

Preface

The 2019 Building By-law (hereinafter the “Building By-law”) is an objective-based code which identifies the minimum standard in the City of Vancouver for buildings to which this By-law applies. These address the same objectives of the Building By-law’s parent codes.

The Building By-law establishes standards for building materials, products and assemblies. Some standards are explicitly provided in the Building By-law while others are incorporated by reference to existing standards for materials, products and assemblies which are developed and published by specialist organizations.

The Building By-law is substantially based on Book I (General) and Book II (Plumbing Systems) of the British Columbia Building Code, which in turn is substantially based on the model National Building Code of Canada 2015 and the model National Plumbing Code of Canada 2015. This model of adoption of national model codes helps promote consistency among building codes.

This Building By-law replaces the 2014 Building By-law and also contains certain transition provisions which apply to permits issued under the 2014 Building By-law. The Building By-law is regularly updated and users should ensure that the By-law is current.

Code Development

Development of Codes Canada

The Canadian Commission on Building and Fire Codes (CCBFC) is responsible for the content of the National Model Codes. The CCBFC is an independent body made up of volunteers from across the country and from all facets of the code-user community. Members of the CCBFC and its standing committees include builders, engineers, skilled trade workers, architects, building owners, building operators, fire and building officials, manufacturers and representatives of general interests.

Codes Canada (formerly named the Canadian Codes Centre) of the National Research Council (NRC) provides technical and administrative support to the CCBFC and its standing committees. NRC publishes Codes Canada and periodic revisions to the Codes to address pressing issues. However, such periodic revisions do not have legal effect until adopted into law.

British Columbia Building Code

In British Columbia, the 2018 Building Code is the legal adoption of National Model Building and Plumbing Codes under the authority of the government of the Province of British Columbia. This includes much of the National Model Codes as amended from time to time, but also includes provincially applicable requirements to address provincial priorities and concerns.

Vancouver Building By-law

This By-law consists of two Books, that set out the minimum standard for the design and construction of new buildings as applicable. It also applies to the alteration, change of use and demolition of existing buildings.

The By-law is substantially based upon the British Columbia Building Code and establishes requirements to address five objectives, which are fully described in Division A of the By-law.

General Requirements

Building By-law - Book I (General) requirement must address at least one of the Code’s five stated objectives:

- safety
- health
- accessibility for persons with disabilities
- fire and structural protection of buildings
- environment

Code provisions do not necessarily address all the characteristics of buildings that might be considered to have a bearing on the Code’s objectives. The design of a technically sound building depends upon many factors beyond simple compliance with building regulations. Such factors include the availability of knowledgeable practitioners who have received appropriate education, training and experience and who have some degree of familiarity with the principles of good building practice and experience using textbooks, reference manuals and technical guides.

The Building By-law does not list acceptable proprietary building products. It establishes the criteria that building materials, products and assemblies must meet. Some of these criteria are explicitly stated in the By-law while others are incorporated by reference to material or product standards published by standards development organizations. Only those portions of the standards related to the objectives of this By-law are mandatory.

Plumbing Requirements

Book II (Plumbing Systems) of the Building By-law sets out technical provisions for the design and installation of new plumbing systems. It also applies to the extension, alteration, renewal, operation and repair of existing plumbing systems.

Book II (Plumbing Systems) establishes requirements to address the following four objectives, which are fully described in Division A of the By-law:

- safety
- health
- protection of buildings and facilities from water and sewage damage
- environment

Code provisions do not necessarily address all the characteristics of buildings and facilities that might be considered to have a bearing on the Code's objectives. It is not a textbook on plumbing system design or installation. The design of a technically sound plumbing system depends upon many factors beyond simple compliance with plumbing regulations. Such factors include the availability of knowledgeable practitioners who have received appropriate education, training and experience and who have some degree of familiarity with the principles of good plumbing practice and experience using textbooks, reference manuals and technical guides.

Further, since code development is typically based on accumulated test data and past experience, interpretations of literal By-law requirements should also consider typical building sizes and construction methodologies. Buildings that are atypical, or that do not fit within the commonly expected parameters of conventional building practice, should be approached with some caution by code users.

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The Building By-law does not list acceptable proprietary plumbing products. It establishes the criteria that plumbing materials, products and assemblies must meet. Some of these criteria are explicitly stated in the By-law while others are incorporated by reference to material or product standards published by standards development organizations. Only those portions of the standards related to the objectives of this By-law are mandatory.

