

iRoofA™ Structural Analysis Software

Data Input Check

***** No Roof Framing Changes are Required *****

Project Information

10/29/2025 19:10

Project	Don Lennard, 2619 Sw Firefly Ln, Lee'S Summit, MO 64082		
Project No.	95.1097	Client ID	25. Solera Energy Llc
Project Manager	Saurav	Email	design@rscadgroup.com

Site

Exposure Category	B	Exposure Category (ASCE 7-16 Table 26.7.3, Page 274)
Occupancy Category	II	Building Use Occupancy / Risk Category (ASCE 7-16 Table 1.5-1, Page 5)

Code Check

IBC	2018	State Res Code	2018 IRC
ASCE	ASCE 7-16	NEC	2017
Blg Codes to reference	2018 IBC, 2018 IRC		

Environmental

Wind Loading	109	mph - ASCE 7-16, Figure 26.5-1 A, B or C, pp 249-251. [(109 mph, 50 year wind MRI)]
Snow Loading	20.0	psf - Ground Snow Load pg (ASCE 7-16 Table 7.2-1, Page 56-60)

Equipment

Item	Manufacturer	Model	Quantity
PV Module	VSUN	VSUN440N-108BMH-BB	21
PV Inverter	Hoymiles	HMS-700-2T-NA (240V)	11
Stanchion	K2-Systems	EverFlash XP L-Foot - Rafter, 2 Bolts	
Rail / Rack	K2-Systems	CrossRail 44-X	

Electrical

Total DC Watts	9,240	w
Total Inverter Amperage	32.12	A
Min OCPD rating	40.2	A
Recommended OCPD	45	A
Min Cu 75 deg C wire	#8	AWG

per NEC 240.6 OCPD Ratings

Individual Inverter Min Wiring		
Inv 1		
#8		

Building Conditions

Framing Condition # and Name	Analysis Type	OC Spacing (in)	Max # bays / stanchion location	Roof Average Height	Plan View Length of Building Section	Plan View Width of Building Section	Ex Collar Tie / Knee Wall Height	Roof Shingle or Surface Material	Roof Shape
1: MP 1	Framing	16.00	3	13.90	40.00	21.00	N/A	Standard	Gable

PV Module Lift Conditions

Framing Condition # and Name	Roof Zone Lift (psf)			Total # Modules	Total PV Weight lb	Edge Width 'a' ft
	1	2r	2e,3			
1: MP 1	-19.66	-25.47	-25.47	2	98	3.00

PV Module Dimensions

Length mm	Width mm
1,722	1,134

Mechanical Test Load Criteria

	Roof Zone		
	1	2r	2e,3
Rear TEST in Pa	2400	2400	2400
Min. rear DESIGN Pa	1600	1600	1600
Min. upward lift in psf	-19.66	-25.47	-25.47
Min. upward lift in Pa	411	532	532
Check by Roof Zone	OK	OK	OK

Stanchion Spacing and # Rails

K2-Systems EverFlash XP L-Foot - Rafter, 2 Bolts

Orientation	Landscape			Portrait			
	Zones	1	2r	2e,3	1	2r	2e,3
Spacing / # Rails		4.00' / 2	4.00' / 2	4.00' / 2	4.00' / 2	4.00' / 2	4.00' / 2