WYSSLING CONSULTING
CORPORATE EXPERIENCE WITH SMALL BUSINESS VALUE
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June 23, 2022
revised September 29, 2022

Parker Schram
365 Solar
3524 Bost Street
Charlotte, NC 28208

SCOTT E WYSSLING, PE

Digitally signed by SCOTT E WYSSLING, PE
DN: C=US, S=Utah, L=Alpine, O=Wyssling Consulting, OU=Owner, CN="SCOTT E WYSSLING, PE", E=swyssling@wysslingconsulting.com
Reason: I am the author of this document
Location: your signing location here
Date: 2022-09-30 12:27:48
Foxit PhantomPDF Version: 9.7.5

Re: Engineering Services
Hall Residence
147 Kensington Drive, Spring Lake, NC
7.600 kW System

To Whom It May Concern:

We have received information regarding solar panel installation on the roof of the above referenced structure. Our evaluation of the structure is to verify the existing capacity of the roof system and its ability to support the additional loads imposed by the proposed solar system.

A. Site Assessment Information

1. Site visit documentation identifying attic information including size and spacing of framing for the existing roof structure.
2. Design drawings of the proposed system including a site plan, roof plan and connection details for the solar panels. This information will be utilized for approval and construction of the proposed system.

B. Description of Structure:

Roof Framing: Prefabricated wood trusses at 24" on center. All truss members are constructed of 2x4 dimensional lumber.
Roof Material: Composite Asphalt Shingles
Roof Slope: 30 degrees
Attic Access: Accessible
Foundation: Permanent

C. Loading Criteria Used

- **Dead Load**
  - Existing Roofing and framing = 7 psf
  - New Solar Panels and Racking = 3 psf
  - TOTAL = 10 PSF
- **Live Load** = 20 psf (reducible) – 0 psf at locations of solar panels
- **Ground Snow Load** = 10 psf
- **Wind Load** based on ASCE 7-10
  - Ultimate Wind Speed = 120 mph (based on Risk Category II)
  - Exposure Category C

Analysis performed of the existing roof structure utilizing the above loading criteria is in accordance with the North Carolina Residential Code (2018), including provisions allowing existing structures to not require strengthening if the new loads do not exceed existing design loads by 105% for gravity elements and 110% for seismic elements. This analysis indicates that the existing framing will support the additional panel loading without damage, if installed correctly.

D. Solar Panel Anchorage

1. The solar panels shall be mounted in accordance with the most recent Ironridge installation manual. If during solar panel installation, the roof framing members appear unstable or deflect non-uniformly, our office should be notified before proceeding with the installation.
2. The maximum allowable withdrawal force for a $^{5}/_{16}$" lag screw is 235 lbs per inch of penetration as identified in the National Design Standards (NDS) of timber construction specifications. Based on a minimum penetration depth of 2½", the allowable capacity per connection is greater than the design withdrawal force (demand). Considering the variable factors for the existing roof framing and installation tolerances, the connection using one $^{5}/_{16}$" diameter lag screw with a minimum of 2½" embedment will be adequate and will include a sufficient factor of safety.
3. Considering the wind speed, roof slopes, size and spacing of framing members, and condition of the roof, the panel supports shall be placed no greater than 48" on centers.
4. Panel supports connections shall be staggered to distribute load to adjacent framing members.

Based on the above evaluation, this office certifies that with the racking and mounting specified, the existing roof system will adequately support the additional loading imposed by the solar system. This evaluation is in conformance with the North Carolina Residential Code (2018) current industry standards, and is based on information supplied to us at the time of this report.

Should you have any questions regarding the above or if you require further information do not hesitate to contact me.

