

**HELEN WATTS ENGINEERING, PLLC**

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January 10, 2017

Sam Zuckerman  
Maine Solar Solutions  
245 Brown Road  
Durham ME 04222

RE: 691 Allen Road, Portland, Maine, Solar, HCW Project No. 17-001


Dear Sam:

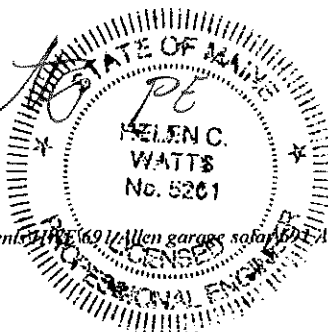
At your request, I have reviewed photos and sketches you made of the structure of the garage attic at 691 Allen Road in Portland, Maine, for the support of an additional load from solar panels. The panels to be installed are manufactured by Iron Ridge and weigh 2.7 psf per their online calculator. The structure is an attic-room-in-truss type wood truss with metal plate connectors. No design sheets were provided for the trusses. The roof is not subjected to sliding or drifting snow from other roofs, and the roof will not shed snow by sliding or drifting off the panels onto other roofs. The trusses appeared to be in good condition, and you noted no conditions of concern. The truss attachment for uplift at the heel was not viewed and is assumed to meet the building code (MUBEC, IRC 2009).

The panels will be installed close to the roofing surface, and in the plane of the existing surface. This will minimize retained snow. The panels provide a slippery surface, and will therefore shed snow better than the asphalt shingle roofing which a typical roof truss is designed to accommodate. In Portland, with an expected 42 psf roof snow load, this will reduce the live load on the roof to 29.4 psf at the panels, which more than offsets the added 2.7 psf dead load, including the factors for the longer duration of the dead load.

Thank you for the opportunity to provide engineering services to you. Please call me if you have further questions.

Yours truly,

  
Helen C. Watts, P.E.  
Principal



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*Civil and Structural Engineering*