

Attachment 4

Amendment to Building Bylaw

Council Report Dated April 3, 2023

REPORT

Climate Action, Planning and Development

To: Mayor Johnstone and Members of Council
Date: April 3, 2023

From: Jackie Teed
Acting Director of Climate Action,
Planning and Development
File: 05.1020.20

Item #: 2023-221

Subject: **Building Amendment Bylaw No. 8388, 2023: BC Energy Step Code Alignment – Bylaw for Three Readings**

RECOMMENDATION

THAT Council give First, Second and Third Reading to Building Amendment Bylaw No. 8388, 2023

PURPOSE

To amend Building Bylaw No.8125, 2019 to align with changes to the BC Building Code.

SUMMARY

The BC Building Code has recently been revised to include increased energy efficiency requirements in the BC Energy Step Code and to include a Zero Carbon Step Code. In order to align with the code changes, the proposed amendments to Building Bylaw include:

- 1) Increasing the Energy Step Code requirements for laneway and carriage houses from Step 2 to Step 3; and
- 2) Removing the two-option framework that allows Part 3 buildings (multi-unit residential over three storeys, and most office and commercial buildings) to be constructed to Step 2 of the Energy Step Code with a low carbon energy system.

Building Amendment Bylaw No. 8388 detailing the proposed changes is included as Attachment 1.

BACKGROUND

The BC Energy Step Code was introduced in 2017 as an opt-in better than base code energy efficiency standard for new buildings. Local Governments can chose to adopt levels of the Step Code into their Building Bylaw, in advance of the Provincial timeline. The Province has indicated they will incrementally increase the required Step over time until the highest levels are required in the base code by 2032. The highest Step for Part 9 (smaller residential buildings) is Step 5 and for Part 3 (multi-unit residential over three storeys, and most office and commercial buildings) is Step 4.

On February 25, 2019, Council adopted Energy Step Code requirements for new Part 9 and Part 3 buildings through amendments to the Building Bylaw. The current requirement for Part 9 buildings is Step 3 with the exception of laneway and carriage houses where the requirement is Step 2. The current requirement for Part 3 buildings is Step 3, with a two option framework for Part 3 multi-unit residential buildings which incentivizes a Low Carbon Energy System (LCES) by allowing a reduction to Step 2.

At the July 11, 2022 Council meeting, Council adopted the following motion:

That Council direct staff to proceed with work on the acceleration of the Energy Step Code for single detached dwellings in 2023 using a two option framework.

The motion supports developing a two option framework which allows a reduced Step in the Energy Step Code when building using a low carbon system. Offering the alternative option was contingent on the City defining the parameters of a LCES, which has proven challenging, and the option has not been implemented to date.

DISCUSSION

Energy Step Code Changes

The BC Building Code has recently been updated with new requirements coming into effect May 1, 2023. The updates include increased energy efficiency requirements in the BC Energy Step Code. The proposed bylaw amendment (Attachment 1) makes two changes to the City’s Building Bylaw to bring it into alignment with the new Step Code requirements.

The first amendment would increase Step Code requirements for laneway and carriage houses from Step 2 to Step 3, consistent with the BCBC update. The technical considerations which were initially an issue when the City selected Step 2 as a requirement have since changed, making Step 3 feasible in laneway and carriage houses. City staff has been actively raising awareness of the upcoming increased requirements and do not antcipant any issues with in process applications.

For Part 3 buildings, the City’s Building Bylaw currently includes a two-option framework that would allow Step 3 or Step 2 with a Low Carbon Energy System (LCES), once a definition has been created. The second amendment proposed to the Building Bylaw

would remove the option of building to Step 2 with a LCES, which would be consistent with the BCBC update which no longer permits local governments to develop their own definitions. Staff does not anticipate any issues with instream applications since buildings have been required to construct to Step 3 to date.

All other City requirements are meeting or exceeding the new energy efficiency code requirements.

The following table summarizes the proposed changes:

Part 9 Residential	January 1, 2020	May 1, 2023
Single or Two Family Dwellings	Step 3	Step 3
Laneway and Carriage Dwellings	Step 2	Step 3
Townhomes and Apartment Buildings up to three floors	Step 3	Step 3
Part 3 Multi-Family Residential	Step 3 [or] Step 2 with approved <i>Low Carbon Energy System</i>	Step 3

Zero Carbon Step Code

The BC Building Code has also been updated to include a new opt-in Zero Carbon Step Code. The Zero Carbon Step Code, also referred to as the Carbon Pollution Standard, establishes permissible levels for greenhouse gas emissions (i.e. a carbon level) associated with the use of energy utilities consumed by the building’s systems. The Province has indicated the intent to require increasing levels of the Zero Carbon Step Code (i.e. decreasing levels of greenhouse gas emissions) in future Building Code updates to meet the CleanBC target of Zero Carbon new buildings by 2030.