Very truly yours,

Scott E. Wyssling, PE
North Carolina License No. 46546

Wyssling Consulting, PLLC
76 N Meadowbrook Drive
Alpine UT 84004 COA # P-2308

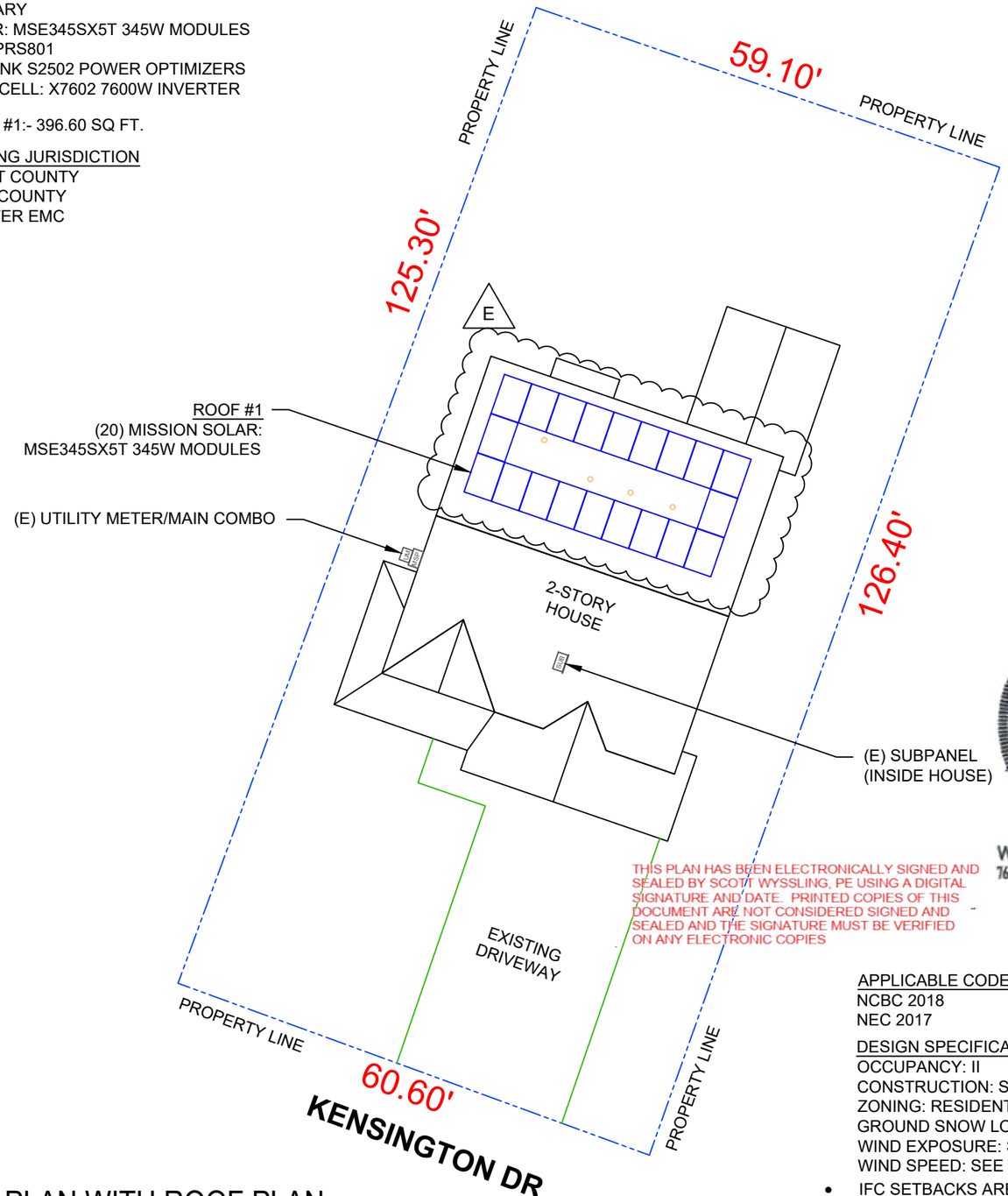
PROJECT DESCRIPTION:

20 x MISSION SOLAR: MSE345SX5T 345W MONO MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
DC SYSTEM SIZE: 6.900kW DC
AC SYSTEM SIZE: 7.600kW AC

EQUIPMENT SUMMARY
20 MISSION SOLAR: MSE345SX5T 345W MODULES
20 GENERAC SNAPRS801
03 GENERAC PV LINK S2502 POWER OPTIMIZERS
01 GENERAC PWRCELL: X7602 7600W INVERTER

ROOF ARRAY AREA #1:- 396.60 SQ FT.

