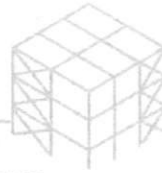


Structural Capacity, PC

STRUCTURAL CONSULTING GROUP

North Carolina Firm License Number – C3406



October 28, 2019

Ms. Melissa Darge
LuminaSun Smart Home, LLC
344 Rolling Hill Road
Mooresville, NC 28117

Re: Underhill, George (SCPC Project No. – 2019.08.2340)
295 Anderson Creek School Road
Bunnlevel, NC 28323

Dear Ms. Darge:

At the request LuminaSun Smart Home, LLC 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 1 wind loads 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 railing will be attached directly to the trusses 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 truss. 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

be made aware immediately for re-evaluation and report amendment, as applicable, before proceeding with solar panel installation.

Sincerely,

Structural Capacity, PC

Adrian S. Durham

Adrian S. Durham, PE, SE, LEED AP

Adrian S. Durham