At this time, the Zero Carbon Step Code is intended to be a way for local governments to advance electrification in their communities. Similar to the Energy Step Code, a local government can choose to adopt a carbon level into their Building Bylaw, through the Zero Carbon Step Code. The Zero Carbon Step Code establishes four levels of

emissions which includes, measure only (EL-1), moderate carbon (EL-2), low carbon (EL-3) and zero carbon (EL-4) (see Attachment 2). The addition of the Zero Carbon Step Code in the Building Code provides a clear definition and compliance pathway for Low Carbon Energy Systems.

The Province is currently developing implementation guidelines and compliance documents to support early adoption of the Zero Carbon Step Code. A future report will be brought to Council, when such additional information has been developed, to explore how this system could be used to implement Council’s previous direction to allow a two-option framework for single detached dwellings. Additional changes may also be brought forward for Council’s consideration at that time.

NEXT STEPS

The upcoming changes to the BC Building Code have already been communicated to applicants. The City will also continue to support industry training and capacity building related to the new Zero Carbon Step Code and high performance building through Energy Save New West.

In addition, staff will develop a proposed longer term strategy and timeline to advance the BC Energy Step Code and the Zero Carbon Energy Step Code to align with or exceed the Provincial timeline to reach the highest steps, which will be presented to Council in a future report.

SUSTAINABILITY IMPLICATIONS

The proposed amendments to the Building Bylaw are supported by the Community Energy and Emissions Plan (CEEP 2050) and implementation of the City’s bold Step #3 Carbon Free Homes and Buildings.

FINANCIAL IMPLICATIONS

There are no financial implications at this time. Staff resources are required to implement the changes to the Building Bylaw.

OPTIONS

The following options are provided for council’s consideration:

- 1. That Council give First, Second and Third Reading to Building Amendment Bylaw No. 8388, 2023
- 2. That Council provide staff with alternative direction.

Staff recommend Option 1.

ATTACHMENTS

Attachment 1: Building Amendment Bylaw No.8388, 2023

Attachment 2: Zero Carbon Step Code

APPROVALS

This report was prepared by:

Penny Page-Brittin, Community Energy and Emissions Specialist

This report was reviewed by:

Lynn Roxburgh, Supervisor of Land Use Planning

Leya Behra, P.Eng., Manager of Climate Action

This report was approved by:

Jackie Teed, Acting Director, Climate Action, Planning and Development

Lisa Spitale, Chief Administrative Officer

Attachment 1

Building Bylaw Amendment Bylaw No. 8388, 2023

CORPORATION OF THE CITY OF NEW WESTMINSTER

**BUILDING BYLAW AMENDMENT
BYLAW NO. 8388, 2023**

A Bylaw to Amend Building Bylaw No. 8125, 2019

The Municipal Council of the City of New Westminster, in open meeting assembled,
ENACTS AS FOLLOWS:

1. This Bylaw may be cited for all purposes as “Building Amendment Bylaw No. 8388, 2023”
2. The City of New Westminster Building Bylaw No. 8125, 2019 is hereby amended as follows:
 - a) Remove the “Low Carbon Energy System” definition from Section 2.5.
 - b) Delete the section 14.1 from the section titled “Part 14 Energy Efficiency” and replace with:
 - 14.1. *Buildings and structures* must be designed and *constructed* in compliance with the applicable step of the *BC Energy Step Code and BC* as set out in the schedule below:

	<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)		
Part 9 Residential	March 31, 2019	January 1, 2020	May 1, 2023
Step Code requirements as per <i>Building Code</i> , Article 9.36.6.2 of Division B (as amended from time to time)			
Single or Two Family Dwellings	Step 1	Step 3	Step 3
Laneway and Carriage Dwellings	Step 1	Step 2	Step 3