AUTHORITIES HAVING JURISDICTION
BUILDING: HARNETT COUNTY
ZONING: HARNETT COUNTY
UTILITY: SOUTH RIVER EMC



1 PLOT PLAN WITH ROOF PLAN
PV-1 SCALE: 1/16" = 1'-0"

NORTH CAROLINA PROFESSIONAL SEAL 046546 ENGINEER SCOTT E. WYSSLING

Wyssling Consulting, PLLC
76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2308
Signed 9/29/2022

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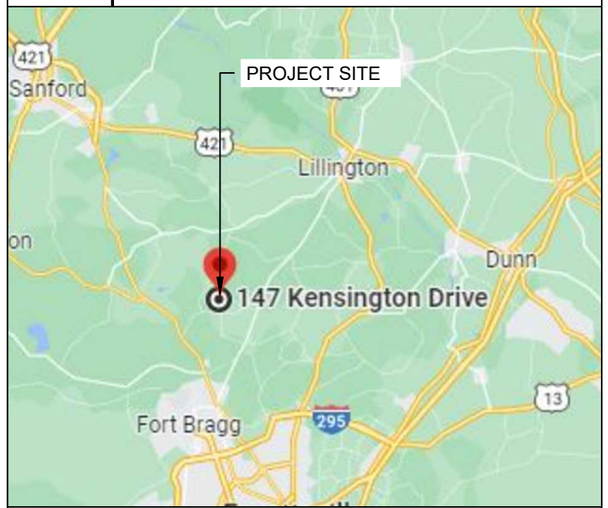
APPLICABLE CODES & STANDARDS
NCBC 2018
NEC 2017

DESIGN SPECIFICATIONS
OCCUPANCY: II
CONSTRUCTION: SINGLE-FAMILY
ZONING: RESIDENTIAL
GROUND SNOW LOAD: SEE STRUCTURAL LETTER
WIND EXPOSURE: SEE STRUCTURAL LETTER
WIND SPEED: SEE STRUCTURAL LETTER

- IFC SETBACKS ARE REQUIRED TO BE DISCUSSED WITH THE AHJ PRIOR TO CONSTRUCTION

2 HOUSE PHOTO
PV-1 SCALE: NTS



3 VICINITY MAP
PV-1 SCALE: NTS

SHEET INDEX

PV-1	PLOT PLAN & VICINITY MAP
PV-2	ROOF PLAN & MODULES
PV-2A	STRING LAYOUT
PV-3	ATTACHMENT DETAIL
PV-4	ELECTRICAL LINE DIAGRAM
PV-5	WIRING CALCULATIONS
PV-6	LABELS
PV-7	PLACARD
PV-8	POWER OPTIMIZER CHART
PV-9+	EQUIPMENT SPECIFICATIONS

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REVISIONS

DESCRIPTION	DATE	REV
INITIAL	06/17/2022	
CAPACITY INCREASE	07/09/2022	A
LAYOUT CHANGE	08/04/2022	B
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ELECTRICAL CHANGE	08/24/2022	D
AS BUILT	08/30/2022	E

SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

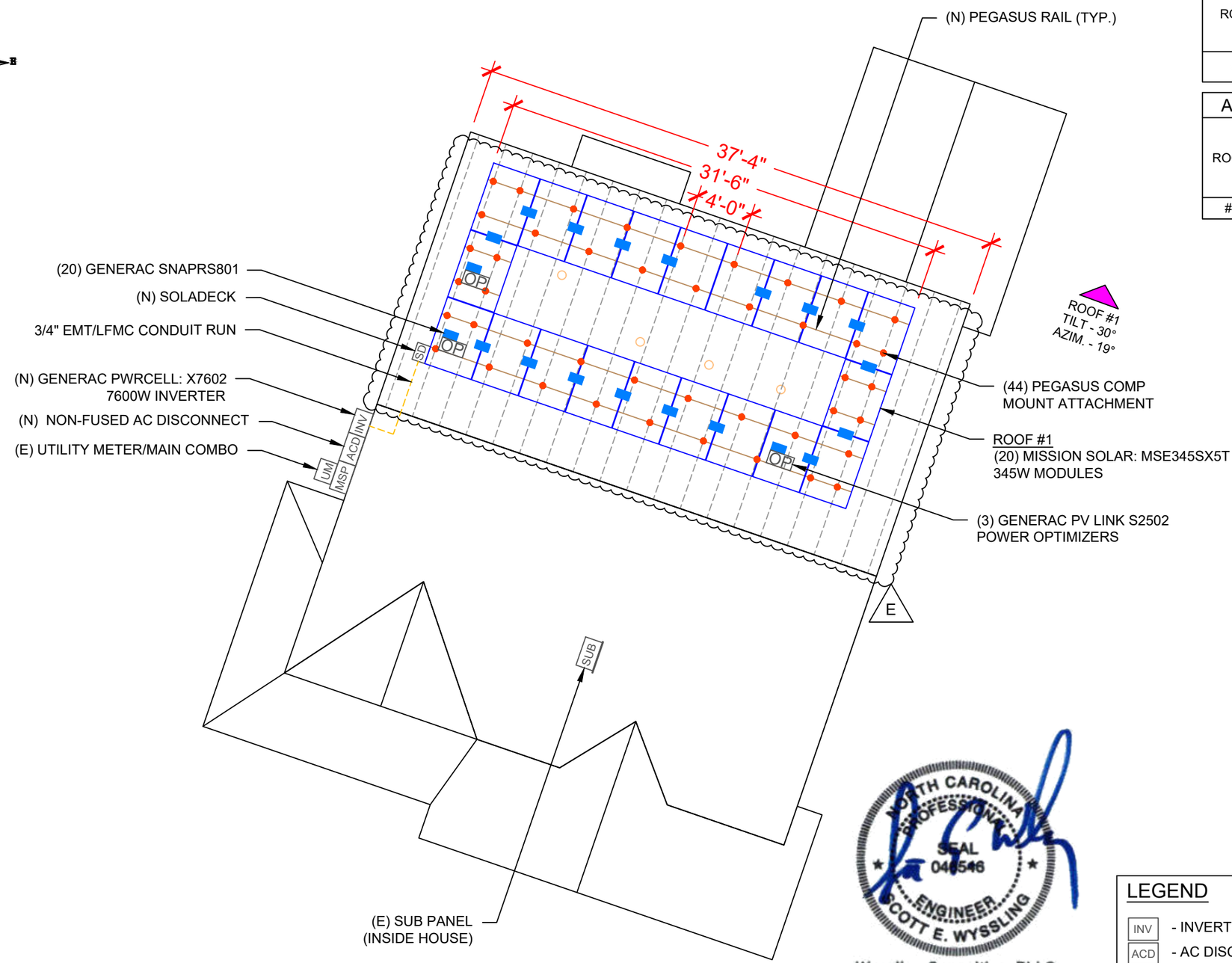
SHEET NAME
PLOT PLAN & VICINITY MAP

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-1

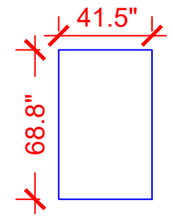
MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 20 MODULES
MODULE TYPE = MISSION SOLAR:MSE345SX5T 345W MODULES
MODULE WEIGHT = 44.8 LBS / 20.3KG.
MODULE DIMENSIONS = 68.8"x 41.5" = 19.83 SF



ROOF DESCRIPTION				
ROOF TYPE			COMPOSITE SHINGLE	
ROOF LAYER			1 LAYER	
ROOF	ROOF TILT	AZIMUTH	TRUSS SIZE	TRUSS SPACING
#1	30°	19°	2X4	24"

ARRAY AREA & ROOF AREA CALC'S				
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	20	396.60	662.73	60



MISSION SOLAR:
MSE345SX5T
345W MODULES

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NORTH CAROLINA PROFESSIONAL SEAL 046546 ENGINEER SCOTT E. WYSSLING

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North Carolina COA # P-2308
Signed 9/29/2022

LEGEND

- INV - INVERTER
- ACD - AC DISCONNECT
- MSP - MAIN SERVICE PANEL
- CONDUIT
- TRUSS
- SD - SOLADECK
- OP - PV LINK -S2502
- SNAPRS801
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT

1 ROOF PLAN & MODULES
PV-2 SCALE: 1/8" = 1'-0"

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SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL
RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

