BCC Ruling No. 13-12-1340

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Ruling No.: 13-12-1340
Application No.: B 2013-04

BUILDING CODE COMMISSION

IN THE MATTER OF Subsection 24(1) of the Building Code Act, S.O. 1992, c. 23, as amended.

AND IN THE MATTER OF Sentences 1.1.2.1.(1) and 4.1.6.2.(1). of Division B of Regulation 350/06, as amended, (the "Building Code").

AND IN THE MATTER OF an application by Tony Sciara, Owner, 1233735 Ontario Inc., c/o Governor's Manor, for the resolution of a dispute with Ed VanderWindt, Chief Building Official, City of Hamilton, to determine whether the structural design requirements of a proposed addition provides sufficiency of compliance with Sentence 1.1.2.1.(1) and Sentence 4.1.6.2.(1) of Division B of the Building Code at 35-37 Ogilvie Street, City of Hamilton (Dundas), Ontario.

APPLICANT

Tony Sciara, Owner
1233735 Ontario Inc., c/o Governor's Manor
City of Hamilton, Ontario

RESPONDENT

Ed VanderWindt
Chief Building Official
City of Hamilton, Ontario

PANEL

Tony Chow, Chair
Doug Clancey
Marina Huissoon

PLACE

City of Toronto, Ontario

DATE OF HEARING

May 16, 2013

DATE OF RULING

May 16, 2013

APPEARANCES

Tony Sciara
1233735 Ontario Inc., c/o Governor's Manor
City of Hamilton, Ontario
Applicant

Donald (Greg) Weekes
Weekes Engineer
City of Hamilton, Ontario
Agent for the Applicant

Ed VanderWindt
Chief Building Official
City of Hamilton, Ontario
Respondent

Lisa Simmons
Building Engineer
City of Hamilton, Ontario
Designate for the Respondent

RULING

1. Particulars of Dispute

In April of 2012, the Applicant applied for a permit under the Building Code Act, 1992, to construct a one storey rear addition to an existing two storey building, and for a change of use from a Group C occupancy to a Group B, Division 3, occupancy at 35-37 Ogilvie Street, City of Hamilton (Dundas), Ontario. The Respondent issued an Order to Comply in March of 2011 to obtain a building permit after the Applicant started construction of a roof above an existing exterior deck.

The subject building is an existing two storey building of combustible construction with a building area of 284 m2. The addition is proposed as an infill of an exterior alcove space being used as an exterior deck. The alcove space is partially enclosed by three exterior walls of the existing building.

The permit application proposes to fully enclose, insulate and heat the alcove space by constructing an insulated wood-framed floor, one insulated wood-framed exterior wall, and an insulated roof system consisting of low-slope wood roof trusses.

The issue in dispute involves the ground snow load (S_s) value used in the design of the roof trusses. The climatic and seismic values required for the design of buildings under the Building Code must conform to the values provided in Supplementary Standard SB-1. The 0.9 kPa ground snow load (S_s) value for Hamilton listed in this standard was used in the design calculations for the subject roof trusses.

The City of Hamilton requires the design calculations of the subject roof trusses to use a higher ground snow load (S_s) value than listed in SB-1. This higher value is listed in a City of Hamilton departmental policy that provides specific ground snow load (Ss) values that reflect the varied elevation in different areas within the city. The subject building is located in Ward 13 (Dundas) and the ground snow load (S_s) value listed in the department policy is 1.1 kPa.

2. Provisions of the Building Code in Dispute

DIVISION A
1.1.2.2. Application of Parts 3, 4, 5 and 6
(1) Subject to Articles 1.1.2.6. and 1.3.1.2., Parts 3, 5 and 6 of Division B apply to all buildings,
(a) used for major occupancies classified as,
(ii) Group B, care or detention occupancies,
DIVISION B
1.1.2.1. Climatic and Seismic Design Values
(1) The climatic and seismic values required for the design of buildings under this Code shall be in conformance with the climatic and seismic values provided in Supplementary Standard SB-1.
4.1.6.1. Specified Load Due to Rain or to Snow and Associated Rain
(1) The specified load on a roof or any other building surface subject to snow and associated rain shall be the snow load specified in Article 4.1.6.2., or the rain load specified in Article 4.1.6.4., whichever produces the more critical effect.

4.1.6.2. Specified Snow Load
(1) The specified load, S, due to snow and associated rain accumulation on a roof or any other building surface subject to snow accumulation shall be calculated from the formula,
$S = I_s [Ss (C_b C_w C_s C_a) + S_r]$
where,
S_s = 1-in-50-year ground snow load, in kPa, determined in accordance with Subsection 1.1.2.

3. Applicant's Position

The Agent for the Applicant said the issue in dispute involves the ground snow load (Ss) value used in the design of the roof trusses for the subject location in the City of Hamilton. He stated that the design of the roof trusses complies with Sentence 1.1.2.1.(1) of Division B of the Building Code and that the plans submitted with the building permit show that the design of the roof trusses was based on the minimum ground snow load (S_s) value of 0.9 kPa for the City of Hamilton as shown in Table 1.2 of Supplementary Standard SB-1.