Townhomes and Apartment Buildings up to three floors	Step 1	Step 3	Step 3
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<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)			
Part 3 Multi-Family Residential	March 31, 2019	January 1, 2020	May 1, 2023
Step Code requirements as per <i>Building Code</i> , Subsection 10.2.2 of Division B (as amended from time to time)			
Group C Residential Occupancies 6 stories or less and combustible construction	N/A	Step 3 [or] Step 2 with approved <i>Low Carbon Energy System</i>	Step 3
Group C Residential Occupancies over 6 stories or non-combustible construction			
Hotels / Motels			

	<i>Building Permit</i> applications filed on or after (with exception for in-stream applications)
Part 3 Commercial	January 1, 2020
Step Code requirements as per <i>Building Code</i> , Subsection 10.2.2 of Division B (as amended from time to time)	
Offices (Business and Personal Services)	Step 2
Other Group D and E Occupancies (Mercantile)	

- c) The Building Bylaw is further amended by making such consequential changes as are required to give effect to the amendments particularized in this bylaw, including changes to the format and numbering.

READ A FIRST TIME this _____ day of _____, 2023.

READ A SECOND TIME this _____ day of _____, 2023.

READ A THIRD TIME this _____ day of _____, 2023.

ADOPTED this _____ day of _____, 2023.

MAYOR PATRICK JOHNSTONE

LISA SPITALE, ACTING CORPORATE OFFICER

Attachment 2
Zero Carbon Step Code

Part 9 - Small Residential Buildings, excerpt from the BC Building Code

9.37.1.3 Compliance Requirements

1) *Buildings* conforming to the requirements of any GHG Emission Levels EL-1 to EL-4 shall be designed and constructed to conform to one of the GHG emission compliance options in Table 9.37.1.3

Table 9.37.1.3.
Greenhouse Gas Emissions
Forming part of Sentence 9.37.1.3 (1)

GHG Emission Level	GHG Emission Compliance Options					
	Maximum GHG Emissions by House, Expressed in kg CO _{2e} /year	or	Maximum GHG Emissions by House ¹		Reduction of GHG Emissions by Energy Source of Building Systems ²	
			Maximum GHGI of the House, Expressed in kgCO _{2e} /m ² /year	Maximum GHG Emissions by House Expressed in kgCO _{2e} /year		
EL-1	Measure only		Measure only		N/A	
EL-2	1050	or	6.0	2400	or	Energy sources supplying heating systems have an emissions factor <u>0.011 kgCO _{2e} /kWh
EL-3	440		2.5	800		Energy sources supplying heating and service water heating systems have an emissions factor ≤ 0.011 kgCO _{2e} /kWh
EL-4	265		1.5	500		Energy sources supplying all building systems including equipment and appliances, have an emissions factor ≤0.011 kgCO _{2e} /kWh

Notes to Table 9.37.1.3:

- (1) Compliance for this option is demonstrated by meeting both the GHGI and the GHG emission requirements for each house
- (2) Reductant or back-up equipment for the systems and equipment listed in Sentence 9.36.5.4.(1) is permitted to be excluded, provided it is equipped with controls and is not required to meet the space-conditioning load of the house
- 2) The emissions factors associated with the use of energy utilities consumed by the *building's* systems shall be
 - a) 0.011 kg CO_{2e}/kWh for electricity, and
 - b) 0.180 kg CO_{2e}/kWh for natural gas

Part 3 - Multi-unit residential over three storeys and most office and commercial buildings

10.3.1.3 Compliance Requirements

1) *Buildings* conforming to the requirements of any of the GHG Emissions Levels EL-1 to EL-4 shall be designed and constructed to conform to Table 10.3.1.3 based on *occupancy*.

Table 10.3.1.3
Greenhouse Gas Emissions
Forming Part of Sentence 10.3.1.3.(1)

GHG Emission Level	Maximum GHGI of the Building, Expressed in kgCO _{2e} /m ² /year			
	Residential Major Occupancy		Business and Personal Service and Mercantile Major Occupancies	
	Hotels and Motels	Other Residential Occupancies	Offices	Other Business and Personal Service and Mercantile Occupancies
EL-1	Measure only			
EL-2	9.0	7.0	5.0	6.0
EL-3	4.0	3.0	3.0	3.0
EL-4	2.0	1.8	1.5	2.0

- 2) The emissions factors associated with the use of energy utilities consumed by the *building's* systems shall be
 - a) 0.011 kg CO_{2e}/kWh for electricity, and
 - b) 0.180 kg CO_{2e}/kWh for natural gas