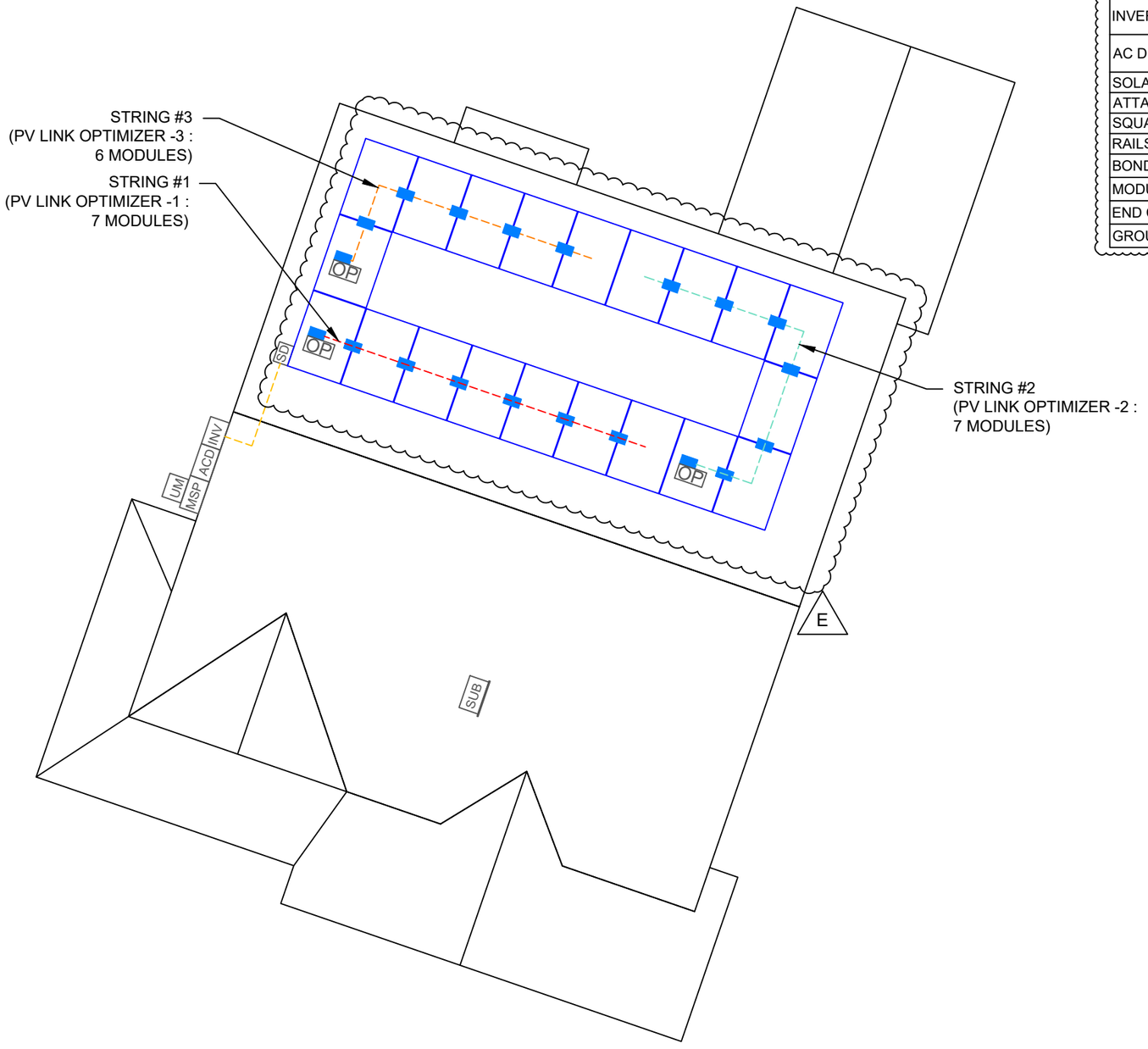
DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
ROOF PLAN & MODULES

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2

STRING LEGENDS
STRING #1
STRING #2
STRING #3



BILL OF MATERIALS

EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	20	MISSION SOLAR:MSE345SX5T 345W MODULES
SNAPRS	20	GENERAC SNAPRS801
OPTIMIZER	3	GENERAC PV LINK S2502 POWER OPTIMIZERS
INVERTER	1	GENERAC PWRCELL: X7602 7600W INVERTER
AC DISCONNECT	1	60A NON-FUSED AC DISCONNECT, 240V NEMA 3R, UL LISTED
SOLADECK	1	SOLADECK 600V,NEMA 3R, UL LISTED
ATTACHMENT	44	PEGASUS COMP MOUNT ATTACHMENT
SQUARE-BOLT	44	SQUARE-BOLT BONDING ATTACHMENT HARDWARE
RAILS	11	PEGASUS RAIL (14 FEET)
BONDED SPLICE	8	SPLICE KIT
MODULE CLAMPS	32	UNIVERSAL MODULE CLAMPS
END CLAMPS	16	END CLAMPS / STOPPER SLEEVE
GROUNDING LUG	4	PEGASUS GROUNDING LUG

