ric Gas-Fired Fireplaces
(1)	[F86-OE1]
	[F41, F44-OS3.4]
	[F44-OH1.1]
10.2.2.16. Domest	tic Wood Burning Heating Appliances
(1)	[F86-OE1]
	[F44-OS3.4]
	[F44-OH1.1]
10.2.2.17. Domest	tic Heat Recovery Ventilators
(1)	[F85-OE1]
(2)	[F85-OE1]
10.2.2.20. Passive	House Planning Package (PHPP), EnerGuide, or Other
Energy Documenta	ation
(1)	[F85-OE1]
10.2.2.21. Buildir	ng and Dwelling Unit Airtightness Testing
(1)	[F85-OE1]
(2)	[F85-OE1]
10.3.1.1. Fixture	Fitting Maximum Flow Rates
(1)	[F84-OE2]
10.3.1.2. Fixture	Efficiency
(1)	[F83-OE2]
(2)	[F83-OE2]
	4

Notes to Table 10.5.1.1.: See Parts 2 and 3 of Division A."

- 16. In Book I, Appendix A of Division B, Council strikes appendix note A-10.2.2.12.(2).
- In Book I, Division B, Part 1, Article 1.3.1.2., Table 1.3.1.2.(1) Council strikes: 17.

	<b>*</b>		
ANSI/ ASHRAE/ IESNA		Energy Standard for Buildings Except Low-Rise Residential Buildings	10.2.1.1.(1)(a)
CCBFC	NRCC 54435- 2011	National Energy Code of Canada for Buildings	10.2.2.3.

and substitutes:

ANSI/ ASHRAE/ IESNA		Energy Standard for Buildings Except Low-Rise Residential Buildings	10.2.2.2
CCBFC	NRCC 56191	National Energy Code of Canada for Buildings 2015	10.2.2.3.

18. In Book I, Division B, Part 10, Council strikes Article 10.2.2.2. and Article 10.2.2.3., and substitutes:

#### "10.2.2.2. ANSI/ASHRAE/IESNA 90.1

- 1) A building designed in accordance with this Article shall, be designed and constructed in accordance with ANSI/ASHRAE/IESNA 90.1, "Energy Standard for Buildings, except Low-Rise Residential Buildings", and with
  - a) a climate zone of 4,
  - b) ventilation in conformance with ASHRAE 62 (except addendum n),
  - c) the 5 per cent in Table 11.5.1.5. Building Envelope, Exception a., being replaced by 2 per cent, if designed in accordance with ASHRAE 90.1, Section 11, d) the 5 per cent in Table G3.1.5.a. Building Envelope, Exception 1., being
  - replaced by 2 per cent, if designed in accordance with ASHRAE 90.1, Appendix G,
  - e) no requirement to comply with the Fenestration Orientation provisions of ASHRAE 90.1, Article 5.5.4.5.,
  - f) no requirement to comply with Automatic Receptacle Control, per ASHRAE 90.1, Article 8.4.2.

#### 10.2.2.3. National Energy Code of Canada for Buildings

- 1) A building designed in accordance with this Article shall be designed and constructed in accordance with the National Energy Code of Canada for Buildings (NECB), except that the provisions of this By-law shall apply where the NECB refers to the National Building Code of Canada (NBCC), and shall be designed with
  - a) a climate zone of 4,
  - b) ventilation in conformance with ASHRAE 62 (except addendum n),
  - c) window-to-wall and skylight-to-roof area ratios of the reference building identical to area ratios of the proposed building,
  - d) a vertical glazing Solar Heat Gain Coefficient which does not exceed an assembly maximum of 0.36,
  - e) a skylight Solar Heat Gain Coefficient for all types, which does not exceed an assembly maximum of 0.40, where the ratio of the aggregate skylight area to roof area is less than or equal to 3.0 per cent.".

