JOINT PROFESSIONAL PRACTICE GUIDELINES

BRITISH COLUMBIA BUILDING CODE LETTERS OF ASSURANCE REQUIREMENTS FOR PART 9 BUILDINGS

VERSION 1.1 MAY 13, 2021

AIBC
ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA

ENGINEERS & GEOSCIENTISTS BRITISH COLUMBIA

ARCHITECTURAL INSTITUTE OF BRITISH COLUMBIA

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1. Foreword

These *Professional Practice Guidelines – British Columbia Building Code Letters of Assurance Requirements for Part 9 Buildings* were jointly prepared by Engineers and Geoscientists British Columbia (BC) and the Architectural Institute of BC to guide the public and Registered Professionals on appropriate professional assurances under the *BC Building Code*.

2. Definitions

2.1 DEFINED TERMS

Alternative Solutions

A design or solution which does not conform to the prescriptive requirements of the *BC Building Code* but provides the level of performance required by the *BC Building Code* (see Division C, Part 2, Section 2.3 Alternative Solutions, Article 2.3.1.1).

Authority Having Jurisdiction

The governmental body responsible for the enforcement of any part of the *BC Building Code* or the official or agency designated by that body to exercise such a function.

Code

The *British Columbia Building Code* (*BC Building Code*).

Letters of Assurance

Uniform, mandatory documents that are intended to clearly identify the responsibilities of key individuals in a building project, and which are executed in accordance with Subsection 2.2.7. in Part 2 of Division C of the *BC Building Code*, otherwise known as Schedules A, B, C-A, and C-B.

Registered Professional

Defined in the *BC Building Code* as:

a) a person who is registered or licensed to practice as an architect under the *Architects Act*, or

b) a person who is registered or licensed to practice as a professional engineer under the *Engineers and Geoscientists Act*.

The *Engineers and Geoscientists Act* was replaced by the *Professional Governance Act* and Engineers and Geoscientists BC Bylaws on February 5, 2021. As per these legislative documents, the definition of professional engineer can include professional engineers and licensees having the appropriate scope of practice, all of whom must be qualified by training or experience to provide designs for building projects. In this document, Registered Professionals who are registered or licensed with Engineers and Geoscientists BC are referred to as “engineering professionals”.

Notwithstanding the *BC Building Code* definition of Registered Professional, both Engineers and Geoscientists BC and the Architectural Institute of BC have requirements for their respective members to practice only in areas where they are suitably qualified.

2.2 ABBREVIATIONS

AHJ: Authority Having Jurisdiction

BC: British Columbia

NECB: *National Energy Code of Canada for Buildings*

NFPA: National Fire Protection Association

3. Overview

3.1 PURPOSE

These guidelines provide guidance to Registered Professionals for situations where a building project is classified under Part 9 of Division B of the *BC Building Code* (the Code) but contains some components which are not within the scope of Part 9. They identify how to use Letters of Assurance under these circumstances. It should be noted that some Part 9 building projects with firewalls do require Letters of Assurance even when within the scope of Part 9.

These guidelines also discuss the use of Registered Professionals when preparing Alternative Solutions for Part 9 buildings, as described in the Code, under Division C, Section 2.3. Alternative Solutions.

3.2 SCOPE

These guidelines pertain to the professional practice of architecture and engineering when services are provided in the context of Part 9 of the Code, but when the project is not entirely designed within the scope of Part 9. It should be noted that some Part 9 building projects with firewalls do require Letters of Assurance even when within the scope of Part 9.

In the City of Vancouver, the applicable building code is the Vancouver Building By-law 2019 (City of Vancouver 2019). There are requirements for Registered Professionals and Letters of Assurance in Vancouver that differ from those in the Code. These guidelines are specific to the Code. Contact the City of Vancouver for their specific requirements.

4. Professional Practice

4.1 BACKGROUND

Part 9 of the Code, Housing and Small Buildings, is applicable to many, but not all, smaller buildings, and is primarily prescriptive. The Code does not require Registered Professionals to provide professional design and review (and associated Letters of Assurance) when Part 9 is followed in its entirety, per Division C, Subsection 2.2.7. Professional Design and Review, except for some Part 9 buildings with firewalls. It is possible, however, that a part or parts of a building, generally designed to Part 9, include elements not within the scope of Part 9 and therefore require involvement of a Registered Professional.