E

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SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL
RESIDENCE

147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
STRING LAYOUT

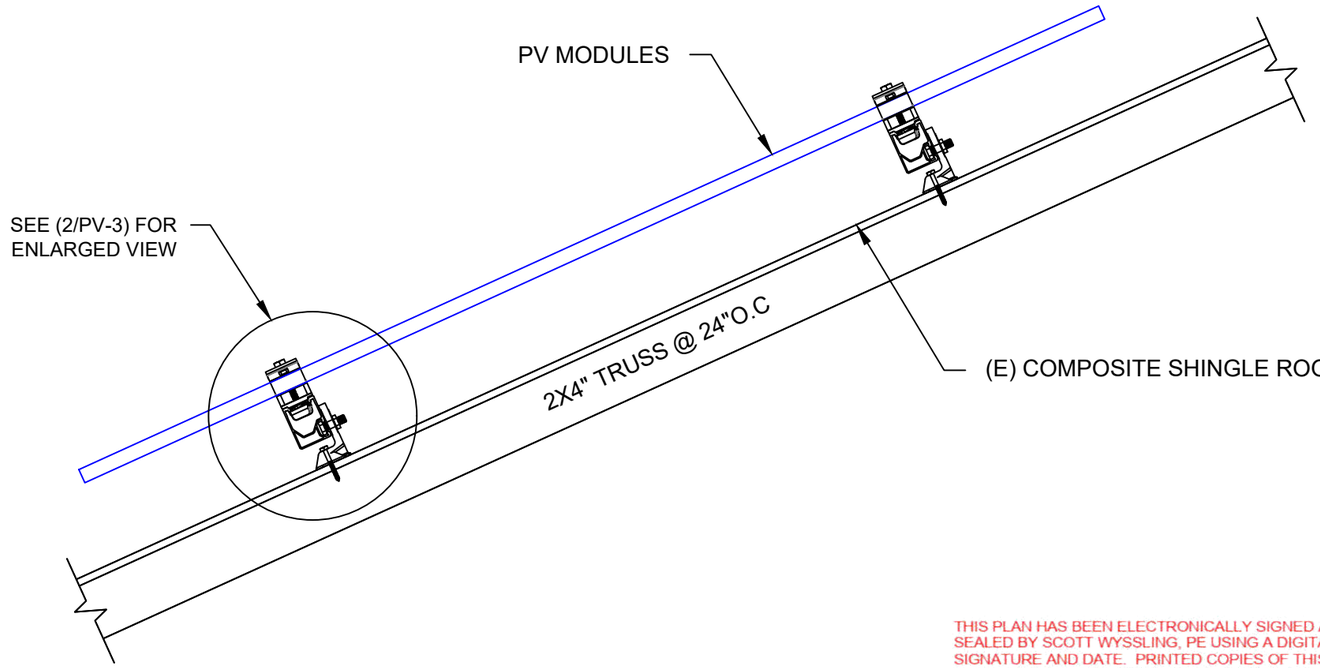
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-2A

1 ROOF PLAN WITH STRING LAYOUT

PV-2A

SCALE: 1/8" = 1'-0"

