BARUN CORP

August 22, 2025

RE: CERTIFICATION LETTER

Project Address: ***GARRETT BAREFOOT***
29 SAWYER ML DR
DUNN, NC 28334

Design Criteria:

- Applicable Codes = 2018 NCSBC, 2018 NCSRC, 2018 IEBC/IBC/IRC, ASCE 7-16 and 2018 NDS
- Risk Category = II
- Wind Speed = 120 mph, Exposure Category C, Partially/Fully Enclosed Method
- Ground Snow Load = 15 psf
- ROOF 1: Roof DL = 7 psf, Roof LL/SL = 20 psf (Non-PV), Roof LL/SL = 9.7 psf (PV)

To Whom It May Concern,

A structural evaluation of loading was conducted for the above address based on the design criteria listed above.

Existing roof structural framing has been reviewed for additional loading due to installation of Solar PV System on the roof. The structural review applies to the sections of roof that is directly supporting the Solar PV System.

Based on this evaluation, I certify that the alteration to the existing structure by installation of the Solar PV System meets the prescriptive compliance requirements of the applicable existing building and/or new building provisions adopted/referenced above.

Additionally, the Solar PV System assembly (including attachment hardware) has been reviewed to be in accordance with the manufacturer's specifications and to meet and/or exceed the requirements set forth by the referenced codes.

Installer shall verify existing roof framing (including connection) is in suitable condition and does not exhibit any signs of structural damage or deficiency. Installer verification of the mounting planes noted above is required because some or all of the framing was not observed prior to the structural evaluation performed for this report.

Sincerely,

Avial Lumagui

Digitally signed by Avial Lumagui
Date: 2025.08.22 12:30:46 -04'00'

BARUN CORP	RESULTS SUMMARY
GARRETT BAREFOOT, 29 SAWYER ML DR, DUNN, NC 28334	

MOUNTING PLANE STRUCTURAL EVALUATION			
MOUNTING PLANE	**ROOF PITCH**	**RESULT**	**GOVERNING ANALYSIS**
ROOF 1	20°	**OK**	IEBC IMPACT CHECK

Limits of Scope of Work and Liability:

The existing structure has been reviewed based on the assumption that it has been originally designed and constructed per appropriate codes. The structural analysis of the subject property is based on the provided site survey data. The calculations produced for this structure's assessment are only for the roof framing supporting the proposed PV installation referenced in the stamped planset and were made according to generally recognized structural analysis standards and procedures. All PV modules, racking and attachment components shall be designed and installed per manufacturer's approved guidelines and specifications. These plans are not stamped for water leakage or existing damage to the structural component that was not accessed during the site survey. Prior to commencement of work, the PV system installer should verify that the existing roof and connections are in suitable condition and inspect framing noted on the certification letter and inform the Engineer of Record of any discrepancies prior to installation. The installer should also check for any damages such as water damage, cracked framing, etc. and inform the Engineer of Record of existing deficiencies which are unknown and/or were not observable during the time of survey and have not been included in this scope of work. Any change in the scope of the work shall not be accepted unless such change, addition, or deletion is approved in advance and in writing by the Engineer of Record. The Engineer of Record and Barun Corp claim no responsibility for misuse and improper installation.

BARUN CORP	LOAD CALCULATION
	ROOF 1
GARRETT BAREFOOT, 29 SAWYER ML DR, DUNN, NC 28334	

PV PANELS DEAD LOAD (PV-DL)	
PV Panels Weight	= 2.50 psf
Hardware Assembly Weight	= 0.50 psf
Total PV Panels Weight	**PV-DL = 3.00 psf**

ROOF DEAD LOAD (R-DL)			
Existing Roofing Material Weight	Composite Shingle Roof	1 Layer(s)	= 2.50 psf
Underlayment Weight			= 0.50 psf
Plywood/OSB Sheathing Weight			= 1.50 psf
Framing Weight			= 0.73 psf
No Vaulted Ceiling			= 0.00 psf
Miscellaneous			= 1.50 psf
Total Roof Dead Load			**R-DL = 6.70 psf**

REDUCED ROOF LIVE LOAD (Lr)	
Roof Live Load	Lo = 20.00 psf
Member Tributary Area	At < 200 ft^2
ROOF 1 Pitch	20° or 5/12
Tributary Area Reduction Factor	R1 = 1.00
Roof Slope Reduction Factor	R2 = 0.98
Reduced Roof Live Load, Lr = Lo (R1) (R2)	**Lr = 19.50 psf**

SNOW LOAD	
Ground Snow Load	pg = 15.00 psf
Effective Roof Slope	20°
Snow Importance Factor	Is = 1.00
Snow Exposure Factor	Ce = 1.00
Snow Thermal Factor	Ct = 1.10
Minimum Flat Roof Snow Load	pf-min = 0.00 psf
Flat Roof Snow Load	**pf = 11.60 psf**

SLOPED ROOF SNOW LOAD ON ROOF (Non-Slippery Surfaces)	
Roof Slope Factor	Cs-roof = 1.00
Sloped Roof Snow Load on Roof	**ps-roof = 11.60 psf**

SLOPED ROOF SNOW LOAD ON PV PANELS (Unobstructed Slippery Surfaces)	
Roof Slope Factor	Cs-PV = 0.83
Sloped Roof Snow Load on PV Panels	**ps-PV = 9.70 psf**

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IEBC IMPACT CHECK

ROOF 1

GARRETT BAREFOOT, 29 SAWYER ML DR, DUNN, NC 28334

	EXISTING	WITH PV PANELS	
Roof Dead Load (DL) =	6.70	9.70	psf
Roof Live Load (Lr) =	19.50	0.00	psf
Roof Snow Load (SL) =	11.60	9.70	psf

	EXISTING	WITH PV PANELS	
(DL + Lr)/Cd =	20.96	10.78	psf
(DL + SL)/Cd =	15.91	16.87	psf
Maximum Gravity Load =	20.96	16.87	psf

Load Increase (%) = -19.52% **OK**

The requirements of section 806.2 of 2018 IEBC are met and the structure is permitted to remain unaltered.