- 19. In Book I, Division B, Part 6, Sentence 6.2.2.1.(4), Council strikes the words " of 6 storeys or less in building height and".
- 20. In Book I, Division B, Part 10, Council strikes Article 10.2.1.2. through 10.2.1.5., and substitutes:

#### "10.2.1.2. Buildings Without Residential or Commercial Components

- 1) All buildings, except those included in 10.2.1.3 through 10.2.1.6, shall
- a) be designed in accordance with ASHRAE 90.1 as per Article 10.2.2.2. or the NECB as per Article 10.2.2.3.,
- b) Reserved,
- c) Reserved,
- d) Reserved,
- e) be provided with vestibules for all doors in accordance with Article 10.2.2.8.,
- f) be provided with metering equipment in compliance with Article 10.2.2.9,
- g) be provided with lighting controls in conformance with Article 10.2.2.10.,
- h) Reserved.
- i) conform with Article 10.2.2.15. where fire places are provided.

### 10.2.1.3. Residential Buildings of 7 Stories or More, and Commercial Buildings (with or without residential components)

- 1) All *buildings* containing Group C, D, or E *Major Occupancies*, except those included in 10.2.1.4 through 10.2.1.6., shall
- a) be designed in compliance with energy and emissions performance as per Article 10.2.2.5,
- b) Reserved,
- c) Reserved,
- d) Reserved,
- e) be provided with vestibules for all doors in accordance with Article 10.2.2.8.,
- f) be provided with metering equipment in compliance with Article 10.2.2.9,
- g) be provided with lighting controls in conformance with Article 10.2.2.10.,
- h) Reserved,
- i) conform with Article 10.2.2.15., where domestic gas fireplaces are provided, and
- i) provide airtightness testing in accordance with Article 10.2.2.21.

### 10.2.1.4. Residential Buildings of 4 to 6 Storeys, and Mixed-Use Residential Buildings of 1 to 6 Storeys

 Except for buildings included in 10.2.1.5 or 10.2.1.6, a building which is less than 7 storeys in building height, and which is classified as a Group C major occupancy, and containing no other occupancies (excluding Group D or E major occupancy on the first or second storeys, or Group F Division 3 (Storage Garage) occupancy subsidiary to the Group C major occupancy), shall

- a) Be designed in compliance with
  - i. energy and emissions performance as per Article 10.2.2.5, or
  - ii. ASHRAE 90.1 as per Articles 10.2.2.2. or the NECB as per 10.2.2.3., and thermal insulation conforming with 10.2.2.6., windows and doors conforming with 10.2.2.7., and be provided with heat recovery ventilators conforming with 10.2.2.17.
- b) be provided with vestibules for all doors conforming with Article 10.2.2.8.,
- c) be provided with metering equipment conforming with Article 10.2.2.9.,
- d) be provided with lighting controls conforming with Article 10.2.2.10.,
- e) be provided with mechanical equipment conforming with Articles 10.2.2.11. through 10.2.2.14.,
- f), conform with Article 10.2.2.15., where domestic gas fireplaces are provided, and
- g) provide airtightness testing in accordance with Article 10.2.2.21.

### 10.2.1.5. Residential Buildings of 1 to 3 Storeys (other than 1 or 2 Family Dwellings)

- 1) Except as otherwise required in this Subsection, a *building*, other than a 1 or 2 Family Dwelling, which is less than 4 storeys in *building height*, and which is entirely classified as Group C major occupancy, excluding Group F Division 3 (Storage Garage) occupancy subsidiary to the Group C major occupancy, shall
- a) be provided with thermal insulation conforming with Article 10.2.2.6.,
- b) be provided with windows and doors conforming with Article 10.2.2.7.,
- c) be provided with vestibules for all doors conforming with Article 10.2.2.8.,
- d) be provided with metering equipment conforming with Article 10.2.2.9.,
- e) be provided with lighting controls conforming with Article 10.2.2.10.,
- f) where provided, domestic hot water heating shall conforming with Article
- 10.2.2.11. through 10.2.2.13. as applicable,
- g) comply with Article 10.2.2.14. where domestic gas heated furnaces or make-up air units are provided,
- h) comply with Article 10.2.2.15. where domestic gas fireplaces are provided,
- i) be provided with and Heat recovery ventilators in conformance with Article 10.2.2.17.,
- j) be designed with a solar photovoltaic ready pipe run in accordance with Article 10.2.2.19.,
- k) provide documentation in accordance with Article 10.2.2.20., and
- 1) provide airtightness testing in accordance with Article 10.2.2.21.

