

May 12, 2023

Olympia Steel Buildings 400 Island Avenue McKees Rocks, PA 15136

Re: Job No.: <u>11017-31607</u> Joe Creech 815 Miller Rd Benson, NC 27504 Johnston

 WRF
 40'-0" W x 60'-0" L x 14'-0" EH
 Roof Slope 3.0:12
 Bldg_A

 Lean To
 14'-0" W x 60'-0" L x 10'-6"/14'-0" LSEH/HSEH
 Roof Slope 3.0:12
 Bldg_B

To whom it may concern:

In our professional opinion, the above referenced buildings have been designed to sustain no less than the requested design loads as listed on the order documents, applied per the **2018 North Carolina Building Code** specifically as follows:

Risk Category	II - N	ormal			
Dead Load	2.00 p	osf	(Building A & B)		
Collateral Load	1.00 p	sf (Misc.) (Building A & B)		
Sprinkler Load	0.00 p	sf `			
Roof Live Load	20.00 p	sf F	Reducible		
Rainfall Intensity	6.76 in/	hr 5	-year return period	5-minute dura	ation
Ground Snow Load	10.0 p	sf Ir	mportance Factor I _s = 1.	0 Exposure = 1	.0
Roof Snow Load	7.0 p	sf Th	nermal Factor $C_t = 1.0$	Slope Factor C	$s_s = 1.0$ Bldg_A
Roof Snow Load	8.4 p	sf Th	nermal Factor $C_t = 1.2$	Slope Factor C	$s_s = 1.0$ Bldg_B
Wind Speed Vult (3-sec g	ust) 11	9 mph	Importance Factor Is =	1.00 Expos	ure = 1.00
Wind Speed Vasd	į g	92 mph	Exposure = B		
Serviceability Wind Spee	ed 7	76 mph			
Internal Pressure Coeffic	ient ±	£0.18	Bldg-A		
Internal Pressure Coeffic	ient ±	0.55	Bldg-B		

Wind design is based on an **Enclosed for Building-A & Partially Enclosed for Building-B**. All building envelope accessories (windows, doors, etc.) not provided by the metal building fabricator must be designed to sustain no less than the same wind criteria as the building.

For components, cladding, and MWFRS, deflections involving wind are based on 10-year serviceability wind pressures.

Seismic Importance Factor le = 1.0000Spectral Response Acceleration, S_s = 0.9010Spectral Response Acceleration, S₁ = 0.2690Seismic Design Category = C

Design Spectral Response, $S_{DS} = 0.6845$ Design Spectral Response, $S_{D1} = 0.3698$ Site Class = D



Seismic Force-Resisting System

H. Steel Systems not Specifically Detailed for Seismic Resistance

Framing Direction	Lateral	Longitudinal	
Response Modification Factor:	3.0	1.25	(Building-A)
Deflection Amplification :	3.0	1.25	(Building-A)
Seismic Response Coeff. Cs :	0.0626	0.1503	(Building-A)
Design Base Shear V :	1.06 kips	2.24 kips	(Building-A)
Response Modification Factor:	3.0	3.0	(Building-B)
Deflection Amplification :	3.0	3.0	(Building-B)
Seismic Response Coeff. Cs :	0.0626	0.0626	(Building-B)
Design Base Shear V :	0.38 kips	0.21 kips	(Building-B)
Analysis Procedure : Equivalent L	ateral Force		
G2-Cantilevered Column System			

Other Loads:

1.Building B is supported by A.

Design is in accordance with the AISI S100-12 North American Specification for the Design of Cold-Formed Steel Structural Members, the AISC 360-10 Specification for Structural Steel Buildings, the AWS D1.1-2020 Structural Welding Code - Steel, the AWS D1.3-2018 Structural Welding Code - Sheet Steel, and generally accepted engineering practices.

The engineer whose seal and signature appears on these documents represents Whirlwind Steel Buildings, Inc and is not the Engineer of Record (EOR) for the overall construction project. It is expressly noted that this letter of professional opinion includes only the steel building as designed and furnished by Whirlwind Steel Buildings, Inc. and specifically excludes all accessories, anchor rods, foundation, masonry, general contract work, or any field modifications deviating from the Whirlwind construction documents.

Sincerely,

J. Walter Lewis, PE

