

Structural Capacity, PC

STRUCTURAL CONSULTING GROUP

North Carolina Firm License Number – C3406



December 16, 2020

Titan Solar Power NC, Inc.
525 W. Baseline Road
Mesa, AZ 85210

Re: Lanning, Michael – TSP60522 (SCPC Project No. – 2020.26.3430)
55 Gamache Lane
Lillington, NC 27546

Titan Solar Power NC:

At the request of Titan Solar Power NC, Structural Capacity, PC (SCPC) has evaluated the roof structure at the above noted site to determine its adequacy to support the attachment of roof mounted solar arrays (3.5psf max). The residence is a pre-engineered manufactured home that has been designed for minimum Zone 2 wind loads (adequate for 140mph wind speed) and 20psf roof loads per HUD.

Each panel will be supported by (2) mounting rails, (1) at each end. The mounting legs of the solar panel racking will be attached directly to the roof primary framing members with a 5/16 inch (min) diameter lag screw. The installer shall use best practice construction methods to locate the lag screw in the center of each roof framing member. All wood members supporting PV modules should consist of sound lumber without significant signs of deterioration.

The mounting legs of the solar panel racking system shall be located at 4'-0" o.c. maximum. The mounting legs should be staggered at the primary framing member spacing at adjacent solar panel rails. The maximum rail cantilever span should be limited to 1'-0".

The existing roof structure at the above referenced site is adequate to support the solar panel loadings, as noted above, per the 2018 North Carolina Residential Code, if installed in accordance with the above stated conditions. The adequacy of the solar racking system and attachments to the roof structure are outside the scope of this letter and to be provided by solar panel and racking manufacturer, if required.

The roof conditions stated above should be field verified, by the installer, prior to construction. If any conditions are found in conflict with those stated above, SCPC should