

HERITAGE BC CONFERENCE

NAVIGATING B.C. LEGISLATION, ACTS & CODES

May 10, 2019

Dian Ross, Research Consultant
Jim Baker, Senior Codes Administrator

Building and Safety Standards Branch
Province of B.C.

This presentation is based upon the Heritage Building Regulatory Framework white paper undertaken summer 2018 by the Building and Safety Standards Branch, Ministry of Municipal Affairs and Housing, Province of British Columbia, to provide clarity on the existing regulatory structure for heritage buildings, with particular emphasis on the [Building Act](#) and the 2018 BC Building Code ([BCBC](#)).

OUTLINE:

1. Heritage Buildings in B.C. legislation
2. Heritage Buildings Definitions
3. Heritage Buildings and BCBC Objectives
4. Jurisdictional Scan and Case Studies
5. Heritage Buildings and the Standards and Guidelines
6. Conclusion and Next Steps
7. Discussion

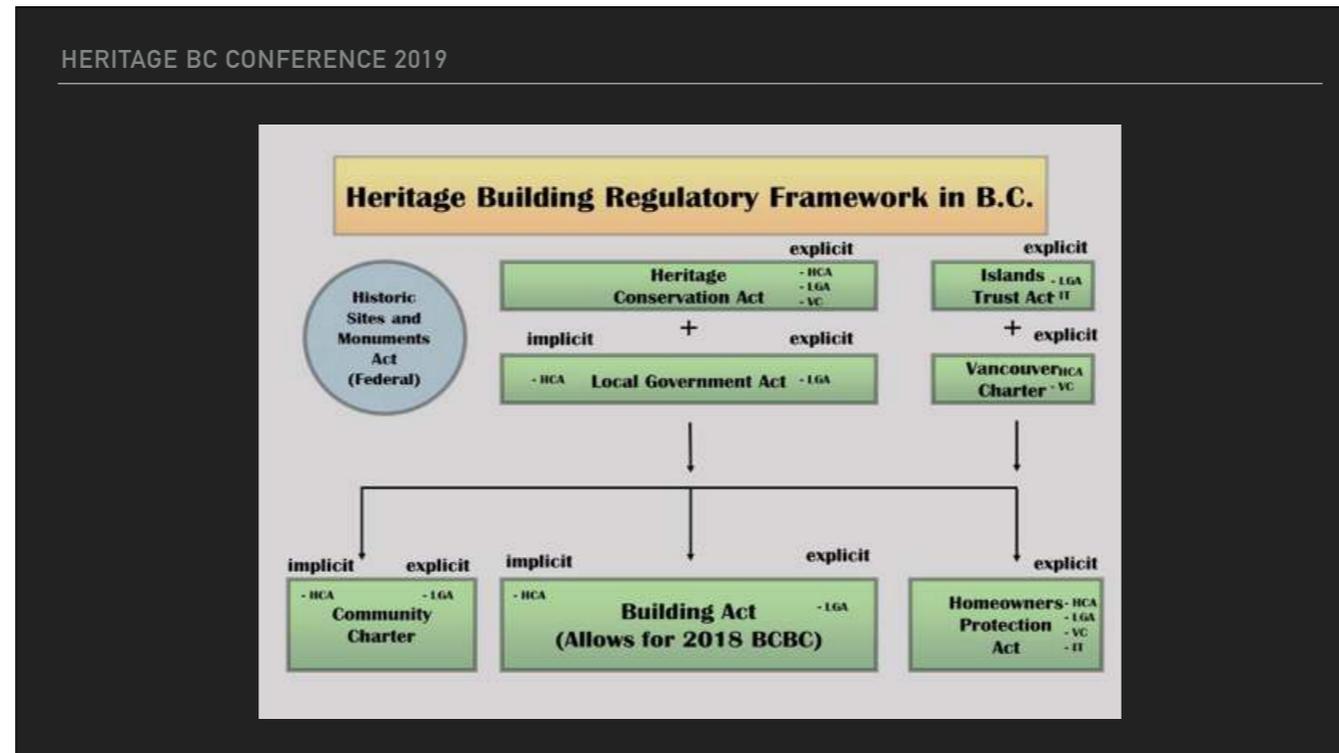
1. This paper first places heritage buildings within the regulatory context of seven pieces of B.C. legislation.
2. It then explores how the definitions in these Acts apply to the 2018 BCBC.
3. Evaluates the existing heritage building provisions against the broader BCBC Objectives of health, safety, structural and fire protection, accessibility, and energy and water efficiency.
4. Arising out of this gap analysis, a case study jurisdictional scan is provided with respect to the highest priority identified gap: structural safety and seismic resiliency.
5. It also briefly reviews heritage conservation principles outlined in the Standards and Guidelines for the Conservation of Historic Places in Canada as a starting point for discussion with respect to future heritage building code best practices.
6. This presentation will conclude by reviewing the white paper recommendations on how to clarify the definition of heritage buildings across all legislation, before opening a roundtable discussion on potential solutions to ensuring best practice rehabilitation of heritage buildings that meet both technical building regulations and heritage conservation objectives while aligning with an overall existing buildings strategy.

