

RJB, P.E., P.A.

C-0269

ROBERT J. BRACKEN
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March 9, 2021

Harnett County Building Inspections
P.O. Box 65
Lillington, NC 27546

REF: Structural Inspection of Roof for
Solar Panel System
1876 NC 87 N
Vicky Olive, Don White Res.
Sanford, N C 27332

Dear Sir/Madam:

I made an onsite visit to the above referenced Residential site on November 24, 2020. The purpose of the visit was to examine the Roof structure to see if the roof will support the additional loading of a solar panel system.

The Solar Panel materials as follows:

Materials: #1) Heliene 96M480 Solar Panel weighting 83.4 lbs each x 21 =	1751.4lbs
#2 Iron Ridge XR100 Rail @ .68lbs/ft x 186ft =	126.48lbs
#3 Mounting Points @ 1.35lbs each x 42 =	<u>56.70lbs</u>
Total Weight of Solar Panel System	1934.58lbs

Calculations: The Area of the roof that the Solar Panel System will be placed is 747.5ft². The total weight of the PV system is 1934.58 lbs. Divide the total weight: 1934.58lbs by the roof area: 747.5 ft² you get an additional roof load of 2.60 lb/ft² which is less than the requirements set forth in the Department of Insurance State wide Uniform Requirement of Inspection Procedures for Solar Photovoltaic Systems Installed on Residential Rooftops. Option No. 2.

The Solar Panel System will not adversely effect the structural integrity of the roof structure and will adhere to the requirements set forth in the North Carolina Residential Building Code, 2018,ed. for roof loading.

If you have any questions, please feel free to contact me @ 919-774-6074.

Sincerely,

Robert J. Bracken

Robert J. Bracken, PE



RJB:jeb