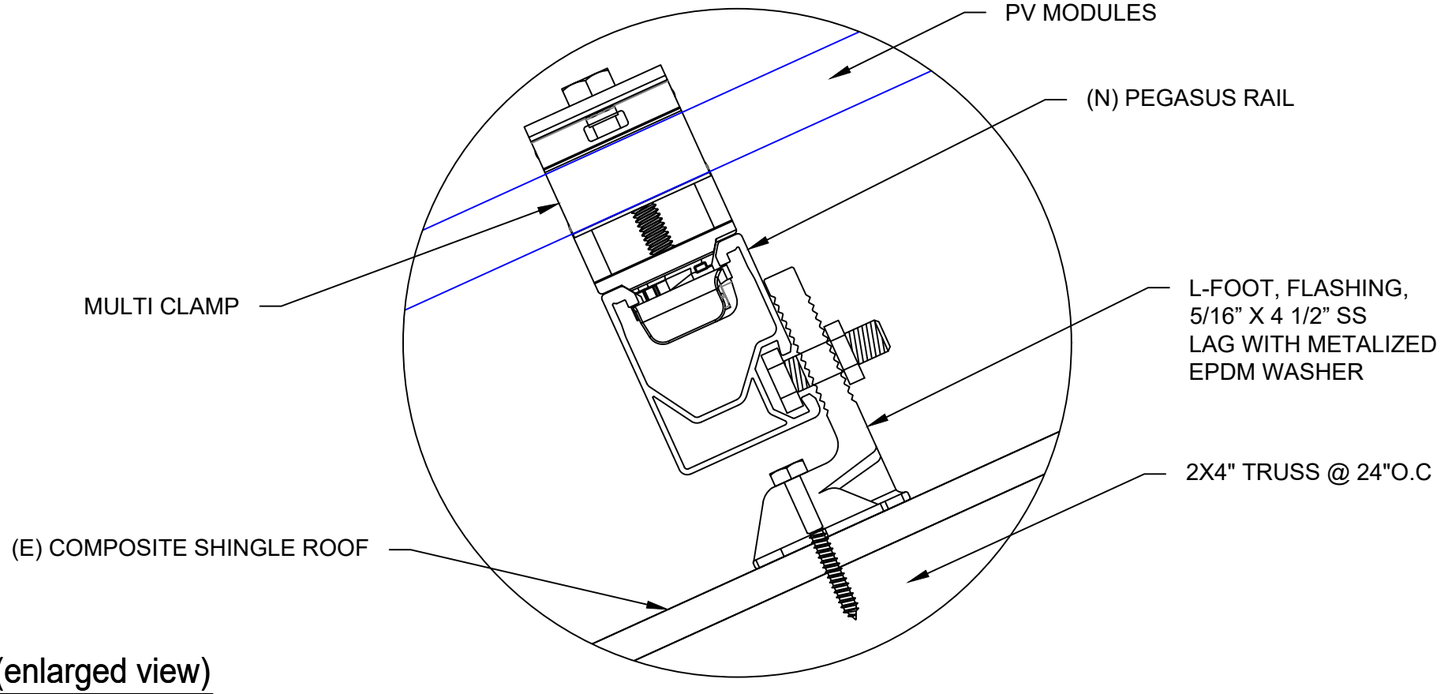


1 ATTACHMENT DETAIL

PV-3 SCALE: NTS

Wyssling Consulting, PLLC
76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2308

Signed 9/29/2022



2 ATTACHMENT DETAIL (enlarged view)

PV-3 SCALE: NTS

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DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE

147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW

AC SIZE: 7.600 KW

SHEET NAME
ATTACHMENT DETAIL

SHEET SIZE
ANSI B
11" X 17"

