ION Solar
4801 N University Ave. Suite 900
Provo, UT 84604
luke.rowley@ionsolar.com

Friday, August 11, 2023

RE: Morgan Prince Residence - 59 Doonbeg Drive, Fuquay varina, North Carolina

To Whom It May Concern:

I have evaluated the roof structural elements of the residence for the required design loads and the additional load that will be imposed by the proposed solar system. The existing roof information was provided by a site visit by an audit team at ION Solar. Based on that site visit, it is my understanding that the roof framing information is as follows:

Structural Framing Type:	Pre-Manufactured Wood Trusses with 2x4 Top Chords @ 24'' O.C.
Roofing Material:	Composition Shingle

The Required codes and loads are as follows:

Codes	2015 IBC, 2015 IRC, 2018 NORTH CAROLINA STATE CODES, Load Standard: ASCE 7-10
Risk Category:	II
Wind Speed (3-Sec Gust, MPH):	117, Exposure Category: B
Ground Snow Load (psf):	10
Roof Snow Load (psf):	10
Roof Live Load (psf):	20

After reviewing the existing roof framing information and in accordance with the structural calculations on sheet S-5 which were performed according to the applicable codes and loads above, it is my recommendation that the existing roof framing is adequate to safely and sufficiently support the required structural design loads and the weight of the new solar system as is. Alteration or replacement of existing structural elements is not required.

This evaluation only applies to the areas of the roof that will be directly supporting the solar system and does not make any recommendations for any other structural components of the building. The racking must be installed per the manufacturer's recommendations.

The 5/16" x 3-1/2" zinc plated steel lag screw used to attach the solar system to the roof must be staggered to evenly distribute the loads over the affected area and must penetrate the truss top chords with a minimum embedment depth of 2.5"

THIS LETTER VOID UNLESS STAMPED

Sincerely,
A. Luke Rowley, PE

08/14/2023