



LEADING THE WAY
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Mr. Ross Wakefield
Covenant Solar Tech
E-mail: rossw@covenantsolar.com

April 11, 2022

Subject: Roof mounted solar panels – McKennies residence
372 Homestead Lane
Angier, North Carolina 27501

File No.: RB-227723

Dear Ross:

RB Engineering, Inc. is pleased to provide the following summary engineering letter concerning the subject project. The existing roof system is constructed with 2-inch by 6-inch timber rafters at 16 inches on center, an OSB roof deck and a composition asphalt shingle roof. There is rafter bracing in the attic. We have reviewed the proposed solar layout and have structurally evaluated the additional proposed roof loading with the following conclusions:

- The total surface area of the proposed solar array (18 PV modules) is approximately 350 SF. The solar panel installation has been evaluated for an ultimate design wind speed of 120 mph.
- The subject roof mounted PV system attachment method is structurally adequate to transfer the design uplift loads in accordance with the current North Carolina residential building code.
- The existing roof system is structurally adequate to transfer the applicable design loads - including the additional or modified design loading (dead, wind and snow loads) due to the proposed solar panel installation - in accordance with the current North Carolina residential building code.

Our services were provided in accordance with the standard of practice for structural engineering and within the limits imposed by scope, schedule, and budget. If you have any questions or if I can be of further assistance to you on this project, please contact me at (919) 677-9662.

Respectfully submitted,

Ron Bittler, PE
President / Structural Engineer
RB Engineering, Inc.

