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## Transition period for seismic requirements in the British Columbia Building Code 2024

This bulletin provides information about the effective date for the seismic design of buildings in the British Columbia Building Code (BC Building Code) 2024<sup>1</sup>.

The transition period for seismic provisions has been extended for in-stream projects with substantial design work completed in accordance with the BC Building Code 2018. This means that, provided that specific criteria are met, projects with building permits applied for **before March 8, 2027**, will be exempt from the 2024 BC Building Code's seismic design requirements, as stated by [Ministerial Order No. BA 2024 04](#).

Only seismic structural design is affected during the transition period; all other structural design requirements, such as those for wind, snow, and live loads, are required to be in accordance with BC Building Code 2024.

[Bulletin B24-10-R Application of the 2024 BC Building Code](#) provides the criteria on what constitutes an in-stream project. Any project that does not meet criteria for an exemption and for which a building permit is applied **on or after March 10, 2025**, must comply with the entire BC Building Code 2024, including the seismic requirements. This bulletin applies to design to Part 4 as well as Part 9 of Division B of the Building Code.

### Why did the Province extend the effective date?

The Province recognizes that the effective date of the BC Codes (Building, Plumbing, and Fire) represents a point-in-time for building projects that can be many years in the making. This extension helps avoid potential construction delays, additional costs, and the impact on projects' feasibility. During a transition period, training and education on the new requirements builds knowledge and capacity before the new requirements come into force.

### Higher seismicity in British Columbia's earthquake zones

A major update of the seismic hazard information in the BC Building Code 2024 was undertaken to incorporate current knowledge on seismicity and to establish compatibility with modern seismic hazard maps used in building codes in other jurisdictions such as the

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<sup>1</sup> Seismic provisions are found in Subsection 4.1.8., Section 9.23. and Appendix C of Division B.

United States of America. This update is essential to ensure that the occupants of a building, designed in accordance with the BC Building Code 2024, are not exposed to an unacceptable risk of injury or death, and the building is not exposed to an unacceptable risk of damage or loss of use due to structural failure or lack of structural serviceability. The increase in seismic hazard is the result of new knowledge about active faults near Victoria, B.C. (Leech River), new data on past Cascadia great earthquakes, and new ground motion models for the four tectonic environments (seismic sources) in Canada (subduction interface, in-slab, western crustal, and eastern crustal). The information on seismic hazard given in Appendix C has been provided by Natural Resources Canada.

### **Part 4 Structural Design, Subsection 4.1.8. Earthquake Load and Effects**

Adopted in the BC Building Code 2024 are new Part 4 requirements for the seismic design of buildings taken from the National Building Code of Canada 2020. These new requirements are non-mandatory in B.C. during the transition period, when at the end of that time, the new requirements become mandatory for compliance.

Until the end of the transition period, Subsection 4.1.8. of the Building Code 2018 will be permitted for Code conformance along with Appendix C of Division B Table C-3 Seismic Design Data for Selected Locations in B.C. in accordance with Division B Article 1.1.3.1. as adopted in the 2018 edition.

Material codes and performance standards that are adopted by reference in the BC Building Code 2018 are permitted to be used with Subsection 4.1.8. of the 2018 edition, being: CSA S16-14, CSA A23.3-14, CSA O86-19, CSA S304-14, CSA S136-12.

During the transition period, the use of the non-mandatory BC Building Code 2024 Part 4 Subsection 4.1.8. is permitted for use by Registered Professionals who are prepared to design buildings conforming to these new requirements. The BC Building Code 2024 no longer provides seismic design data tables of for Subsection 4.1.8., as there is now a [2020 National Building Code of Canada Seismic Hazard Tool](#) provided in accordance with Article 1.1.3.1. of Division B of the BC Building Code 2024. When designing to Subsection 4.1.8. of the BC Building Code 2024 during the delay period and beyond, Appendix C of Division B Table C-3 Seismic Design Data for Selected Locations in British Columbia in accordance with Division B Article 1.1.3.1. and material codes and performance standards (CSA S16:19, CSA A23.3:19, CSA O86:19, CSA S304-14, CSA S136-16) that are adopted by reference in the BC Building Code 2024 are to be used.

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## Part 9 Housing and Small Buildings, Section 9.23 Wood-Frame Construction

Adopted in the BC Building Code 2024 are new Part 9 requirements for wood frame construction taken from national code development for the National Building Code of Canada. These new requirements are non-mandatory in B.C. during the transition period. The new requirements become mandatory for compliance for building projects not meeting the criteria as in-stream for which building permits are applied for **on or after March 10, 2025**.

Until the end of the transition period for projects meeting the criteria, Section 9.23. of Division B of the BC Building Code 2018 remains permitted for compliance, along with Appendix C of Division B Table C-3 Seismic Design Data of Sa(0.2) in the 2018 edition. See Article 1.1.3.1. and Note A-1.1.3.1.(1) of Division B.

The redesign of Section 9.23. is substantially changed throughout to accommodate higher seismicity, mainly Subsection 9.23.13. Bracing to Resist Lateral Loads Due to Wind and Earthquake. Within B.C. are the highest seismic hazard values in all of Canada. It was determined that the increase in seismicity warranted a redesign of the methods for resisting lateral loads and that new solutions be offered so designers can continue to design within the parameters of Part 9.

During the transition period, the Ministry of Housing will continue work with industry partners and Codes Canada to develop a new illustrated guide for lateral load design. Other partners are producing additional learning materials. The current Illustrated Guide - Seismic Bracing Requirements BC Building Code Part 9 is still valid, but for use only with the 2018 edition of Section 9.23. To access the guide, use the following link: <https://research-library.bchousing.org/Home/ResearchItemDetails/2002>.

Within Section 9.23. there are new requirements not related to lateral load changes in Articles 9.23.2.4., 9.23.14.8., and 9.23.14.11. These changes are permitted to be used for compliance with the Building Code 2024.

For service water heaters and other equipment in Articles 9.31.6.2. and 9.33.4.7., the BC Building Code 2024 references "S<sub>max</sub> for Site Class C is greater than 0.37", it is permitted to use the BC Building Code 2018 seismic design data "Sa(0.2), is greater than 0.55" during the delay period.

Designers may be interested in applying the BC Building Code 2024 Part 9 seismic provisions as there may practical and/or economical reasons for incorporating the new requirements ahead of the effective date. Designers are encouraged to work with the local authority on proposed solutions that differ from Section 9.23. of the BC Building Code 2018.

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Although the BC Building Code 2024 provisions were developed based on recent data and analysis and represent current policy intent, any alternative solution proposal to the 2018 acceptable solutions is to follow the request process and any required documentation by the authority having jurisdiction as described in Division C.

### Transition Period Links

- When applying Subsection 4.1.8. of Division B of the **BC Building Code 2018** use: [Building Code 2018 Table C-3](#)
- When applying Section 9.23. of Division B of the **BC Building Code 2018** use: [Building Code 2018 Table C-3](#)
- When applying Subsection 4.1.8. of Division B of the **BC Building Code 2024** use: [2020 NBC Seismic Hazard Tool](#)
- When applying Section 9.23. of Division B of the **BC Building Code 2024** use: Smax Table C-3 in the [BC Building Code 2024](#)

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