#### 10.2.1.6. One and Two Family Dwellings

- Except as otherwise required in this Subsection, a one-family dwelling and two-family dwelling, with or without secondary suites or lock-off units, and including laneway houses, shall
- a) be designed with thermal insulation conforming with Article 10.2.2.6.,
- b) be designed with windows and doors conforming with Article 10.2.2.7.,
- c) be provided with metering equipment conforming with Article 10.2.2.9.,
- d) be provided with lighting controls conforming with Article 10.2.2.10.,
- e) where provided, domestic hot water heating shall comply with Article 10.2.2.11. through 10.2.2.13. as applicable,
- f) where provided, domestic gas heated furnaces or make-up air units shall comply with Article 10.2.2.14.,
- g) where provided, domestic fireplaces shall comply with Article 10.2.2.15. and 10.2.2.16. as applicable,
- h) except for laneway houses, conform with Article 10.2.2.17.,
- i) be designed with a solar ready pipe run in accordance with Article 10.2.2.18.,
- j) provide documentation in accordance with Article 10.2.2.20., and
- k) provide airtightness testing in accordance with Article 10.2.2.21.".
- 21. In Book I, Division B, Part 10, Council strikes Article 10.2.2.5 and substitutes:

#### "10.2.2.5. Building Energy and Emissions Performance

- 1) For a *building* required to conform with this Article, energy modelling shall conform to:
  - a. the applicable requirements of ASHRAE 90.1 ECB, or Part 8 of the NECB, and
  - b. the City of Vancouver Energy Modelling Guidelines.
- 2) Except as permitted in Sentence (3), a *building* designed with this Article shall demonstrate the performance values of the proposed *building* comply with the limits in Table 10.2.2.5.A.
- 3) Compliance with the GHGI limits in Table 10.2.2.5.A is not required where a *building* can demonstrate the performance values of the proposed *building* comply with the TEUI and TEDI limits in Table 10.2.2.5.B.

Table 10.2.2.5.A

### Maximum Energy Use and Emissions Intensities

Forming part of Sentence 10.2.2.5.(2)

Occupancy Classification (1)	Total Energy Use Intensity (kWh/m²a)	Thermal Energy Demand Intensity (kWh/m²a)	Greenhouse Gas Intensity (kgCO <sub>2e</sub> /m <sup>2</sup> a)
Group C occupancies in buildings up to 6 Storeys	110	25	5.5
Group C <i>occupancies</i> in <i>buildings</i> over 6 <i>Storeys</i> , except Hotel and Motel	130	45	14
Hotel and Motel occupancies	170	30	14
Group D and E occupancies, except Office	170	30	5
Office occupancies	130	30	7
All other occupancies	Article 10.2.2.	SHRAE 90.1 ECB in a 2, or accordance with th	

#### Notes to Table 10.2.2.5.A.:

(1) For *buildings* containing multiple *occupancies*, refer to the procedures on mixed-use buildings in Section 5 of the City of Vancouver Energy Modelling Guidelines.

#### Table 10.2.2.5.B

#### Maximum Energy Use and Emissions Intensities

Forming part of Sentence 10.2.2.5.(3)

Occupancy Classification	Total Energy Use Intensity (kWh/m²a)	Thermal Energy Demand Intensity (kWh/m²a)	Greenhouse Gas Intensity (kgCO <sub>2e</sub> /m <sup>2</sup> a)
Residential occupancies in buildings over 6 Storeys	120	30	6
Hotel and Motel occupancies	140	20	8
Group D and E occupancies, except Office	120	20	3
Office occupancies	100	20	3

22. In Book I, Division B, Part 10, Table 10.2.2.6, Council strikes from the title the text "Containing No Other *Major Occupancies*".

23. In Book I, Division B, Part 10, Table 10.2.2.7, Council adds to the end of the Table:

Storefront curtainwall, window, and door assemblies	2.27	
		13

24. In Book I, Division B, Part 10, Table 10.2.2.21, Council adds to the end of the Table:

Suites in multi-family buildings	1.23 L/s/m² at 50 pascals
La constant de la con	"

25. In Book I, Division A, Sentence 1.4.1.2.(1) Defined Terms, Council adds the following in correct alphabetical order:

"Low Carbon Energy System means a professionally operated and maintained districtscale or on-site system that supplies heat energy, primarily derived from highly-efficient and renewable sources, in order to provide space heating and conditioned ventilation air for buildings, and may also provide domestic hot water and cooling service.". 26. In Book I, Division B, Part 10, Council strikes Article 10.2.2.5 and substitutes:

