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Phone: (507) 280-7808

18 July 2011

Mr. Chris Peeples  
Vixen-Hill Manufacturing Company  
P.O. Box 389  
Elverson, PA 19520

Re: 15' Gardenhouse Analysis

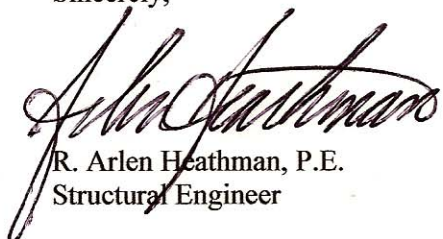
Mr. Peeples,

I have reviewed the analysis of the 15' Gardenhouse performed by Graham Henderson & Associates, Inc of Midlothian, Virginia for the project to be constructed near Owatonna, Minnesota. After discussion with Mr. Henderson and review of the computations I have the following comments:

1. The analysis is based on the 2006 IBC which along with the 2006 IRC and the 2007 Minnesota State Building Code (MSBC) are the current code documents in effect for the State of Minnesota as of this date. The snow loads used in the analysis as shown on page 6 of the Henderson analysis is 42 psf roof live load.
2. The current Minnesota State Building Code Rules 1303.1700 Table R301.2(1) show the snow loads to be used for residential projects. A copy is attached for reference. As noted the southern half of the state uses a 35 psf roof live load and the northern half of the state uses a 42 psf roof live load for snow. The analysis is therefore compliant with the whole of the State of Minnesota.
3. The wind loads used in the Henderson analysis show a 90 psf, exposure C wind for the locale of the project.
4. Without knowing the terrain of the local site for the project, the appropriate wind loads to be used are 90 psf with exposure C. conditions. This can be found on page 3 of the Henderson analysis. This is in compliance with the current MSBC.
5. The proper factors of safety for overturning and for sliding were used in the analysis based on the 2006 IBC for foundation design in the Henderson analysis.

Seeing no issues with the analysis and as the proper snow and wind loads were used for this locale the 15' Gardenhouse proposed for the Owatonna, Minnesota site is compliant and would be in any area of the State of Minnesota. The design of this pre-engineered structure can be found on the Vixen Hill website along with drawings, erection instructions, and photos of already completed projects.

Sincerely,

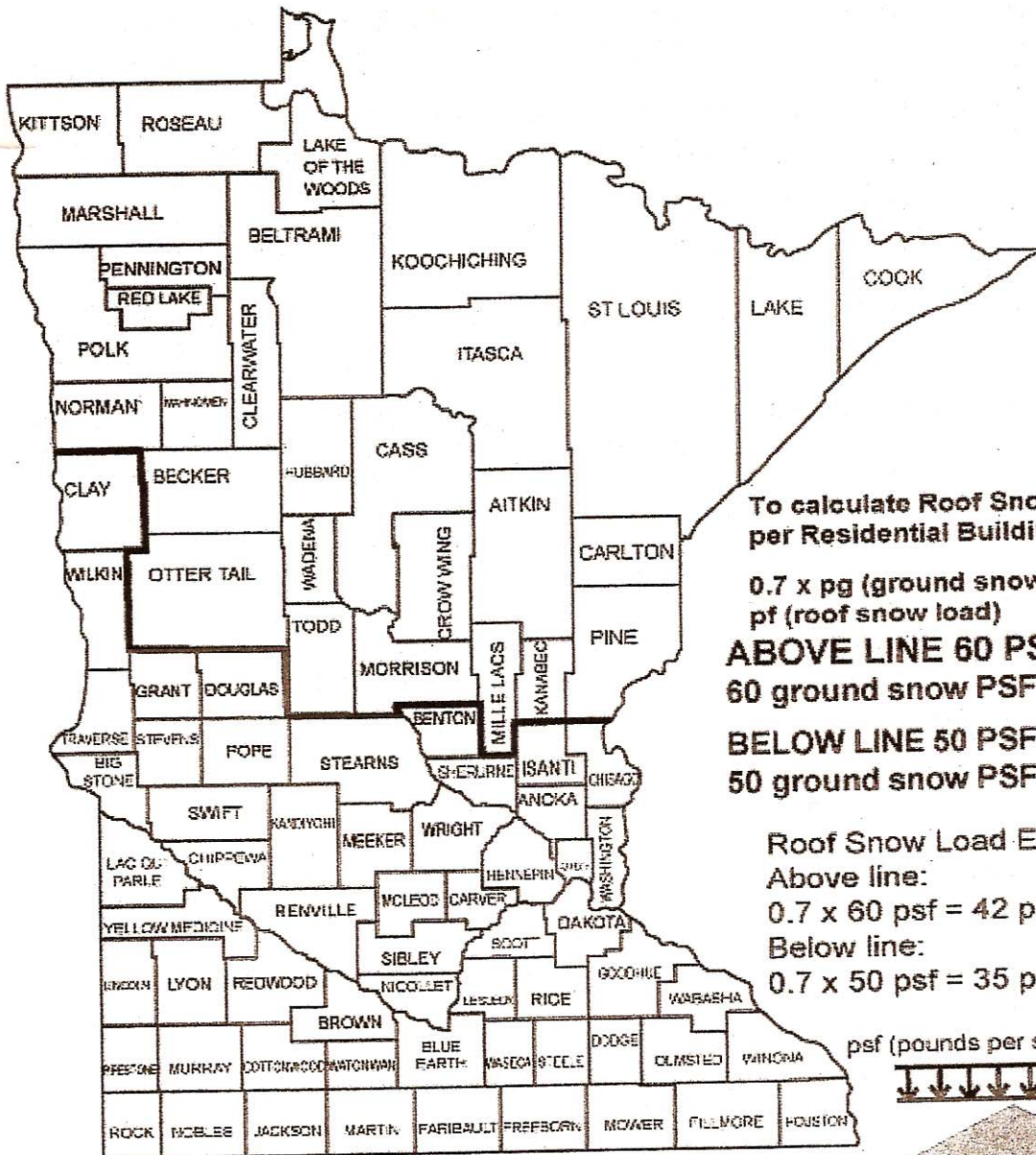
  
R. Arlen Heathman, P.E.  
Structural Engineer

I HEREBY CERTIFY THAT THIS PLAN,  
SPECIFICATION, OR REPORT WAS PREPARED  
BY ME OR UNDER MY DIRECT SUPERVISION  
AND THAT I AM A DULY LICENSED  
PROFESSIONAL ENGINEER UNDER THE LAWS  
OF THE STATE OF MINNESOTA..

  
REG. NO. 16177 DATE 10/24/11

# SNOW LOAD

MSBC RULES 1303.1700 table R301.2(1)



To calculate Roof Snow Load per Residential Building Code:

$$0.7 \times p_g \text{ (ground snow load)} = p_f \text{ (roof snow load)}$$

**ABOVE LINE 60 PSF**

**60 ground snow PSF**

**BELOW LINE 50 PSF**

**50 ground snow PSF**

Roof Snow Load Examples:

Above line:

$$0.7 \times 60 \text{ psf} = 42 \text{ psf}$$

Below line:

$$0.7 \times 50 \text{ psf} = 35 \text{ psf}$$