HERITAGE REGULATORY FRAMEWORK IN B.C.:

- ▶ Heritage Conservation Act (HCA)
- ▶ Building Act (BA)
- ▶ Local Government Act (LGA)
- ▶ Community Charter (CC)
- ▶ Homeowner Protection Act (HPA)
- ▶ Vancouver Charter (VC)
- ▶ Islands Trust Act (ITA)

* The federal Historic Sites and Monuments Act (HSMA) was reviewed for completeness, but is excluded from further analysis. *

Heritage buildings are affected by multiple pieces of legislation in BC, including the Heritage Conservation Act, Building Act, Local Government Act, Community Charter, Homeowner Protection Act, Vancouver Charter, and Islands Trust Act. This legislation is driven by a diversity of policy objectives, and as a result may be subject to varying interpretations. The lack of clarity on which existing buildings are deemed “heritage” and the varying policy objectives feeds into a larger issue: the inconsistent application of the BC Building Code (BCBC) to heritage buildings.



Heritage buildings are affected by multiple pieces of legislation in BC, including the Heritage Conservation Act, Building Act, Local Government Act, Community Charter, Homeowner Protection Act, Vancouver Charter, and Islands Trust Act. This legislation is driven by a diversity of policy objectives, and as a result may be subject to varying interpretations. The lack of clarity on which existing buildings are deemed “heritage” and the varying policy objectives feeds into a larger issue: the inconsistent application of the BC Building Code (BCBC) to heritage buildings.

“IF, WITH RESPECT TO ANY MATTER AFFECTING THE CONSERVATION OF A HERITAGE SITE OR HERITAGE OBJECT REFERRED TO IN SECTION 13 (2), THERE IS A CONFLICT BETWEEN THIS ACT AND ANY OTHER ACT, THIS ACT PREVAILS.”

Heritage Conservation Act
Section 6

HERITAGE BUILDINGS DEFINITIONS:

- ▶ B.C. has at least 7 interrelated definitions with different scopes
- ▶ HCA definition is overriding
 - ▶ Not all B.C. legislation explicitly references it and
 - ▶ Frequently provides its own interdependent definitions
- ▶ Particular issue with legislation (Building Act) that has a broad scope beyond just heritage buildings
 - ▶ **Not always obvious that the HCA should be consulted**

Following a review of the regulations affecting heritage buildings, it was determined that B.C. has at least seven interrelated definitions of heritage buildings with different scopes of applicability. Although the HCA definition is overriding, as shown in the heritage regulatory framework diagram, not all B.C. legislation explicitly references it and, indeed, frequently provides its own interdependent definitions of heritage buildings. This issue is particularly pronounced in legislation such as the Building Act that has a broad scope beyond just heritage buildings: it is not always obvious that the HCA should be consulted.

“HERITAGE BUILDING IS A BUILDING WHICH IS LEGALLY PROTECTED OR OFFICIALLY RECOGNIZED AS A HERITAGE PROPERTY BY THE PROVINCIAL GOVERNMENT OR A LOCAL GOVERNMENT. (SEE NOTE A-1.1.1.1.(5).)”

2018 BCBC: Division A
Part 1: Compliance

Unlike the LGA and CC, the HCA is not explicitly referenced in the BCBC which could lead to confusion both for heritage building owners and building officials alike.

