PV SYSYEM STRUCTURAL PLAN

Contractor is responsible to verify the fit of this array prior to installation. The solar module array shown is based on the field data provided by the contractor. Contractor shall contact the engineer if the array may not fit as projected. Satellite imagery shown may not correctly indicate potential current shading of property. Contractor is responsible to verify sun exposure and shading of installation prior to installation.

Engineer liability for error/omission/FBC 2020 (7th edition Florida Building Code) & NEC 2017 is limited by adequacy and accuracy of information provided to engineer by owner/contractor and by responsibilities per EJCDC® C-700, Standard General Conditions of the Construction Contract. Copyright © 2013 National Society of Professional Engineers, American Council of Engineering Companies, and American Society of Civil Engineers.

CODE

FBC 2020 (7TH EDITION) FLORIDA BUILDING CODE

I CERTIFY THAT THE SHEATHING & FRAMING OF THIS STRUCTURE WILL SAFELY ACCOMMODATE PV SYSTEM MOUNTING, RACKING, AND MODULES AND WITHSTAND WIND UPLIFT / LATERAL FORCES AND EQUIPMENT DEAD LOADS WITH THE CONDITION THAT CONTRACTOR'S INSTALLATION OF THE PV SYSTEM IS IN ACCORDANCE WITH THE INSTRUCTIONS ON THIS PLAN . THIS IS ATTESTED TO BY MY SIGNATURE AND SEAL ON THIS PLAN AT THE UPPER RIGHT.

ENGINEER
ALPER ICELI
FL 90469
3753 LOCKRIDGE DR.
LAND O LAKES, FL 34638
(813) 406-7060
alper@iceli-pe.com

ALPER ICELI LICENSE No. 90469 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Alper Iceli, PE, on date shown above.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

Alper Iceli 2021.10.22 09:56:16-04'00'

NAME OF OWNER: ZIMMERMAN ROBERT A
ADDRESS: 181 NW SUNTILT CT
WHITE SPRINGS, FL 32096
PROPERTY ID#: 14-2S-15-00053-000 (99)

CONTRACTOR:

Sky Solar Energy Inc.
40415 Chancey Rd.
Unit #104 Zephyrhills,FL 33542
352-443-6580
EC 13010029

SKYSOLAR-ZIMMERMAN

STRUCTURAL
OCT.22-21

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- NO OTHER USE MAY BE MADE OF THE INFORMATION, DRAWINGS, OR IDEAS WITHOUT THE EXPRESS, WRITTEN PERMISSION OF ALPER ICELI, PE.