Other Parts of the Code that *may* apply to Part 9 buildings include the following:

- Part 3 – Fire protection, Occupant Safety and Accessibility
- Part 4 – Structural Design
- Part 5 – Environmental Separation
- Part 6 – Heating Ventilating and Air-conditioning
- Part 10 – Energy Efficiency

Part 1 – General, Part 7 – Plumbing Services, and Part 8 – Safety Measures at Construction and Demolition Sites of the Code apply to all buildings, regardless of size or use, and are therefore not within the scope of these guidelines.

4.2 ANALYSIS

The following is an analysis of the Code requirements for Letters of Assurance in Part 9 buildings when certain aspects of the building are outside the scope of Part 9.

The *Local Government Act*, in addition to the *Community Charter*, authorizes local governments to regulate building construction. Local governments may impose administrative (not technical) building requirements as per the *Building Act*. Note that Authorities Having Jurisdiction (AHJ) may have bylaws that permit them to require Letters of Assurance (an administrative requirement) regardless of Code requirements for professional design and review and submission of Letters of Assurance. As such, it is prudent to enquire about the specific requirements of a jurisdiction before assuming that the Code is the only determinant for professional design and review.

In addition to the Code requirements for professional design and review, there are statutory requirements for architects to be retained in the *Architects Act*, and for engineering professionals to be retained in the *Professional Governance Act*.

In accordance with Sentence 2.2.1.2.(1) of Division C of the Code, all design under Part 4 requires a Registered Professional skilled in the work concerned. By agreement between the Architectural Institute of BC and Engineers and Geoscientists BC, an engineering professional is the only Registered Professional so qualified. The Letters of Assurance are required when the work falls outside the Scope of Part 9.

The Letters of Assurance are only endorsed for use in accordance with the Code.

4.2.1 EXAMPLE 1 – PART 9 USING PART 4 STRUCTURAL, LETTERS OF ASSURANCE ARE REQUIRED

If a Part 9 building is designed using any structural elements that are outside of the scope of Part 9, Letters of Assurance are required from an engineering professional to the AHJ, per Division C, Subsection 2.2.7. Professional Design and Review, Subclause 2.2.7.1.(1)(c)(i).

The engineering professional must also refer to the Province of BC's *Guide to the Letters of Assurance in the BC Building Code* (Province of BC 2010) and to Engineers and Geoscientists BC's *Professional Practice Guidelines – Professional Structural Engineering Services for Part 9 Buildings* (Engineers and Geoscientists BC 2014).

The scope of the Letters of Assurance should be clearly identified and specific to the structural design and field review services provided.

Examples of when Letters of Assurance may be required include buildings with:

- beams supporting concentrated loads;
- structural members with spans more than 12.2 m;
- specified live load on the floor exceeding 2.4 kPa (some exceptions apply);
- small repetitive structural members that are spaced more than 600 mm on centre;
- floor joists that support a concrete topping with thickness greater than 51 mm;
- wall studs where the size, spacing, and height exceeds the values outlined in Division B, Table 9.23.10.1 for interior and exterior studs; or
- proprietary engineered components.

4.2.2 EXAMPLE 2 – PART 9 USING PART 4 GEOTECHNICAL, LETTERS OF ASSURANCE ARE REQUIRED

If a Part 9 building is designed for geotechnical conditions that are outside of the scope of Part 9, Letters of Assurance from an engineering professional to the AHJ are required, per Division C, Subsection 2.2.7. Professional Design and Review, Subclause 2.2.7.1.(1)(c)(ii).

The engineering professional must also refer to the Province of BC's *Guide to the Letters of Assurance in the BC Building Code* (Province of BC 2010) and to Engineers and Geoscientists BC's *Professional Practice Guidelines – Geotechnical Engineering Services for Building Projects* (Engineers and Geoscientists BC 2020a).

The scope of the Letters of Assurance should be clearly identified and specific to the geotechnical design and field review services provided for the entire project.

Examples when Letters of Assurance may be required include buildings with:

- allowable bearing pressure less than 75 kPa;
- foundations that are supported on permafrost;
- foundations subject to slope instability;
- underpinning;
- deep foundations; or
- foundation walls that are subject to lateral earth pressures, including those that are temporary, that exceed the criteria of Subsection 9.15.4. in Part 9 of Division B.