“IT IS GENERALLY RECOGNIZED THAT THE PRESENT BCBC WAS PRIMARILY WRITTEN FOR NEW CONSTRUCTION AND PROVIDES FOR A PERFORMANCE LEVEL THAT IS SIGNIFICANTLY HIGHER THAN WHAT EXISTS WITH MANY OLDER BUILDINGS. TO APPLY PRESENT CODE PROVISIONS TO EXISTING BUILDINGS IS, IN MANY CASES, IMPRACTICAL AND WITH HERITAGE BUILDINGS MAY COMPROMISE HISTORIC APPEARANCES OR AUTHENTICITY.”

2018 BCBC: Division A
Notes to Part 1: A-1.1.1.1.(5)

Since 1992, the BCBC has included alternate compliance measures for designated heritage buildings. The explanatory note on heritage buildings in the 2018 BCBC explains that...

“IT IS NOT INTENDED THAT THE BRITISH COLUMBIA BUILDING CODE BE USED TO ENFORCE THE RETROSPECTIVE APPLICATION OF NEW REQUIREMENTS TO EXISTING BUILDINGS OR EXISTING PORTIONS OF RELOCATED BUILDINGS, UNLESS SPECIFICALLY REQUIRED BY LOCAL REGULATIONS OR BYLAWS... THE DEGREE TO WHICH ANY PARTICULAR REQUIREMENT CAN BE RELAXED WITHOUT AFFECTING THE INTENDED LEVEL OF SAFETY OF THE CODE REQUIRES CONSIDERABLE JUDGMENT ON THE PART OF BOTH THE DESIGNER AND THE AUTHORITY HAVING JURISDICTION.”

2018 BCBC: Division A
Note A.1.1.1.2.(1):
Application to Existing Buildings

Table 1.1.1.1.(5) is often interpreted in conjunction with Note A.1.1.1.2.(1)

Note A-1.1.1.1.(5) Heritage Buildings, describes the application of Table 1.1.1.1.(5) as “not mandatory,” explaining that an owner may choose

- to apply acceptable solutions in Division B,
- to apply alternate solutions under Clause 1.2.1.1.(1)(b),
- to apply alternate compliance methods in Table 1.1.1.1.(5), or
- to combine these options.

HERITAGE BUILDINGS IN THE 2018 BCBC:

- ▶ Table 1.1.1.1.(5) outlines the relevant Part 3 and Part 9 sections for each alternate compliance measure.
 - ▶ Part 3 commercial heritage buildings: responsibility of the registered professional
 - ▶ letter of assurance
 - ▶ Part 9 residential heritage buildings: the responsibility lies solely with the AHJ.
- ▶ Notes are intended to provide exposition (not directly enforceable)
 - ▶ But no explicit wording on how to apply rest of BCBC to existing and heritage buildings
 - ▶ Could be interpreted by the AHJ that only the measures outlined in Table 1.1.1.1.(5) must be met
 - ▶ Heritage buildings are 'unrestricted matters:'
 - ▶ Local governments set the acceptable degrees of "relaxations."

Remainder of the presentation will focus primarily on residential Part 9 heritage buildings.

Therefore, in the instance of Part 3 commercial heritage buildings, compliance is the responsibility of the registered professional who provides a letter of assurance; in the instance of Part 9 residential heritage buildings, the responsibility lies solely with the AHJ.

Notes are intended to provide exposition (not directly enforceable, in the absence of explicit wording as to how the remainder of the BCBC should apply to existing buildings as a whole, and heritage buildings as a particular subset, there could be the interpretation by the AHJ that only the measures outlined in Table 1.1.1.1.(5) must be met. This lack of clarity is heightened for heritage buildings which, as unrestricted matters, rely upon local governments to set the acceptable degrees of "relaxations." Consequently, the remainder of the presentation will focus primarily on residential Part 9 heritage buildings.

HERITAGE BUILDINGS IN THE 2018 BCBC:

Two main concerns emerge:

1. A definition of **heritage buildings** must be established that is more enforceable and distinct from 'existing buildings'; and
2. Lack of explicit direction on the retroactive application of the current BCBC to existing buildings increases the weighting of individual judgements from the AHJ.