#### "10.2.2.5. Building Energy and Emissions Performance

- 1) For a *building* required to conform with this Article, energy modelling shall conform to:
  - a. the applicable requirements of ASHRAE 90.1 ECB, or Part 8 of the NECB, and
  - b. the City of Vancouver Energy Modelling Guidelines.
- 2) Except as permitted in Sentences (3)or (4), a *building* designed with this Article shall demonstrate the performance values of the proposed building comply with the limits in Table 10.2.2.5.A.
- 3) Compliance with the GHGI limits in Table 10.2.2.5.A is not required where a *building* can demonstrate the performance values of the proposed *building* comply with the TEUI and TEDI limits in Table 10.2.2.5.B.
- 4) Compliance with the TEUI and TEDI limits in Table 10.2.2.5.A is not required where a *building* is connected to a *Low Carbon Energy System*, and can demonstrate the performance values of the proposed *building* comply with the limits in Table 10.2.2.5.C.

## Table 10.2.2.5.A Maximum Energy Use and Emissions Intensities

Forming part of Sentence 10.2.2.5.(2)

Occupancy Classification (1)	Total Energy Use Intensity (kWh/m²a)	Thermal Energy Demand Intensity (kWh/m²a)	Greenhouse Gas Intensity (kgCO <sub>2e</sub> /m <sup>2</sup> a)
Group C occupancies in buildings up to 6 Storeys, except Hotel and Motel	110	25	5. <b>5</b>
Group C occupancies in buildings over 6 Storeys, except Hotel and Motel	120	30	6
Hotel and Motel occupancies	140	20	8
Group D and E occupancies, except Office	120	20	3
Office occupancies	100	20	3

All other occupancies	Comply with ASHRAE 90.1 ECB in accordance with Article 10.2.2.2, or
	NECB Part 8 in accordance with the Article 10.2.2.3

#### Notes to Table 10.2.2.5.A.:

(1) For *buildings* containing multiple *occupancies*, refer to the procedures on mixed-use buildings in Section 5 of the CoV Energy Modelling Guidelines.

	Table 10.2.2.5.	В	
Maximum E	nergy Use and Emi	ssions Intensities	
Formin	g part of Sentence	10,2.2.5.(3)	
Occupancy Classification	Total Energy Use Intensity (kWh/m²a)	Thermal Energy Demand Intensity (kWh/m²a)	Greenhouse Gas Intensity (kgCO <sub>2e</sub> /m <sup>2</sup> a)
Group C occupancies	100	15	N/A

#### Table 10.2.2.5.C

#### Maximum Energy Use and Emissions Intensities

#### For Buildings Connected to a Low Carbon Energy System

Forming part of Sentence 10.2.2.5.(4)

Occupancy Classification	Total Energy Use Intensity (kWh/m²a)	Thermal Energy Demand Intensity (kWh/m²a)	Greenhouse Gas Intensity (kgCO <sub>2e</sub> /m <sup>2</sup> a)
Group C occupancies in buildings up to 6 Storeys, except Hotel and Motel	110	25	5.5
Group C <i>occupancies</i> in <i>buildings</i> over 6 <i>Storeys</i> , except Hotel and Motel	130	40	6
Hotel and Motel occupancies	170	30	8
Office occupancies	170	30	3
Business and Personal Services or Mercantile <i>Occupancies</i> , except Office	170	30	3

- 27. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
- 28. This By-law is to come into force and take effect as follows:
  - (a) sections 2 through 16 come into force and take effect upon enactment;
  - (b) sections 17 and 18 come into force and effect on January 1, 2019;
  - (c) sections 19 through 24 come into force and effect on June 3, 2019; and
  - (d) sections 25 and 26 come into force and effect on June 1, 2021.

		•	
ENACTED by Council this	day of		, 2018
	•		
			Mayor
		pp-100	
			City Clerk

### Building By-law amending By-law Re: Water efficiency

The attached By-law will implement Council's resolution of May 2, 2018 to amend the Building By-law regarding water conservation measures, effective January 1, 2019.