INSTALLATION NOTES

- **THIS PAPER PLAN IS INTENDED TO PROVIDE THE ESSENTIAL INFORMATION NEEDED BY AHJ (AUTHORITY HAVING JURISDICTION) AND INSTALLERS.**
- THIS IS A COMBINED SET OF STRUCTURAL AND ELECTRICAL PLANS.
- SOLAR EQUIPMENT ADDS LESS THAN 3 PSF (UNFACTORED) GRAVITY LOAD TO STRUCTURE.
- MODULE GRAVITY & WIND LOADS SHALL BE TRANSMITTED TO RIBS OF PURLIN BREARING 'R' (PBR) ROOFING METAL OR STANDING SEAMS OF ROOFING METAL USING S-5 CLAMPS/BRACKETS SHOWN HEREON.
- SEE DRAWINGS FOR MEANS & METHODS INFORMATION IN ADDITION TO THESE NOTES.
- CONTRACTOR SHALL INSTALL S5 CLAMPS PER OEM INSTRUCTIONS.
- CONTRACTOR SHALL INSTALL RAILS PERPENDICULAR TO STANDING SEAMS OR PBR RIBS ON IRONRIDGE XR100 RAILS ON TOP OF S5 CLAMPS.
- CONTRACTOR TO ENSURE CONTINUITY OF ALL METAL PARTS AND CONNECTIONS OF THIS INSTALLATION TO BE ELECTRICALLY GROUNDED AND BONDED TOGETHER. TORQUE ALL S-5 SET SCREWS TO 115-INCH-POUNDS.
- ADJUST C-C SPACING PLUS MINUS UP TO 4-INCHES TO HIT PBR METAL ROOF RIDGES.
- CONTRACTOR SHALL NOT INSTALL ROOF ATTACHMENTS ON ROOF AREAS OVER OVERHANGS.
- THERE SHALL BE A PV MODULE TO RAIL MOUNTING CLAMP AT EVERY MODULE/RAIL CROSSING POINT WITH MINIMUM 4 CLAMPS PER MODULE.
- ADJOINING MODULES ON SAME RAIL SHALL SHARE CLAMPS.
- MODULES SHALL BE PORTRAIT.
- ROOF IS ASSUMED TO BE COMPLIANT WITH FBC (FLORIDA BUILDING CODE) AS OF TIME OF CONSTRUCTION.
- THERE SHALL BE A MINIMUM OF TWO RAILS UNDER EACH PV MODULE.
- ROOF ATTACHMENT SPACING SHALL BE AS SHOWN IN FIGURE 08.
- RAILS SHALL NOT CANTILEVER BEYOND OUTSIDE END OF ROOF ATTACHMENT BY MORE THAN 1-FOOT.
- CONTRACTOR/INSTALLER SHALL COMPLY WITH OEM INSTALLATION INSTRUCTIONS.
- IF A CONFLICT SHOULD OCCUR BETWEEN A DRAWING AND/OR SPECIFICATION HEREON AND AN OEM DETAIL, OEM SHALL PREVAIL.
- CONTRACTOR SHALL PROVIDE AHJ WITH ADDITIONAL INFORMATION AS REQUIRED.
- ENGINEER OF RECORD (EOR) PREFERS EMAIL COMMUNICATION: alper@iceli-pe.com

01 NOTES
SCALE: N/A

ASCE 7-16, 29.4-7	GABLE ROOF 7 < Θ < 20			Θ	12	°		·13.26 kW DC SYSTEM. ·39-69." X 40." PV MODULES. ·753 SF PV ARRAY INSTALLATION ·PV MODULE UPLIFT LOAD CAPACITY: 55 PSF (AS REPORTED BY MANUFACTURER) ·UNFACTORED AVERAGE ADDITIONAL GRAVITY LOAD: 2.5 PSF ·TOTAL NUMBER OF ROOF ATTACHMENTS: 85
Exposure Category:		B		h2	0.38	FT.		
Risk Category:		2		Lp	5.71	FT.		
Mean Roof Height:	h	12	FT.	1.5 Lp	8.56	FT.		
Basic Wind Speed (mph):	V	116	MPH	Wp	3.38	FT.		
Ground elevation factor:	Ke	1		ω	0	°		
Topographic Factor:	Kzt	1		B	30	FT.		
Gust Effect Factor:	G	0.85		L	65	FT.		
Directionality Factor:	Kd	0.85		A	19.3	SF.		
Velocity Pressure Exposure Coefficient:	Kz	0.57		'Ya	0.67			
	qh	16.7	PSF	a	5	FT.		
ZONE	d1 (ft.)	d2 (ft.)						p (PSF)
ALL	-	-	-	GCp	0.45	'YE	1	5.0
1, 2e	1	0.25	d1<h/2	GCp	-2.00	'YE	1	-22.4
2n, 2r, 3e	10	0.25	d1>h/2	GCp	-2.60	'YE	1.5	-43.6
3r	3	0.25	d1<h/2	GCp	-3.15	'YE	1	-35.2

02 WIND LOAD CALCULATIONS
SCALE: N/A

9/17/2021 ATC Hazards by Location

ATC Hazards by Location

Search Information

Address:	181 NW Suntilt Ct, White Springs, FL 32096, USA
Coordinates:	30.3191496, -82.7944718
Elevation:	97 ft
Timestamp:	2021-09-17T11:56:00.303Z
Hazard Type:	Wind

ASCE 7-16		ASCE 7-10		ASCE 7-05	
MRI 10-Year	73 mph	MRI 10-Year	76 mph	ASCE 7-05 Wind Speed	100 mph
MRI 25-Year	82 mph	MRI 25-Year	84 mph		
MRI 50-Year	88 mph	MRI 50-Year	90 mph		
MRI 100-Year	96 mph	MRI 100-Year	97 mph		
Risk Category I	107 mph	Risk Category I	108 mph		
Risk Category II	116 mph	Risk Category II	117 mph		
Risk Category III	127 mph	Risk Category III-IV	126 mph		
Risk Category IV	⚠ 130 mph				

You are in a wind-borne debris region if you are also within 1 mile of the coastal mean high water line.