The Agent explained that the dispute came about during a plan review by building officials. He said building officials in the City of Hamilton rely on departmental policies regarding ground snow load (S_s) values based on specific locations within the City of Hamilton and in some areas the ground snow load (Ss) values are significantly different than 0.9 kPa found in the Building Code and require the roof trusses for the subject location to be designed using a ground snow load (S_s) value of 1.1. kPa or

greater.

In summary, the Agent explained to the Commission that he agrees with the position of the building officials that using ground snow load (Ss) values in the design of buildings that reflect the difference in the elevation of specific locations within the City of Hamilton is good policy; he disagrees that this departmental policy should require designs to use ground snow load (S_s) values that are greater the minimum required by the Building Code.
The Agent stressed that design calculations for the subject roof trusses used a ground snow load (S^s) value that conforms to the minimum value listed in Table 1.2 of Supplementary Standard SB-1 of the Building Code for Hamilton. He also stated there is no legal requirement for the design of buildings in the City of Hamilton to conform to the departmental policies regarding ground snow load (Ss) values.

4. Respondent's Position

The Respondent spoke about the amalgamation of the municipality of the Town of Dundas with the City of Hamilton in 2001. He explained that this was one of several amalgamations and that several of these municipalities included areas at higher elevations than those in pre-amalgamation Hamilton. As a result of recommendations from Environment Canada, the City of Hamilton issues departmental policies regarding ground snow load (S_s) values. The policies provide specific ground snow load (S_s) values to be used in the design of buildings and structures based on specific locations within the City of Hamilton and, in some areas, the ground snow load (S_s) values are significantly different than 0.9 kPa found in the Building Code. The current ground snow load (Ss) value in the departmental policy for Dundas (Ward 13) is 1.1 kPa.

The Respondent also explained that the City of Hamilton in 2007 applied for amendments to the Ontario and National Building Codes regarding ground snow load (S_s) values. Although they were not successful, they have made another application to amend the ground snow load (S_s) values listed in the Ontario Building Code because they are convinced their values more appropriately reflect the conditions of specific areas within the City of Hamilton.

The Respondent noted that the Applicant wrote on the application for hearing that the dispute involves a provision in Part 9 of Division B of the Building Code. He explained that permit applications involve a change in use to a Group B, Division 3, occupancy and that the trusses should be designed to conform to Part 4. He remarked that both Part 9 and Part 4 refer back to Article 1.1.2.1. and both make use of the same climatic design values. However, it should be noted that, for this building, the design of the trusses should conform to Sentences 4.1.6.1.(1) and 4.1.6.2.(1).

The Respondent summarized his position by saying the City of Hamilton sees the ground snow load values (S_s) as shown in Table 1.2 in Supplementary Standard SB for Hamilton to be inadequate and, based upon analysis by Environment Canada, the City of Hamilton believes that a higher value should be used in the design of buildings to be located in specific areas.

5. Commission Ruling

It is the decision of the Building Code Commission that a design for an addition using Supplementary Standard SB-1 provides sufficiency of compliance with Sentences 1.1.2.1.(1) and 4.1.6.2.(1). of Division B, of the Building Code, at 35-37 Ogilvie Street, City of Hamilton (Dundas), Ontario.

6. Reasons

1. Sentence 1.1.2.2.(1) of Division A of the Building Code states, in part, that subject to Article 1.1.2.6. and 1.3.1.2., Parts 3, 5 and 6 of Division B apply to all buildings used for major occupancies classified as Group B. The Commission heard that the intended use of the subject

building results in the building being classified as a Group B, Division 3 major occupancy. Sentence 1.1.2.2.(2) of Division A of the Building Code states, in part, that subject to Articles 1.1.2.6. and 1.3.1.2., Part 4 of Division B applies to buildings described in Sentence 1.1.2.2.(1) of Division A. Consequently, the design requirements of Part 3 and Part 4 of Division B of the Code are applicable to the subject building.

2. Sentence 4.1.6.2.(1). of Division B, of the Building Code, provides a formula to calculate the specified snow load to be used in the design of buildings. The formula includes using a 1 in 50 year ground snow load factor Ss, in kPa, that is determined in accordance with Subsection 1.1.2. of Division B of the Building Code.
3. Sentence 1.1.2.1.(1) of Division B states that the climatic and seismic values required for the design of buildings under this Code shall be in conformance with the climatic and seismic values provided in Supplementary Standard SB-1. Table 1.2 of Supplementary Standard SB-1 provides a 1 in 50 year ground snow load factor S_s for Hamilton.
4. The 2006 Building Code provided a specific snow load value for Hamilton when it was published and the Commission notes that this occurred after the amalgamation of the former Town of Dundas with the City of Hamilton in 2001.
5. The Commission heard that the ground snow load factor used for the design of the subject building is the value specified for Hamilton in Table 1.2. of Supplementary Standard SB-1.
6. The Building Code provides a minimum set of construction standards to which all construction must comply. The Building Code Commission has a mandate to determine disputes with respect to sufficiency of compliance with the technical requirements of the Building Code, the Commission is not mandated to determine compliance with a municipality's internal policies.

Dated at the City of Toronto this **16th** day in the month of **May** in the year **2013** for application number **B 2013-04**.

Tony Chow, Chair

Doug Clancey

Marina Huissoon