Misses the opportunity to conform with the stated goal of the BA to standardize the best practice technical requirements to ensure consistency across the province.

HERITAGE BUILDINGS IN THE 2018 BCBC:

Arising from 2nd concern:

- ▶ How do heritage buildings perform compared with other existing buildings across BCBC Objectives, particularly those related to safety?
- ▶ Does an unacceptable risk exist?

Arising out of this second concern are the outstanding questions:

This presentation seeks to address this first question: the intension with the Q&A session at the end is to begin to address the second within the framework of an overall existing building strategy.

HERITAGE BUILDINGS IN THE 2018 BCBC:

2012:

APPENDIX A — DIVISION A EXPLANATORY MATERIAL
Table A-1.1.1.2.(1) Alternate Compliance Methods for Heritage Buildings

2018:

<i>Division A: Compliance, Objectives and Functional Statements</i>
Table 1.1.1.1.(5) Alternate Compliance Methods for Heritage Buildings <i>Forming part of Sentence 1.1.1.1.(5)</i>

The Heritage Table was moved from Explanatory Material in the BCBC2012 to the reside within the main structure of the Objective Based Code of BCBC 2018, Division A.

Only minor editorial changes where made to the language.

HERITAGE BUILDINGS & BCBC OBJECTIVES:

The BC Building Code 2018 is an Objective-Based Code:

Division A - Compliance, Objectives and Functional Statements

- set the objectives, the minimum level of acceptable risk

Division B - Acceptable Solutions

-set minimum prescriptive or acceptable solutions

Division C - Administrative Provisions

-set the expected professional reliance for design and assurance

Refer to *handout: compliance table, with objectives*

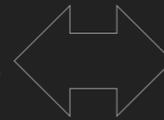
HERITAGE BUILDINGS IN THE 2018 BCBC:

Competing Provisions within the B.C. Building Code:

1.1.1.1. Application of this Code

1) This Code applies to any one or more of the following:

- a) the design and construction of a new building,
- b) the occupancy of any building,
- c) a change in occupancy of any building,
- d) an alteration of any building



1.1.1.2. Application to Existing Buildings

1) Where a building is altered, rehabilitated, renovated or repaired, or there is a change in occupancy, the level of life safety and building performance shall not be decreased below a level that already exists. (See Note A-1.1.1.2.(1).)

Refer to *handout: compliance table, with objectives*

JURISDICTIONAL SCAN & CASE STUDIES:

- ▶ Out of scope to provide solutions for best practice technical building requirements for heritage buildings to address the Objective gaps
 - ▶ Presentation discussion intended as a starting point
- ▶ To aid discussion, a jurisdictional scan is presented that addresses the highest priority safety Objective gap: seismic resiliency.
 - ▶ New Zealand
 - ▶ California

Selected for their applicability to B.C. both in terms of seismic concerns and building stock. However, directly addressing seismic concerns for heritage buildings in the BCBC is only a portion of the solution. As the BCBC is only triggered for permitted building alterations, a proactive approach to identifying and requiring seismic retrofits is required to achieve true seismic resiliency: the recent resiliency strategies undertaken in Wellington, New Zealand (2017), and both San Francisco (2016) and Los Angeles (2018), California, provide a possible roadmap.

JURISDICTIONAL SCAN & CASE STUDIES:

	B.C.	New Zealand	California
SEISMIC CONTEXT	CASCADIA SUBDUCTION ZONE	ALPINE FAULT WELLINGTON FAULT	SAN ANDRES FAULT
BUILDING STOCK	UNREINFORCED MASONRY EXTERIOR ORNAMENTATION		

BC: British Columbia lies on the boundary between the Pacific Plate, the Juan de Fuca Plate, the Explorer Plate, and the North American Plate. This area is known as the Cascadia Subduction Zone and makes Victoria prone to three different types of earthquakes: Crustal, Subcrustal, and Subduction

NZ: New Zealand lies on the boundary between the Australian Plate and the Pacific Plate. Along these plates, there are many faults such as the Alpine Fault and the Wellington Fault.

CALI: California lies on boundary between the Pacific Plate and the North America Plate, with the San Andres Fault as the boundary in between them.