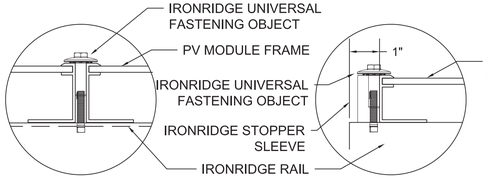
The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

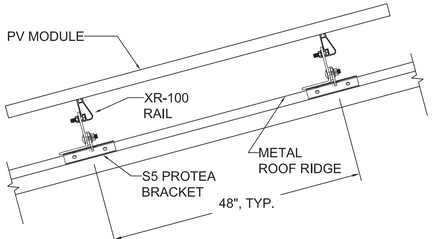
Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

05 DESIGN WIND SPEED
SCALE: NTS

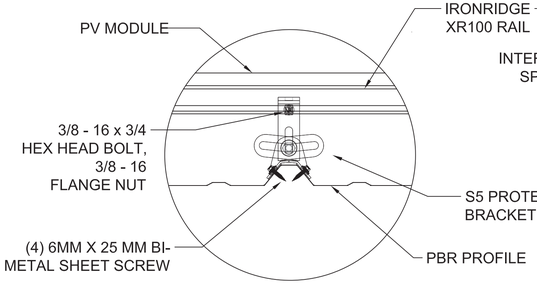


03 DETAIL, MID CLAMP FRONT
SCALE: NTS

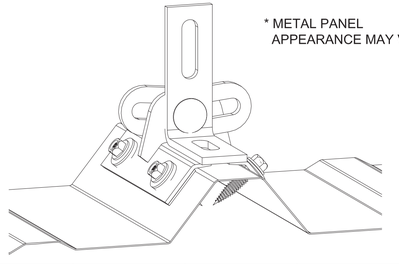
04 DETAIL, END CLAMP FRONT
SCALE: NTS



06 MODULE, RAIL, ROOF ATTACHMENT CROSS SECTION
SCALE: NTS



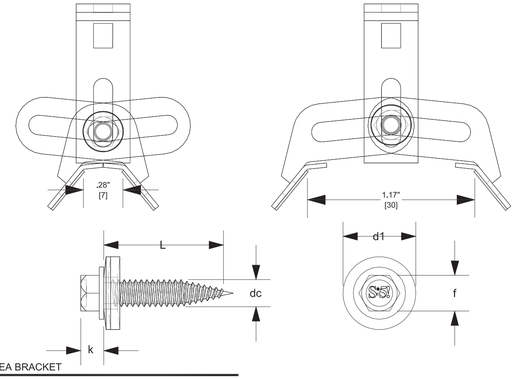
07 ROOF ATTACHMENT DETAIL
SCALE: NTS



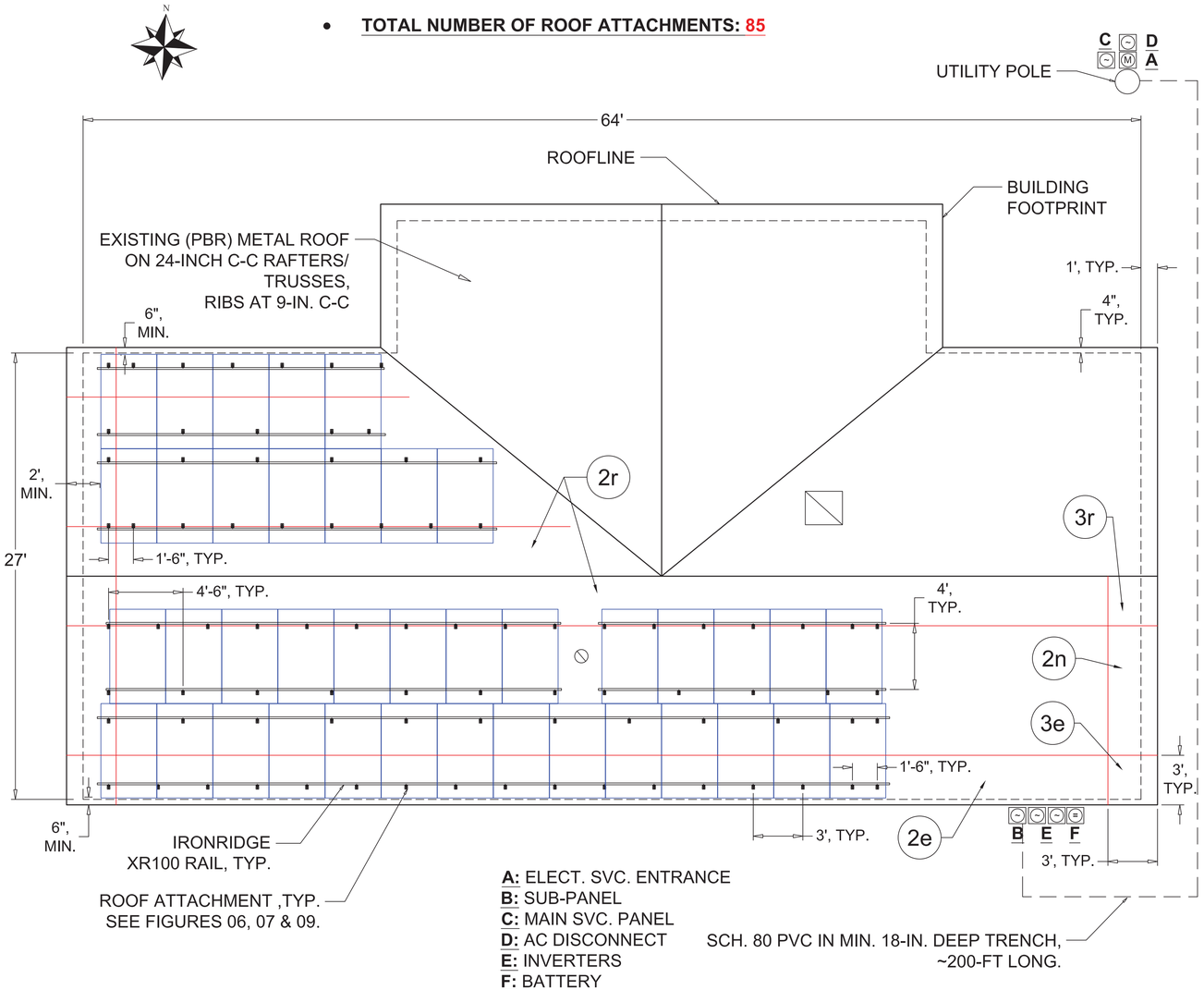
* METAL PANEL APPEARANCE MAY VARY.

	k	dc	L	d1	f
MM	5.5	6	25	16	8
INCH	.22	.24	1	.63	.30

6mm X 25mm (8mm Hex W/16mm Washer)



09 S5 PROTEA BRACKET
SCALE: NTS



- **TOTAL NUMBER OF ROOF ATTACHMENTS: 85**

A: ELECT. SVC. ENTRANCE
B: SUB-PANEL
C: MAIN SVC. PANEL
D: AC DISCONNECT
E: INVERTERS
F: BATTERY

08 PLAN VIEW
SCALE: 1/4" = 1'-0"

PV SYSYEM W/ BATTERY BACKUP ELECTRICAL PLAN

THIS PLAN IS CERTIFIED BY ENGINEER OF RECORD AS CODE COMPLIANT & APPROVED FOR FLORIDA USE IN ACCORDANCE WITH HB 1021 ON ELECTRICAL PLANS.
https://www.flsenate.gov/Session/Bill/2017/01021

SYSTEM: 39-Q CELLS Q.PEAK DUO BLK-G6+ 340 PV MODULES
2-GENERAC PWRCELL X7602 INVERTERS
1-GENERAC PWRCELL 18 KWH BATTERY

CONTRACTOR SHALL COMPLY WITH SOLAR PROVISIONS 2018 NFPA 1.

1. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR RESPONSIBLE FOR COMPLYING WITH ALL LOCAL OR NATIONAL CODE REQUIREMENTS AND EQUIPMENT INSTALLATION INSTRUCTIONS.
2. ALL COMPONENTS MUST BE GROUNDED PER ARTICLES NEC (2017) 250 AND 690.
3. ALL EQUIPMENT SHALL BE LISTED PER NEC 690.4(B).
4. PER NEC 690.17, PROVIDE A WARNING SIGN AT ALL LOCATIONS WHERE TERMINALS OF THE DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION. SIGN SHALL READ "WARNING- ELECTRIC SHOCK HAZARD- DO NOT TOUCH TERMINALS- OR EQUIVALENT.
5. PER NEC 690.56, PROVIDE A PERMANENT PLAQUE OR DIRECTORY SHOWING ALL ELECTRIC POWER SOURCES ON THE PREMISES AT SERVICE ENTRANCE.
6. INTERCONNECTION METHOD SHALL COMPLY WITH NEC (2017) 705.12.
7. PV PERFORMANCE METER MAY OR MAY NOT BE REQUIRED BY THE AHJ AND/OR UTILITY FOR INTERCONNECTION.
8. ALL CONDUCTORS MUST BE COPPER, RATED FOR 600 V, 90 C° WET ENVIRONMET, TERMINALS ARE RATED FOR 75 C°.
9. UTILITY CONNECTION SHALL BE MADE BY LINE-SIDE TAP PER NEC ARTICLE 705.12(A) AND 705.31, LOCATED INSIDE PANEL BOARD ENCLOSURE USING UNUSED TERMINALS, TERMINALS THAT ARE SUITABLE FOR DOUBLE LUGGING, OR USING OTHER LOCALLY-APPROVED METHODS AND HARDWARE, IN COMPLIANCE WITH NEC 705.12(A). THE PANEL BOARD SHALL HAVE SUFFICIENT SPACE TO ALLOW FOR ANY TAP HARDWARE AS REQUIRED BY NEC 110.3 AND NEC 312.8(A).
10. PV SYSTEM DISCONNECT SHALL BE A VISIBLE KNIFE-BLADE TYPE DISCONNECT THAT IS ACCESSIBLE AND LOCKABLE BY THE UTILITY. THE DISCONNECT SHALL BE LOCATED WITHIN 5 FT OF UTILITY METER. DISCONNECT SHALL BE GROUPED IN ACCORDANCE WITH NEC 230.72
11. ALL CONDUCTORS MUST BE COPPER.
12. ALL CONDUCTORS AND RACEWAYS SHALL BE SUPPORTED ON INTERVALS AND BY METHODS REQUIRED BY NEC (2017).
13. CONTRACTOR SHALL PROVIDE ADDITIONAL INFORMATION IF REQUIRED BY AHJ.
14. EOR PREFERS EMAIL COMMUNICATIONS
alper@iceli-pe.com

01 ELECTRICAL NOTES.
SCALE:NTS

VOLTAGE DROP CALCULATIONS (39 PV MODULES)											
VD=2*L*R*I / 1000											
PV LINK	MODULES	WIRE RUN	Vmp	Imp (AMPS)	Ampacity (AMPS)	R (ohms)	L (ft)	VD	% VD	AWG WIRE SIZE	OCPD (AMPS)
#1 (INV. #1)	7	BRANCH TO COMBINER	380	7.00	8.75	2.01	50	1.41	0.37	#12	N/A
#2, (INV. #1) #3, #4, #5 (INV. #2)	8	BRANCH TO COMBINER	380	8.00	10.00	2.01	50	1.61	0.42	#12	N/A
(INV.#1) MPP1	15	COMBINER TO INVERTER	380	15.00	18.75	0.786	20	0.47	0.12	#8	1x30
(INV. #2)	24	COMBINER TO INVERTER	380	24.00	30.00	0.786	20	0.75	0.20	#8	1X30
(INV. #1 & #2)	32	INVERTER TO SUB-PANEL	240	32.00	40.00	0.786	10	0.50	0.21	#8	50
	64	SUB PANEL TO AC DISCONNECT	240	64.00	80.00	0.160	200	4.10	1.71	#1	100
	64	AC DISCONNECT TO INTERCONNECTION	240	64.00	80.00	0.160	10	0.20	0.09	#1	80

