BC BUILDING CODE INTERPRETATION COMMITTEE

A joint committee with members representing

AIBC, EGBC, BOABC

File No: 12-0110 **INTERPRETATION**

Interpretation Date:	January 16, 2018
Building Code Edition:	BC Building Code 2012
Subject:	Maximum ground snow loads for design to Part 9
Keywords:	ground snow load, Part 9, maximum
Building Code Reference(s):	1.1.3.1.(1), A-3.1.1.3.(1), 9.4.1.1.(3), 9.4.2.1., 9.4.2.2., 9.23.4.2.(1)

Question:

Sub-clause 2.2.7.1.(1)(c)(i) of Division C requires that a registered professional is required for the design and field review of structural components that are not within the scope of Part 9 of Division B.

Does Part 9 provide a maximum ground snow load that can be used for Part 9 buildings?

Interpretation:

Yes (for some structural members)

Sentences 9.4.1.1.(3) and 9.4.2.2.(1) require that location-specific snow loads be based on Subsection 1.1.3. of Division B.

Sentence 1.1.3.1.(1) requires that climatic data (including snow loads) be determined in accordance with Table C-2 in Appendix C of Division B.

Appendix A-3.1.1.3.(1) of Division B refers designers to Meteorological Service of Canada for snow loads in municipalities that are not included in Table C-2 in Appendix C of Division B.

Article 9.4.2.1. describes the limitations for light frame construction when designing to the prescriptive requirements of Part 9. These limitations include a maximum 2.4 kPa live load floor framing, and a maximum span of 12.2m for all structural members. This Article does not limit the ground snow loads for Part 9 buildings.

Article 9.4.2.2. describes the "specified snow loads (S)" (i.e. roof snow load) as

S = CbSs + Sr, where Ss is the ground snow load.

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Sentence 9.23.4.2.(1) permits the use of Tables A-1 to A-7 for maximum spans for wood frame construction for joists, rafters and beams, when the live loads do not exceed that values listed in the Tables.

Tables A-5 and A-7 limit the maximum "Specified roof snow load" to be 3.0 kPa for wood roof joists and wood roof rafters.

Table A-12 limits the maximum "Specified roof snow load" to be 3.0 kPa for wood ridge beams and lintels.

Tables A-13 and A-14 limit the maximum "Specified roof snow load (S)" to be 3.0 kPa for wood lintels.

The corresponding maximum Part 9 "ground snow load (Ss)", would vary from municipality to municipality depending upon the location specific rain load (Sr) using the formula in Article 9.4.2.2.

For example, if the rain load were 0.4 kPa, and the width of the roof does not exceed 4.3 meters, then the maximum ground snow load (Ss) would be calculated as follows:

$$S = CbSs + Sr$$

$$3.0 \text{ kPa} = 0.45 \text{ (Ss)} + 0.4 \text{ kPa}$$

$$Ss = (3.0 - 0.4) / 0.45 = 5.78 \text{ kPa}$$

So the maximum ground snow load would vary from municipality to municipality, but the specified roof snow load would remain constant at 3.0 kPa.

Note that this limitation only applies to the structural members noted above in Tables A-5, A-7, A-12 to A-14.

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