Additional Information

Numbering System

A consistent numbering system has been used throughout this By-law. The first number indicates the Part of the By-law; the second, the Section in the Part; the third, the Subsection; and the fourth, the Article in the Subsection. The detailed provisions are found at the Sentence level (indicated by numbers in brackets), and Sentences may be broken down into Clauses and Subclauses. This structure is illustrated as follows:

B	Division
3	Part
3.5.	Section
3.5.2.	Subsection
3.5.2.1.	Article
3.5.2.1.(2)	Sentence
3.5.2.1.(2)(a)	Clause
3.5.2.1.(2)(a)(i)	Subclause

Use of the term “Reserved”

The term “reserved” is included in place of certain deleted National Codes content which has not been adopted. The term “reserved” is generally used so that the numbering structure of the BCBC is aligned with the model National Codes, easing comparability and possible future harmonization.

Unique to Vancouver Indication

All text in the By-law that is Unique to Vancouver (UTV) is provided with a grey background wherever practical. This identifier was utilized to provide the user of the By-law with a means by which to differentiate the Vancouver provisions of this By-law from those of the 2018 British Columbia Building and Plumbing Codes. Where the provisions of Vancouver have required the deletion of the 2018 British Columbia Building and Plumbing Code text, and no Vancouver text has replaced the deleted text, the word “deleted” has been used to alert the user that a deletion has been made and that there is a difference from the 2018 British Columbia Building and Plumbing Codes text.

Revision Indication

From time to time, the provisions of the Building By-law may be amended. Where this occurs, updated text is marked by a sidebar with text in brackets indicating the Revision. In some cases, text that was originally included as part of the Building By-law is amended and would result in substantial renumbering of associated portions of the Building By-law. In these circumstances the removed text may be replaced with the words “[UTV Deleted].” to preserve the existing numbering structure.

Meaning of the words “and” and “or” between the Clauses and Subclauses of a Sentence

Multiple Clauses and Subclauses are connected by the word “and” or “or” at the end of the second last Clause or Subclause in the series. Although this connecting word appears only once, it is meant to apply to all the preceding Clauses or Subclauses within that series.

For example, in a series of five Clauses – a) to e) – in a By-law Sentence, the appearance of the word “and” at the end of Clause d) means that all Clauses in the Sentence are connected to each other with the word “and.” Similarly, in a series of five Clauses – a) to e) – in a By-law Sentence, the appearance of the word “or” at the end of Clause d) means that all Clauses in the Sentence are connected to each other with the word “or.”

In all cases, it is important to note that a Clause (and its Subclauses, if any) must always be read in conjunction with its introductory text appearing at the beginning of the Sentence.

Metric Conversion

All values in this By-law, other than nominal sizes, are given in metric units. A conversion table of imperial equivalents for the most common units used in plumbing system design and installation is located at the end of the By-law.

Parts in Division B and Professional Disciplines

Division B is organized into Parts that are largely related to disciplines. However, this does not mean that persons of a certain discipline who are executing the design or construction of a particular building component can necessarily deal with only one Part of the Code in isolation since provisions related to that building component may be found in more than one Part.

For example:

- provisions that deal with fire safety issues related to heating, ventilating and air-conditioning systems are located in Part 3 of Division B, Fire Protection, Occupant Safety and Accessibility, and not in Part 6, Heating, Ventilating and Air-conditioning;
- structural requirements related to loads on handrails and grab bars are located in Part 3 of Division B, Fire Protection, Occupant Safety and Accessibility, while structural requirements related to loads on guards and handrails are located in Part 4, Structural Design.

For this reason, the part-based structure of Division B is not well suited for use as the basis for allocating responsibilities to different professions or as the basis for contractual arrangements.

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Office of the Chief Building Official
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Vancouver, BC V5Y 1V4

Contact Information

The Provincial government and CCBFC welcomes comments and suggestions for improvements to the Building Code and Plumbing Code. To submit comments or suggestions or to request printed copies of Internet material referred to in this Preface, contact:

Building and Safety Standards Branch
Office of Housing and Construction Standards
614 Humboldt Street
PO Box 9844 Stn Prov Govt
Victoria, BC V8W 9T2
Email: building.safety@gov.bc.ca

Persons interested in the development of the National Codes, the model document for the British Columbia Codes can contact:

The Secretary
Canadian Commission on Building and Fire Codes
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National Research Council of Canada
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Relationship of the Building By-law to Standards Development and Conformity Assessment

The development of many provisions in this By-law and the assessment of conformity to those provisions are supported by several of the member organizations of Canada's National Standards System (NSS).

The NSS is a federation of accredited organizations concerned with standards development, certification, testing, inspection, personnel and management systems registration that is established under the auspices of the Standards Council of Canada Act. Activities of the NSS are coordinated by the Standards Council of Canada (SCC), which has accredited 8 standards development organizations, 36 certification organizations, 21 registration organizations, and 344 calibration and testing laboratories.

The SCC is a federal non-profit Crown corporation responsible for the coordination of voluntary standardization in Canada. It also has responsibilities for Canada's activities in voluntary international standardization.