INVERTER RATINGS		
INVERTER MAKE	GENERAC	
INVERTER MODEL	PWRCELL X7602	
RATED OUTPUT POWER	7600	W
MAX. INPUT POWER	15000	WDC
NOMINAL AC VOLTAGE	240	V
MAX. INPUT VOLTAGE	420	V
MAX. CONT. OUTPUT CURRENT	32	A
MPPT VOLTAGE RANGE	360-420	V
CEC INVERTER EFFICIENCY	96.5	%

PHOTOVOLTAIC DC PER OPTIMIZER (PV LINK)		
RATED MPP CURRENT	8	A
RATED MPP VOLTAGE	60-360	V
MAX. OUTPUT VOLTAGE	420	V
NOMINAL OUTPUT VOLTAGE	380	V
MAX INPUT SHORT CURCUIT CURRENT	18	A

PV MODULE RATINGS		
MODULE MAKE	Q CELLS	
MODULE MODEL	Q.PEAK DUO BLK-G6+ 340	
MAX. POWER	340	W
OPEN CIRCUIT VOLTAGE	40.24	V
VOLTAGE AT MPP	33.45	V
CURRENT AT MPP	10.16	A
SHORT CURCUIT CURRENT	10.68	A

PHOTOVOLTAIC DC OUTPUT INVERTER #1		
NOMINAL DC VOLTAGE	380	V
PV LINK 1 AC OUTPUT CURRENT	7	A
PV LINK 2 AC OUTPUT CURRENT	8	A

PHOTOVOLTAIC DC OUTPUT INVERTER #2		
NOMINAL DC VOLTAGE	380	V
PV LINK 3 AC OUTPUT CURRENT	8	A
PV LINK 4 AC OUTPUT CURRENT	8	A
PV LINK 5 AC OUTPUT CURRENT	8	A

02 SPECIFICATIONS, CALCULATIONS
SCALE:NTS

WARNING: PHOTOVOLTAIC POWER SOURCE

- ALL PLAQUES AND SIGNAGE REQUIRED BY 2017 NEC AND 2018 NFPA 1 WILL BE INSTALLED AS REQUIRED.
- LABELS, WARNING(S) AND MARKING SHALL COMPLY WITH ANSI Z535.4, WHICH REQUIRES THAT DANGER, WARNING, AND CAUTION SIGNS USED THE STANDARD HEADER COLORS, HEADER TEXT, AND SAFETY ALERT SYMBOL ON EACH LABEL. THE ANSI STANDARD REQUIRES A HEADING THAT IS AT LEAST 50% TALLER THAN THE BODY TEXT, IN ACCORDANCE WITH NEC 110.21(B).
- A PERMANENT PLAQUE OR DIRECTORY SHALL BE INSTALLED PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS IF NOT IN THE SAME LOCATION IN ACCORDANCE WITH NEC 690.56(B)
- LABEL(S) WITH MARKING, "TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM," SHALL BE LOCATED WITHIN 3 FT OF SERVICE DISCONNECTING MEANS THE TITLE SHALL UTILIZE CAPITALIZED LETTERS WITH A MINIMUM HEIGHT OF 3/8" IN BLACK ON A RED BACKGROUND, AND REMAINING TEXT SHALL BE CAPITALIZED WITH A MINIMUM HEIGHT OF 3/16" IN BLACK ON WHITE BACKGROUND.