4.2.3 EXAMPLE 3 – PART 9 SPRINKLER, STANDPIPE AND HOSE SYSTEMS, LETTERS OF ASSURANCE ARE REQUIRED

If a sprinkler system is not designed to *NFPA 13R – Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies* or *NFPA 13D – Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwelling and Manufactured Homes*, but is designed to *NFPA 13 – Standard for the Installation of Sprinkler Systems*; or standpipe and hose systems are designed to *NFPA 14 – Standard for the Installation of Standpipe and Hose Systems*, Letters of Assurance from the engineering professional to the AHJ are required, per Division C, Subsection 2.2.7. Professional Design and Review, Subclauses 2.2.7.1.(1)(c)(iii) and (iv).

The engineering professional should refer to the Province of BC's *Guide to the Letters of Assurance in the BC Building Code* (Province of BC 2010).

The scope of the Letters of Assurance should be clearly identified and specific to the sprinkler design and field review services provided for the entire building project.

4.2.4 EXAMPLE 4 – PART 9 USING PART 5 ENVIRONMENTAL SEPARATION, LETTERS OF ASSURANCE ARE NOT REQUIRED

If a Registered Professional does not use the Part 9 materials, methods, and/or referenced standards in the following Sections of Division B, the Registered Professional may design to Part 5 of the Code:

9.7. Windows, Doors, and Skylights

9.11. Sound Transmission

9.13. Dampproofing, Waterproofing and Soil Gas Control

9.20. Masonry and Insulating Concrete Form Walls Not in Contact with the Ground

9.25. Heat Transfer, Air Leakage and Condensation Control

9.26. Roofing

9.27. Cladding

9.28. Stucco

Letters of Assurance from a Registered Professional to the AHJ are not required on a Part 9 building designed in accordance with Part 5, as Part 5 is not specifically noted in Division C, Subsection 2.2.7. Professional Design and Review. The option of using Part 5 on a Part 9 building is specifically mentioned in some provisions of Part 9. The Code does not require Letters of Assurance when Part 5 is utilized on a Part 9 building, but if aspects of a Part 9 building are outside the scope of Part 9, some AHJs have building bylaws that require Letters of Assurance. The Registered Professional should refer to the Province of BC's *Guide to the Letters of Assurance in the BC Building Code* (Province of BC 2010) and should communicate with the AHJ regarding the proposal before proceeding with the Part 5 design if it is for environmental separation.

The scope of the Letters of Assurance should be clearly identified and specific to the appropriate design items and associated field review services provided.

Although the following documents refer to Part 3 buildings and do not specifically apply to Part 9 buildings, the Registered Professional may find it useful to refer to the joint Architectural Institute of BC and Engineers and Geoscientists BC document *Bulletin 34: Building Envelope Services – Appropriate Professional Practice* (AIBC and Engineers and Geoscientists BC 2011) and Engineers and Geoscientists BC's *Professional Practice Guidelines – Building Enclosure Engineering Services* (Engineers and Geoscientists BC 2020b) for general guidance.

4.2.5 EXAMPLE 5 – PART 9 USING PART 6 HVAC, LETTERS OF ASSURANCE ARE NOT REQUIRED

Sentences 9.32.1.1.(2) and (3) of Division B require that mechanical ventilation systems be designed in accordance with Part 6 for any Part 9 building, other than self-contained systems serving one-dwelling unit or houses with a secondary suite, including their common spaces, and systems serving storage garages of a certain size.

Sentence 9.33.1.1.(2) of Division B requires that heating and air conditioning systems be designed in accordance with Part 6 for any Part 9 building, other than those systems serving one-dwelling units or houses with a secondary suite, including their common spaces.

If a Part 9 building is designed with ventilation, heating, and air-conditioning components that are outside of the scope of Part 9, an engineering professional may design to Part 6 of the Code. As the option of using Part 6 on a Part 9 building to which Sections 9.32. and 9.33. apply is not specifically mentioned in the Code, the engineering professional should communicate with the AHJ regarding the proposal before proceeding with the Part 6 design.

