April 30, 2024

Lunex Power
6824 S Manhattan Ave
Tampa , FL 33616

RE Beacham Residence
138 SE Beech St, Lake City, FL 32025
Client Project #:138Beac
PFE Project #: 241807

On behalf of Lunex Power, Penn Fusion Engineering LLC (PFE) performed a structural analysis of the roof at the above referenced location. The purpose of our analysis was to determine if the existing roof system is structurally sufficient to support the new photovoltaic modules in addition to the code required design loads. Our analysis is based on the information provided by Lunex Power and is limited only to the areas where the modules are intended to be placed.

System Specifications
Panel Specs: (44) Hanwha - Q.PEAK DUO BLK ML-G10+/t 400W
Racking System: K2 - 44-X

The modules are to be located on the following roof planes:

Roof Planes						
Mounting Plane	**Member Size**	**Member Spacing**	**Horizontal Span**	**Sheathing**	**Roofing Type**	**Roofing Layers**
1	Truss	24"	29'-3"	CDX 1/2"	Asphalt Shingles	1
2	Truss	24"	29'-3"	CDX 1/2"	Asphalt Shingles	1

Design Criteria		
Building Code(s)	**Ground Snow P_g**	**Wind Speed V**
• 2023 Florida Building Code • 2023 Florida Residential Code • ASCE 7-16	0 psf	120 mph

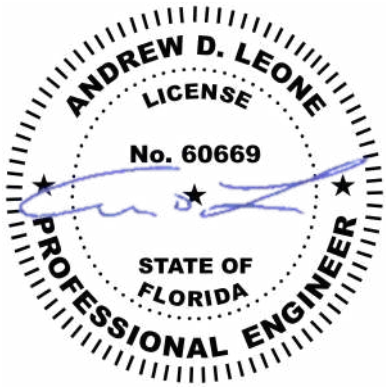
Analysis Results			
Mounting Plane	**Attachment Hardware**	**Max Attachment Spacing**	**Rafter Pass/Fail**
1	M5 x 60 Lag Bolt	48"	Pass
2	M5 x 60 Lag Bolt	48"	Pass

This office has determined that the existing roof as specified above will meet the structural requirements of the above referenced codes in addition to the PV load when installed in accordance with the manufacture's instructions.

If you have any questions regarding this analysis, please feel free to contact us.

Best Regards,
Penn Fusion Engineering, LLC

Andrew D. Leone, P.E.
Principal



04/30/2024

This item has been digitally signed and sealed by Andrew D. Leone on the date adjacent to the seal.

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Andrew D. Leone

Digitally signed by Andrew D. Leone
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