WARNING
ELECTRICAL SHOCK HAZARD,
IF A GROUND FAULT IS INDICATED, NORMALLY GROUNDED CONDUCTORS MAY BE UNGROUNDED AND ENERGIZED.
LABEL PLACEMENT: COMBINER & INVERTER

WARNING
ELECTRICAL SHOCK HAZARD.
DO NOT TOUCH TERMINALS.
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION.
LABEL PLACEMENT: AC DISCONNECT, NEAR BREAKER, (FRONT OF PANEL / DEAD FRONT)

WARNING
DUAL POWER SOURCES.
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM.
LABEL PLACEMENT: MAIN PANEL NEAR METER

EMERGENCY RESPONDER
THIS SOLAR PV SYSTEM IS EQUIPPED WITH RAPID SHUTDOWN
TURN RAPID SHUTDOWN SWITCH TO THE 'OFF' POSITION TO SHUT DOWN THE ENTIRE PV SYSTEM.
SOLAR ELECTRIC PV PANELS
NFPA 111,12.2,1.1.1,1,11,12.2,1.4 AND NEC 690.56(C)(1)
LABEL PLACEMENT: PV AC DISCONNECT,INTERCONNECTION, MAIN SERVICE PANEL

PHOTOVOLTAIC SYSTEM EQUIPPED WITH RAPID SHUTDOWN
LABEL PLACEMENT: DC DISCONNECT/INVERTER

WARNING
ELECTRIC SHOCK HAZARD
THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED
LABEL PLACEMENT: DC DISCONNECT/INVERTER

IN CASE OF EMERGENCY CALL
SKYSOLAR, INC.
352-443-6580
LABEL PLACEMENT: PV AC DISCONNECT,INTERCONNECTION, MAIN PANEL

WARNING
DC SHOCK HAZARD.
V_{MAX} : 420 V
V_{MPP} : 380 V
I_{MAX}: 30 A
I_{MMP}: 15 A
I_{MMP2}: 24 A
LABEL PLACEMENT: COMBINER BOX

WARNING
ELECTRICAL SHOCK HAZARD.
NO USER-SERVICABLE PARTS INSIDE.
CONTACT AUTHORIZED SERVICER FOR ASSISTANCE.
LABEL PLACEMENT: AC DISCONNECT, PCP

PV AC DISCONNECT
V_{OPT} : 240 V
I_{OPT} : 64 A
LABEL PLACEMENT: PV AC DISCONNECT

PHOVOLTAIC POWER SOURCE
LABEL PLACEMENT: RACEWAY & COMBINER BOX

03 LABELS
SCALE:NTS

NEC 2017, TABLE C.11 MAXIMUM NUMBER OF CONDUCTORS OR FIXTURE WIRES IN RIGID PVC CONDUIT, SCHEDULE 40 AND HDPE CONDUIT (TYPE PVC SCH. 40)

NEC 2017, TABLE C.3 MAXIMUM NUMBER OF CONDUCTORS OR FIXTURE WIRES IN FLEXIBLE METAL CONDUIT (FMC)

NEC 2017, TABLE C.5 MAXIMUM NUMBER OF CONDUCTORS OR FIXTURE WIRES IN LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT (TYPE LFNC-B*)