Canadian Standards

The By-law contains many references to standards published by accredited standards development organizations in Canada. As part of the accreditation requirements, these organizations adhere to the principles of consensus. This generally means substantial majority agreement of a committee comprising a balance of producer, user and general interest members, and the consideration of all negative comments. The organizations also have formal procedures for the second-level review of the technical preparation and balloting of standards prepared under their auspices. (The Canadian Commission on Building and Fire Codes (CCBFC) follows these same principles of consensus in the operation of its Code development process.)

The following organizations are accredited as standards development organizations in Canada:

- American Society for Testing and Materials International (ASTM)
- Bureau de normalisation du Québec (BNQ)
- Canadian General Standards Board (CGSB)
- Canadian Standards Association (CSA)
- ULC Standards (ULC)
- Underwriters' Laboratories (UL)

Table 1.3.1.2. of Division B lists the standards referenced in this By-law. Standards proposed to be referenced in this By-law are reviewed to ensure their content is compatible with the Code. Thereafter, referenced standards are reviewed as needed during each Code cycle. Standards development organizations are asked to provide information on any changes in the status of their standards referenced in this By-law – withdrawals, amendments, new editions, etc. This information is passed on to the CCBFC, its standing committees, the provinces and territories, and interested stakeholders on particular issues, all of whom are given the opportunity to identify any problems associated with the changes. These bodies do not necessarily review in detail the revised standards; rather, the approach relies on the consensus process involved in the maintenance of the standards and on the extensive knowledge and backgrounds of committee members, provincial or territorial staff, NRC staff, and consulted stakeholders to identify changes in the standards that might create problems in the By-law.

Non-Canadian Standards

A number of subject areas for which the Canadian standards development organizations have not developed standards are covered in this By-law. In these cases, the Code often references standards developed by organizations in other countries, such as the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the National Fire Protection Association (NFPA). These standards are developed using processes that may differ from those used by the Canadian standards development organizations; nevertheless, these standards have been reviewed by the relevant standing committees and found to be acceptable in the context in which they are referenced by this By-law.

Conformity Assessment

This By-law establishes minimum measures, either within its own text or that of referenced standards. However, this By-law does not deal with the question of who is responsible for assessing conformity to the measures or how those with this responsibility might carry it out.

In Vancouver, the *Chief Building Official* is authorized to, by bylaw, regulate construction and to enforce the requirements of this By-law.

Those persons responsible for ensuring that a material, appliance, system or equipment meets the performance requirements of this By-law have several means available to assist them. These means vary from on-site inspection to the use of certification services provided by accredited third-party organizations. Test reports or mill certificates provided by manufacturers or suppliers can also assist in the acceptance of products. Engineering reports may be required for more complex products.

Requirements for *Registered Professionals* are located in Division C of this By-law.

Testing

The accreditation programs of the SCC include many organizations accredited for testing and calibration that are capable of reliably testing building products to specified standards. The test results produced by these organizations can be used in the evaluation, qualification and certification of building products to Code provisions. The SCC's Web site (www.scc.ca) lists accredited certification bodies and allows users to search the scope of accreditation for each of these organizations.

Certification

Certification is the confirmation by an independent organization that a product or service meets a requirement. Certification of a product, process, or system entails physical examination, testing as specified in the appropriate standards, plant examination, and follow-up unannounced plant inspections. This procedure leads to the issuing of a formal assurance or declaration, by means of a certification mark or certificate, that the product, process or system is in full conformity with specified provisions.

In some cases, a product for which no standard exists can be certified using procedures and criteria developed by the accredited certifying organization and specifically designed to measure the performance of that product. Certification bodies publish lists of certified products and companies.

Registration

Quality Registration Organizations assess a company's conformance to quality assurance standards like the International Organization for Standardization ISO 9000.

Evaluation

An evaluation is a written opinion by an independent professional organization that a product will perform its intended function in a building. An evaluation is very often done to determine the ability of an innovative product, for which no standards exist, to satisfy the intent of a By-law requirement. Follow-up plant inspections are not normally part of the evaluation process. Several organizations, including the Canadian Construction Materials Centre (CCMC), offer such evaluation services. While the development of such an evaluation is useful to establish a basis for acceptance, this it does not mean that there will be an automatic assumption of By-law compliance by the Chief Building Official for any given material, product or assembly covered by this evaluation or that will necessarily be deemed applicable in every situation.

Qualification

The qualification of building products also evaluates the ability of a product to perform its intended function by verifying that it meets the requirements of a standard. Qualification normally includes some follow-up plant inspection. Some organizations publish lists of qualified products that meet the specified requirements. Some organizations qualify manufacturing and/or testing facilities for building products for compliance with the By-law and relevant standards.