Letters of Assurance from an engineering professional to the AHJ are not required on a Part 9 building designed in accordance with Part 6, as Part 6 is not specifically noted in Division C, Subsection 2.2.7. Professional Design and Review. The Code does not require Letters of Assurance in this case, but if aspects of a Part 9 building are outside of the scope of Part 9, some AHJs have building bylaws that require Letters of Assurance. The engineering professional should refer to the Province of BC's *Guide to the Letters of Assurance in the BC Building Code* (Province of BC 2010).

The scope of the Letters of Assurance should be clearly identified and specific to the appropriate design items and associated field review services provided

4.2.6 EXAMPLE 6 – PART 9 USING NECB FOR ENERGY EFFICIENCY, LETTERS OF ASSURANCE NOT REQUIRED

Sentence 9.36.1.3.(4) of Division B requires Part 9 non-residential occupancies with a combined floor area exceeding 300 square metres, and F2 occupancies of any size, to be designed in accordance with the *National Energy Code of Canada for Buildings* (*NECB*) (NRC 2017).

Clause 9.36.1.3.(1)(c) of Division B permits any Part 9 building to be designed in accordance with the *NECB* (NRC 2017).

A Part 9 building utilizing the *NECB* (NRC 2017) does not trigger the requirement for Letters of Assurance.

Registered Professionals designing both Part 3 and Part 9 buildings utilizing energy modelling, as permitted in the *NECB* (NRC 2017), may find it useful to refer to the joint Architectural Institute of BC and Engineers and Geoscientists BC *Professional Practice Guidelines – Whole Building Energy Modelling Services* (AIBC and Engineers and Geoscientists BC 2018).

4.2.7 EXAMPLE 7 – PART 9 ALTERNATIVE SOLUTIONS, LETTERS OF ASSURANCE ARE NOT REQUIRED

An Alternative Solution is a design option referenced in Division C, Section 2.3. Alternative Solutions and in Clause 1.2.1.1.(1)(b) of Division A.

The Code does not require Letters of Assurance for an Alternative Solution, nor does it require a Registered Professional. The use of Letters of Assurance for specific Alternative Solutions is not recommended. As a matter or professional practice, when a Registered Professional is relying upon an Alternative Solution for Code compliance that was prepared by another individual, then that individual must be a Registered Professional. It is also a professional practice requirement that Registered Professionals provide field review.

An AHJ may request that documentation to support the proposed Alternative Solution be provided by a Registered Professional. Sentence 2.3.1.2.(2) of Division C describes appropriate documentation. The authority to accept an Alternative Solution rests with the AHJ. In practice, most AHJs require that Alternative Solutions be provided by a Registered Professional. For Alternative Solutions prepared by a Registered Professional, a professional seal on a report provides assurance to an AHJ that the proposal has been prepared by a qualified person, and the content may be relied upon. An Alternative Solution Letter of Assurance is not required.

5. References

Architects Act [RSBC 1996], Chapter 17.

Building Act [SBC 2015], Chapter 2.

Community Charter [SBC 2003], Chapter 26.

Engineers and Geoscientists Act [RSBC 1996], Chapter 116.

Local Government Act [RSBC 2015], Chapter 1.

Professional Governance Act [SBC 2018], Chapter 47.

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NFPA. 2013b. *NFPA 13D – Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwelling and Manufactured Homes 2013 Edition*. NFPA: Quincy, MA.

NFPA. 2013c. *NFPA 13R – Standard for the Installation of Sprinkler Systems in Low-Rise Residential Occupancies 2013 Edition*. NFPA: Quincy, MA.

NFPA. 2013d. *NFPA 14 – Standard for the Installation of Standpipe and Hose Systems 2013 Edition*. NFPA: Quincy, MA.

National Research Council Canada (NRC). 2017. *National Energy Code of Canada for Buildings 2017*. Ottawa, ON: NRC. [accessed: 27 Sep 2020]. https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-canada-publications/national-energy-code-canada-buildings-2017.

Province of British Columbia. 2010. *Guide to the Letters of Assurance in the BC Building Code 2006*. Edition 5a (December 2010). Victoria, BC: Building & Safety Standards Branch, Ministry of Public Safety. [accessed: 2020 Sep 29]. http://www.bccodes.ca/letters-of-assurance.html.

DOCUMENT AMENDMENT HISTORY

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