PV MODULES @ 340 WATTS STC
39 MODULES, 2 INVERTERS = 13620 WATTS STC

INVERTER #1, 2 PV LINKS, 15 PV MODULES

INVERTER #2, 3 PV LINKS, 24 PV MODULES

TO UTILITY GRID
BI-DIRECTIONAL UTILITY METER
ENCLOSURE SEE NOTE #9
LINE-SIDE TAP, INSULATION PIERCING, E.G. ILSCO KUP-L-TAP IPC OR EQUAL. SEE NOTE #9
L1 L2 N
200A
EXISTING AC DISTRIBUTION PANEL 120/240V, 1ϕ, 200A PANEL 200A MAIN BREAKER
GEC
(3) #1 THWN-2 CONDUCTORS 1 1/4" PVC OR LNFC.
(3) #1 THWN-2 CONDUCTORS (1) #6 THWN-2 GROUND FOR EXTERIOR APPLICATION 1 1/4" PVC OR LNFC.
LOCKABLE FUSED PV AC DISCONNECT, 100A, 240V, 2-POLE 80A RK-1 FUSES. SEE NOTE #10
LOCATED WITHIN 5 FT OF UTILITY METER, NEUTRAL BONDED TO GROUND
(3) #1 THWN-2 CONDUCTORS (1) #6 THWN-2 GROUND IN 1 1/4" SCH. 80 PVC IN MIN. 18-IN. DEEP TRENCH.
PV PERFORMANCE METER. (SEE NOTE #7)
AFG BFG BFG AFG
~200 FT.
100A
50A
50A
N
G
SUB-PANEL (LOAD CENTER) 125A RATED, 120/240V AC
100A
BACK-UP LOADS PANEL 125A RATED, CIRCUIT BREAKER TYPE QO, 120/240V AC
(3) #6 THWN-2 CONDUCTORS (1) #10 THWN-2 GROUND IN 3/4" FMC OR EMT, FOR EXTERIOR APPLICATION 1" LFNC.
CTs (CAT5)
PWRCELL 7.6kW INVERTER (APKE00014)
GENERAC POWER CORE
30A
50A
CTRL
(3) #6 THWN-2 CONDUCTORS (1) #10 THWN-2 GROUND IN 3/4" FMC OR EMT, FOR EXTERIOR APPLICATION 1" LFNC.
PV WIRE FREE IN AIR OR IN 1/2" LFNC CONDUIT 12 AWG CU WIRE EACH POSITIVE, NEGATIVE 6 BARE COPPER EGC, TYP.
DC nanogrid REbusTM
(2) #8 THWN-2 CONDUCTORS (1) #10 THWN-2 GROUNG IN 3/4" FMC OR EMT, FOR EXTERIOR APPLICATION 1" PVC OR LNFC.
COMBINER BOX, 600 V, NEMA 3R UL LISTED, TYP.
Ethernet (CAT5)
EGC & GEC BOND AT RACKING SYSTEM, SEE NOTE #2
PV Link
RS
STRING #1 7 MODULES
STRING #2 8 MODULES
STRING #3 8 MODULES
STRING #4 8 MODULES
STRING #5 8 MODULES
GENERAC PWRCELL 18 KWh BATTERY
ROUTER
(2) #8 THWN-2 CONDUCTORS (1) #10 THWN-2 GROUNG IN 3/4" FMC OR EMT, FOR EXTERIOR APPLICATION 1" PVC OR LNFC.
MODULES AND RACKING GROUNDED INDEPENDENTLY TO BARE COPPER WIRE VIA LAY-IN LUGS, OR GROUNDED WITH WEEB WASHERS OR UL 2703 COMPLIANT RACKING PER NEC 250.4(B) AND PART III OF NEC ARTICLE 250
* CONTRACTOR SHALL INSTALL A SUPPLEMENTAL GROUNDING ELECTRODE AT PV ARRAY LOCATION

04 ELECTRICAL DIAGRAM
SCALE:NTS

NATIONAL ELECTRICAL CODE, NEC (2017)
ENGINEER
ALPER ICELI
FL 90469
3753 LOCKRIDGE DR.
LAND O LAKES, FL 34638
(813) 406-7060
alper@iceli-pe.com

ALPER ICELI LICENSE No. 90469 STATE OF FLORIDA PROFESSIONAL ENGINEER

This item has been digitally signed and sealed by Alper Iceli, PE, on date shown above.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

NAME OF OWNER: ZIMMERMAN ROBERT A
ADDRESS: 181 NW SUNTILT CT
WHITE SPRINGS, FL 32096
PROPERTY ID#: 14-2S-15-00053-000 (99)

CONTRACTOR:
Sky Solar Energy Inc.
40415 Chancey Rd.
Unit #104 Zephyrhills,FL 33542
352-443-6580
EC 13010029

SKYSOLAR-ZIMMERMAN

ELECTRICAL
OCT.22-21

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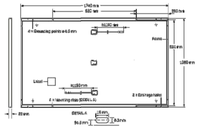
MECHANICAL SPECIFICATION

Format	1740 mm × 1030 mm × 32 mm (including frame)
Weight	≤ 8.8 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction box	63-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥ 1150 mm, (-) ≥ 1150 mm
Connector	Stäubli MC4, Amphenol UTX, Renne DS-6, Tongling TL-Cable/LB, JMTHY JMBOL IP68 or Friends PV2a IP67


1740mm
1030mm
Load
Isolation
Insulation
Insulation
Insul