Many heritage buildings in Victoria, BC are constructed using unreinforced masonry including brick and stone siding with exterior ornamentation, such as chimneys and parapets.

	B.C.	New Zealand	California
DEATHS & INJURIES		1931 NAPIER 256 Deaths	1906 SAN FRANCISCO 2000 Deaths (est)
		2011 CHRISTCHURCH 185 Deaths 1,000s Injured 242 Partial or Full Demolition of Heritage Buildings	1971 SAN FERNANDO 65 Deaths \$500M
DEMOLITIONS & DAMAGE			1989 SANTA CRUZ COUNTY 62 Deaths \$6 B
			1994 NORTHRIDGE 57 Deaths, 9,000 Injured (est) \$20B

JURISDICTIONAL SCAN & CASE STUDIES: POTENTIAL APPROACHES

New Zealand:

- ▶ Earthquake-Prone, Dangerous and Insanitary Buildings Policy (2010), Christchurch
 - ▶ Targets pre-1976 buildings considered earthquake prone and proposes to set seismic strengthening timeframes for buildings that do not meet minimum requirements.
- ▶ Heritage Protection Activity Management Plan (2014)
 - ▶ This long term plan to protect remaining heritage assets includes policies on heritage education, advocacy and advice, heritage grants, a heritage recovery program and a heritage recovery fund for purchase of historic property by the authorities.

Earthquake-Prone, Dangerous and Insanitary Buildings Policy (2010), Christchurch

Targets pre-1976 buildings considered earthquake prone and proposes to set seismic strengthening timeframes for buildings that do not meet minimum requirements.

Heritage Protection Activity Management Plan (2014)

Key Policy Drivers: Canterbury Earthquakes 2011, Urban Development, Population Growth

This long term plan to protect remaining heritage assets includes policies on heritage education, advocacy and advice, heritage grants, a heritage recovery program and a heritage recovery fund for purchase of historic property by the authorities.

JURISDICTIONAL SCAN & CASE STUDIES: POTENTIAL APPROACHES

New Zealand:

- ▶ Building (Earthquake-Prone Buildings) Amendment Act (2016)
 - ▶ Mandatory provisions on the identification and remediation of EPBs
- ▶ Wellington Resilience Strategy (2017)
 - ▶ 30 Point Plan including an Earthquake Prone Buildings Program
 - ▶ Led to assessment of 5,500 buildings for seismic resilience
 - ▶ 720 buildings in need of structural/seismic upgrades
 - ▶ Developed a risk mitigation strategy for heritage buildings

Building (Earthquake-prone Buildings) Amendment Act (2016)

Key Policy Driver: Canterbury Earthquake (2011)

Mandatory provisions on the identification and remediation of Earthquake Prone Buildings (EPBs).

Wellington Resilience Strategy (2017)

Key Policy Driver: Kaikoura Earthquake (Nov. 2016)

30 Point Plan including an Earthquake Prone Buildings Program which has aided in the assessment of 5,500 buildings for seismic resilience and has found 720 buildings in need of structural/seismic upgrades. The plan recognises the potential safety hazards of unreinforced masonry building facades and parapets and aims to develop a risk mitigation strategy for heritage buildings with these features.

JURISDICTIONAL SCAN & CASE STUDIES: POTENTIAL APPROACHES

California:

- ▶ California Historical Building Code (1984)
 - ▶ Regulates the preservation, restoration, and relocation of Qualified Historical Buildings (QHB)
 - ▶ Considers heritage preservation and seismic safety to be goals of equal importance.
- ▶ Resilient San Francisco (2016)
 - ▶ Goal 2: Retrofit, Mitigate, and Adapt: retrofit 180,000 seismically weak buildings by 2025
 - ▶ Expansion of San Francisco's RetroFund to help owners undertake seismic and environmental upgrades

California Historical Building Code (1984)

Regulates the preservation, restoration, and relocation of Qualified Historical Buildings (QHB). The code is intended to promote sustainability, energy efficiency, accessibility, and reasonable safety from seismic and other hazards. The CHBC regulates that when a QHB is deemed unsafe under the Building Code the owner need only address the unsafe condition and need not bring the entire structure into compliance with the regular code. The CHBC considers heritage preservation and seismic safety to be goals of equal importance.

