Mike Sawka

Fortress Building Products
1720 N 1st St
Garland, TX 75040
michaels@fortressbp.com

Project Number: 23-05-057

RE: Fortress Evolution Alberta Code Compliance

05.16.2023

Mike,

Per your request, Eclipse Engineering, P.C. (EEPC) has analyzed the report, "CCRR-0313: Evolution Steel Framing," for code compliance for the Canadian providence, Alberta. The following calculations conform to the latest provisions of the NBC-AE.

The calculations assume a single residence dwelling only, with a maximum live loading of 1.9kPa (40psf), and a dead load of 0.5kPa (10psf). With snow loading assumed to be zero, the minimum load table in CCRR-0313 shall be the equivalent of 75psf unfactored loading (Tables 4 & 10). Any table with a total unfactored load below 75psf will not be in accordance with NBC-AE and shall not be implemented.

EEPC has analyzed "CCRR-0313: Evolution Steel Framing" for the latest Alberta code compliance only. We take no responsibility for any element of Evolution Steel Framing, any element that may attach to it, nor for any element it may attach to.

Please contact us with any questions.

Sincerely,

Sean Smith, E.I.T.
Staff Engineer
ssmith@eclipse-engineering.com

Attachments: Structural Calculations

PROFESSIONAL ENGINEER ALBERTA
BRIAN HANSON
P.Eng.#133874
LICENSED TO PRACTICE
18MAY 2023

PERMIT TO PRACTICE
ECLIPSE ENGINEERING, P.C.
RM SIGNATURE: _____
RM APEGA ID #: __P012999__
DATE: _____18 May 2023_____
PERMIT NUMBER: P012999
The Association of Professional Engineers and
Geoscientists of Alberta (APEGA)
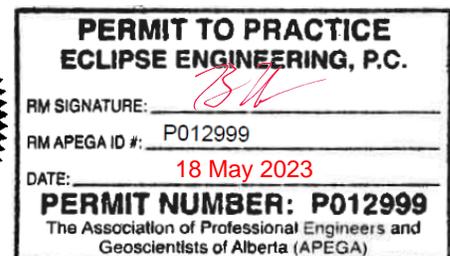
Fortress Evolution Loading Checks

LRFD conversion for lowest possible loading

$DL := 10 \ psf$ — Design Dead Load

$LL := 40 \ psf$ — Design Live Load

$R_n := DL + LL = 50 \ psf$ — Total Unfactored Loading

ASD Load Combos

$LC := DL + LL = 50 \ psf$ — Governing Load Combo

$\Omega := \dfrac{(DL + LL)}{LC} = 1$ — ASD Reduction Factor

$\phi := \dfrac{1.5}{\Omega} = 1.5$ — Conversion to LRFD Reduction Factor (Assuming Live Load is equivalent to approximately 3x(DL) - Ref AISC 2015 - Comm B3

$R_n \cdot \phi = 75 \ psf$ — Minimum Loading required

$ULS := 1.25 \ DL + 1.5 \ LL = 72.5 \ psf$ — Equivalent Canadian Loading Combo (2019 NBC-AE, Table 4.1.3.2.-A)

Result - Per the CCRR-0313 report, Span Table 4 shall be the minimum values allowed for single span beams, and Table 10 shall be the minimum values allowed for double span beams