#### BY-LAW NO.



#### A By-law to amend Building By-law No. 10908 Regarding water efficiency

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

- 1. This by-law amends the indicated provisions of Building By-law 10908.
- 2. In Book I, Division A, Part 1, in Article 1.4.1.2., Council adds the following definitions in alphabetical order:

"Emergency once through cooling equipment means once through cooling equipment that is not normally operated and is only activated in the event of a sudden, unforeseen failure of an otherwise properly designed, operated and maintained primary cooling system.

Maintenance once through cooling equipment means once through cooling equipment that is not normally operated and is only activated to temporarily supplement or replace the primary cooling system during scheduled maintenance on the primary cooling system.

**Non-recirculating liquid ring pump** means a vacuum pump that uses water to cool the pump or to create a seal and recirculates less than 60% of the water that passes through the pump.

**Once through cooling equipment** means equipment that produces a cooling effect by transfer of heat to water that is only circulated once through the equipment and is then discharged, and includes but is not limited to commercial and industrial air conditioners, refrigerators, freezers, coolers and ice machines.

**Self-closing plumbing fixture** means a **plumbing fixture** that closes automatically upon the deactivation of a mechanical or electronic control mechanism."

3. In Book I, Division B, Part 10, Council strikes out Article 10.3.1.2. and substitutes:

#### "10.3.1.2. Plumbing Fixture Fitting Maximum Flow Rates

1) The flow rates of fittings that supply water to *plumbing fixtures* must not exceed the maximum flow rate at the test pressures listed for that fitting in Table 10.3.1.2.

Maxir	ble 10.3.1.2. num Flow Rate of Sentence 10.3.1	.2.(1)
Fitting	Maximum Flow Rate (L/min)	Test Pressure (kPa)
Lavatory Faucet (for <i>private</i> use)	5.7	415
Lavatory Faucet (for public use)	1.9 <sup>(1)(2)</sup>	415
Kitchen Faucet (non-residential)	8.3	415
Kitchen Faucet (residential)	6.8 <sup>(3)</sup>	415
Shower Head	7.6 <sup>(4)(5)</sup>	550
Pre-Rinse Spray Valve	4.8 <sup>(6)</sup>	415
Wash Fountain, per <i>plumbing fixture</i> fitting	6.8 <sup>(7)</sup>	415

#### Notes to Table 10.3.1.2.:

- (1) Must be a **self-closing plumbing fixture**. A **metering fixture** faucet is limited to 1.0 L per cycle.
- (2) A lavatory faucet in a health care facility is permitted a maximum flow rate of 8.3 L/min (at 415 kPa test pressure). The **Chief Building Official** may, for human health reasons, permit exemptions within other facilities, to a maximum flow rate of 8.3 L/min (at 415 kPa test pressure).
- (3) May be temporarily increased to a maximum flow rate of 8.3 L/min (at 415 kPa test pressure) but must default to the lower flow rate upon release of the activation mechanism or closure of the faucet valve.
- (4) Emergency and safety **shower heads** and **shower heads** in health care facilities and correctional facilities are exempted from this requirement.
- (5) Where multiple **shower heads** installed for **public use** are served by one temperature control, each **shower head** shall be a **self-closing plumbing fixture**, except that emergency and safety **shower heads** and **shower heads** in health care facilities and correctional facilities are exempted from this requirement.
- (6) Each *pre-rinse spray valve* must be equipped with an automatic shut-off.
- (7) A maximum flow rate of 6.8 L/min is permitted for each 508 mm of rim space. Must be a **self-closing plumbing fixture**. For a wash fountain with **metering fixture** faucets, a maximum of one **metering fixture** faucet is permitted for each 508 mm of rim space. A **metering fixture** faucet is limited to 1.0 L per cycle."
- 4. In Book I, Division B, Part 10, Council strikes out Article 10.3.1.3., and substitutes:

#### "10.3.1.3. Plumbing Fixture Efficiency

1) The flush cycle for the installation of a water closet or urinal must not exceed the flush cycle listed for that *plumbing fixture* in Table 10.3.1.3.A

Table 10.3.1.3.A  Maximum Flush Cycle  Forming part of Sentence 10.3.1.3.(1)		
Plumbing Fixture	Maximum Flush Cycle (L)	
Water Closet (Tank Type)	4.8 <sup>(1)(2)</sup>	
Water Closet (Direct Flush)	4.8 <sup>(1)</sup>	
Urinal (Tank Type)	1.9 <sup>(3)</sup>	
Urinal (Direct Flush)	1.9	