Resilient San Francisco (2016)

In this resiliency strategy, Goal 2: Retrofit, Mitigate, and Adapt, aims to retrofit seismically weak buildings including 180,000 homes by 2025. Included in this plan is the continuation of the mandatory soft story retrofit program, the evaluation and retrofit of non-ductile concrete buildings, a 10 year capital plan for the retrofit of the most hazardous publically owned buildings, and the expansion of San Francisco's RetroFund to help owners undertake upgrades that are both seismic and environmentally concisions.

JURISDICTIONAL SCAN & CASE STUDIES: POTENTIAL APPROACHES

California:

- ▶ Los Angeles Resiliency Strategy (2018)
 - ▶ Goal 11: “Restore, Rebuild, and Modernize” to enhance seismic preparedness of buildings and infrastructure:
 - ▶ Mandatory assessment and retrofit of all:
 - ▶ Pre -1980 soft story buildings with 4 or more residential units (within 7 years)
 - ▶ Non-ductile concrete buildings (within 25 years)
 - ▶ Seismic safety rating system for buildings.

Los Angeles Resiliency Strategy (2018)

Goal 11: “Restore, Rebuild, and Modernize” details several strategies to enhance seismic preparedness of buildings and infrastructure. These strategies include mandatory assessment and retrofit of all pre -1980 soft story buildings with 4 or more residential units in a seven year timeframe, mandatory assessment and retrofit of all non-ductile concrete buildings in a 25 year timeframe, mandatory retrofits of all buildings damaged by earthquakes, as well as the implementation of a seismic safety rating system for buildings. The City is also exploring seismic strengthening financing and incentive programs for privately owned buildings.

STANDARDS & GUIDELINES:

- ▶ BCBC implicitly acknowledges importance of heritage conservation but could explicitly reference Standards and Guidelines

“FOR HERITAGE BUILDINGS, CONSERVATION IS ALSO A PUBLIC OBJECTIVE. HERITAGE BUILDINGS OFTEN OFFER UNIQUE PROBLEMS AND OPPORTUNITIES, AND EACH SITUATION MUST BE ASSESSED INDIVIDUALLY.”

2018 BCBC: Division A
Notes to Part 1: A-1.1.1.1.(5)

STANDARDS & GUIDELINES		2018 BCBC		
	RECOMMEND	NOT RECOMMEND	OBJECTIVE	COMMENTS
4.3.1 EXTERIOR FORM	Stabilizing deteriorated (elements of the exterior form/roofs) by using structural reinforcement and weather protection	Removing deteriorated (roof) elements that could be stabilized or repaired	OS2: STRUCTURAL SAFETY	Structural safety & seismic resilience not well considered in Table 1.1.1.1.(5).
4.3.3 ROOFS				

Given the audience's familiarity, I'm not going to spend too much time discussing the S&Gs, but I would like to highlight a few suggestions as to how the S&Gs could be leveraged to more explicitly outline conservation best practices in the BCBC to help frame the discussion at the end of this presentation.

CONCLUSIONS & NEXT STEPS:

1. HCA is arbiter of what is a 'heritage building' but not all B.C. legislation, including the Building Act, explicitly references it.
2. Retroactive application of modern code requirements may be prohibitively expensive and risks destroying the heritage value.
3. Sometimes heritage protection regulations limit the degree of freedom for renewal and best practice conservation techniques may be prohibitively expensive.
4. The separate heritage table in the BCBC may create the perception that only this table applies.
5. Another key safety concern for B.C. heritage buildings is seismic resiliency: we can learn from similar experiences in related jurisdictions.

Heritage construction projects are complicated by lack of clarity on what constitutes a 'heritage building' and constraints on alterations for designated heritage buildings as regulated in the HCA, and with guidance from the S&G. This presentation has identified five key issues:

Although the HCA in theory is the arbiter of the definition of what constitutes a heritage building, in practice not all B.C. legislation, including the Building Act, explicitly references the HCA. This lack of clarity can to an inconsistent approach when undertaking heritage construction projects that trigger the BCBC, particularly for residential Part 9 buildings which rely on individual building officials. A potential solution is provided on the next slide.

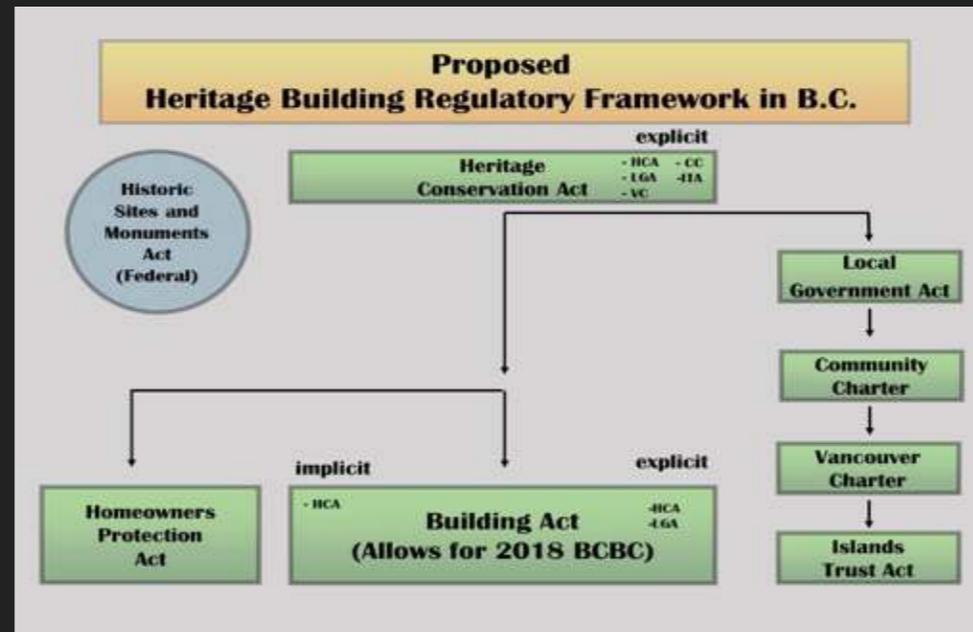
When the BCBC is triggered at time of construction or retrofit permit, retroactive application of modern code requirements may be prohibitively expensive. Although this is an issue for all existing buildings, it is particularly pronounced for heritage buildings where application of the current BCBC risks destroying the heritage value and character defining elements of the building.

Conversely, in some applications heritage protection regulations limit the degrees of freedom for renewal and best practice conservation techniques may also be prohibitively expensive, or ill-suited to modern building use.

The existence of a separate table dealing with explicit heritage provisions, moved more prominently to Division A of the 2018 BCBC, may create the perception that this table may be the only applicable requirements for heritage building upgrades, even though the table is mainly focused only on alternative fire safety measures. Another key safety concern for B.C. heritage buildings is seismic resiliency.

As the BCBC is only triggered for 'new' construction, though, even if requirements for heritage buildings were explicitly included, this would not address the majority of the heritage building stock. B.C. is currently positioned to learn from similar experiences in related jurisdictions such as New Zealand or California before suffering a severe earthquake.

As such, need is to inspire renewal by providing flexibility: to raise building performance to an appropriate level. The point of comparison should not be new construction standards, but rather the best practices of existing heritage building renewals. Jurisdictional case studies provide a first survey of best practices in heritage renewals but more data and evidence is ultimately needed to determine what the standards for heritage renewals should be.



DISCUSSION QUESTIONS:

1. Have you encountered/experienced confusion on the definition of heritage buildings within a B.C. regulatory context?
2. Do you believe that the proposed solution that would see legislation affecting heritage buildings directly reference the HCA definition would help clarify?
3. How to maximize economic, safety/resiliency, social, and environmental performance of heritage buildings both within a regulatory and voluntary best practice framework?
4. How to achieve province-wide consistency in the application of codes and standards?
5. How to deliver the conservation principles of the Standards and Guidelines within the framework of best building practice and resiliency upgrades?

CONTACT: DIAN ROSS DIAN.MARIE.ROSS@GMAIL.COM
JIM BAKER JIM.B.BAKER@GOV.BC.CA

THANK YOU