#### Notes to Table 10.3.1.3.A:

- (1) A maximum flush cycle of 6.0 L may be permitted where, in the opinion of the *Chief Building Official*, the existing *plumbing system* cannot accommodate and cannot be updated to accommodate the required flush cycle.
- (2) A water closet with a dual flush cycle of 4.1 L or less and 6.0 L complies with this requirement.
- (3) The water supply to flush tanks equipped for automatic flushing shall be controlled with a timing device that limits operation to the period during which the building is normally occupied.
  - 2) Appliances listed in Table 10.3.1.3.B shall comply with the applicable Energy Star program requirements or be of *acceptable equivalency*.

Table 10.3.1.3.B Appliance Energy Star Program Requirements Forming part of Sentence 10.3.1.3.(2)		
Appliance	Energy Star Program Requirements	
Residential clothes washer <sup>(1)</sup>	Product Specification for Clothes Washers	
Commercial clothes washer <sup>(1)</sup>	Product Specification for Clothes Washers	
Residential dishwasher <sup>(2)</sup>	Product Specification for Residential Dishwashers	
Commercial dishwasher <sup>(3)</sup>	Product Specification for Commercial Dishwashers	
Commercial ice maker <sup>(4)</sup>	Product Specification for Automatic Commercial Ice Makers	
Commercial steam cooker <sup>(5)</sup>	Product Specification for Commercial Steam Cookers	
Combination oven <sup>(6)</sup>	Product Specification for Commercial Ovens	

#### Notes to Table 10.3.1.3.B:

- (1) "Residential clothes washer" and "commercial clothes washer" are as defined by the Energy Star Program Requirements Product Specification for Clothes Washers.
- (2) "Residential dishwasher" is as per the definition of "dishwasher" by the Energy Star Program Requirements Product Specification for Residential Dishwashers.
- (3) "Commercial dishwasher" is as per the definition of "dishwashing machine" by the Energy Star Program Requirements Product Specification for Commercial Dishwashers. Dishwashers intended for laboratory applications are exempted.
- (4) "Commercial ice maker" is as per the definition of "automatic commercial ice maker" by the Energy Star Program Requirements Product Specification for Automatic Commercial Ice Makers.
- (5) "Commercial steam cooker" is as per the definition of "commercial steam cooker" by the Energy Star Program Requirements Product Specification for Commercial Steam Cookers.
- (6) "Combination oven" is as per the definition of "combination oven" by the Energy Star Program Requirements Product Specification for Commercial Ovens.
  - 3) Clothes washers with a top-loading design that are designed for use in applications in which the occupants of more than one household will be using the clothes washer, such as multi-family housing common areas and coin laundries, shall not be installed."
- 5. In Book I, Division B, Part 10, Council adds a new Article 10.3.1.7. as follows:

#### "10.3.1.7. Non-recirculating Applications

- 1) The city's water system shall not be connected to
  - a) once through cooling equipment, except where emergency once through cooling equipment or maintenance once through cooling equipment is operated with permission or authorization in writing from the City Engineer,
  - b) venturi-type flow-through vacuum generators or aspirators in which running water is used solely for the venturi effect,
  - c) non-recirculating liquid ring pumps, or
  - d) non-recirculating wet-hood scrubbers.
- 2) No systems or equipment shall be installed that allow for the use of treated drinking water supplied directly or indirectly by the city to temper or dilute steam condensate and other discharges to the sanitary or storm system."
- 6. In Book II, Division A, Part 1, in Article 1.4.1.2., Council adds the following definition in alphabetical order:
  - "Self-closing plumbing fixture means a plumbing fixture that closes automatically upon the deactivation of a mechanical or electronic control mechanism."

7. In Book II, Division A, Parsubstitutes:	rt 1, in Article 2.2.2	2.8., Council strikes 2.2.2.8.(1) and
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<ol> <li>Every lavatory faucet in fixture."</li> </ol>	nstalled for <i>public us</i>	se shall be a self-closing plumbing
8. A decision by a court that any that part from this By-law, and is not to		illegal, void, or unenforceable severs f this By-law.
9. This By-law is to come into fo	rce and take effect on	January 1, 2019.
ENACTED by Council this	day of	, 2018
		Mayor
	·	
		City Clerk
	•	