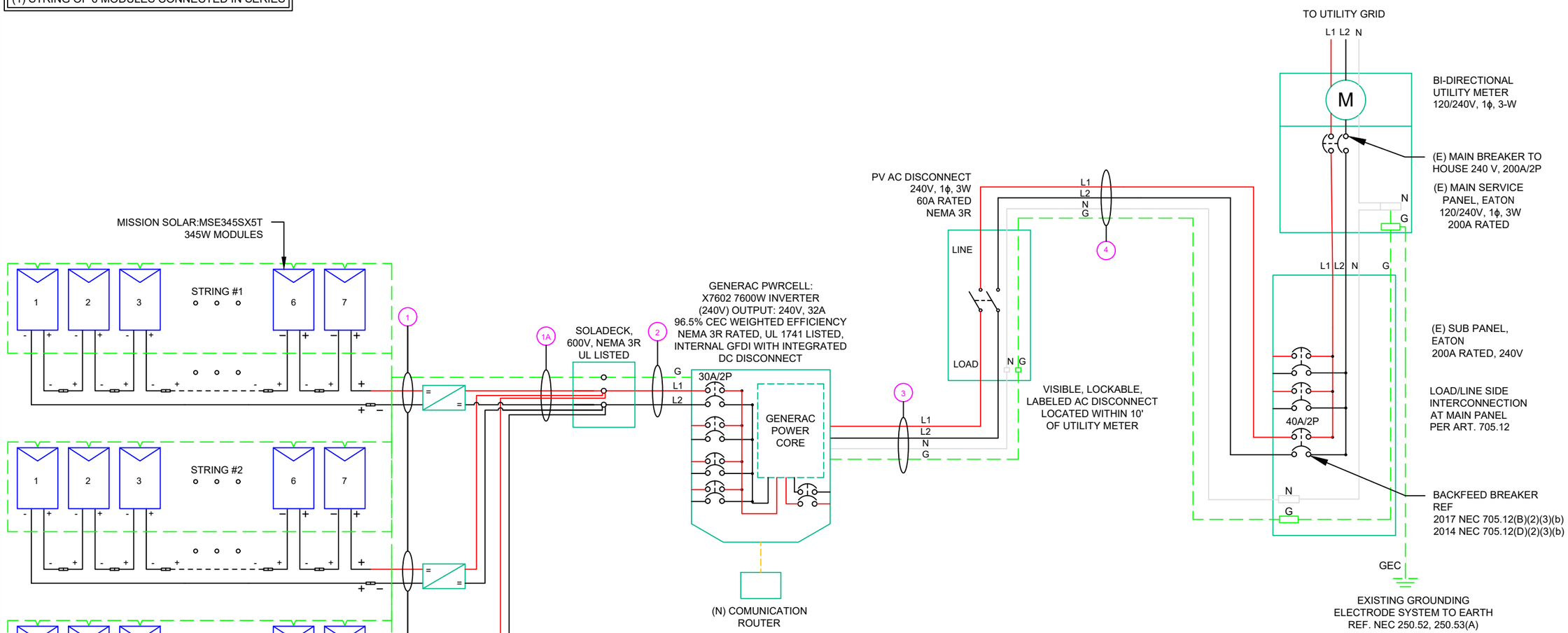
SHEET NUMBER
PV-3

DC SYSTEM SIZE: 6.900 kW DC
AC SYSTEM SIZE: 7.600 kW AC

(20) MISSION SOLAR: MSE345SX5T 345W MODULES
WITH (20) GENERAC SNAPRS801

(2) STRINGS OF 7 MODULES AND
(1) STRING OF 6 MODULES CONNECTED IN SERIES

RACKING NOTE:-
1. BOND EVERY RAIL WITH #6 BARE COPPER



SERVICE INFO	
UTILITY PROVIDER:	**SOUTH RIVER EMC**
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	EATON
MAIN SERVICE PANEL:	200A
MAIN STRING BREAKER RATING:	200A
MAIN SERVICE LOCATION:	NORTH-WEST
SERVICE FEED SOURCE:	UNDERGROUND

	QTY	CONDUCTOR INFORMATION		CONDUIT TYPE	CONDUIT SIZE
1	(6)	CU#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	CU#6AWG -	BARE COPPER IN FREE AIR		
1A	(6)	CU#10AWG -	PV WIRE/USE-2	N/A	N/A
	(1)	CU#6AWG -	BARE COPPER IN FREE AIR		
2	(2)	CU#10AWG -	THWN-2 (L1,L2)	EMT OR LFMC	3/4"
	(1)	CU#10AWG -	THWN-2 GND		
3	(2)	CU#6AWG -	THWN-2 (L1,L2)	EMT OR LFMC	3/4"
	(1)	CU#6AWG -	THWN-2 NEUTRAL		
	(1)	CU#6AWG -	THWN-2 GND		
4	(2)	CU#6AWG -	THWN-2 (L1,L2)	EMT OR LFMC	3/4"
	(1)	CU#6AWG -	THWN-2 NEUTRAL		
	(1)	CU#6AWG -	THWN-2 GND		

1 ELECTRICAL LINE DIAGRAM
PV-4 SCALE: NTS

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SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL
RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-4

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	MISSION SOLAR:MSE345SX5T 345W MODULES
VMP	33.37V
IMP	10.34A
VOC	41.00V
ISC	10.92A
TEMP. COEFF. VOC	-0.262%/°C
MODULE DIMENSION	68.8"L x 41.5"W x 1.60"D (In Inch)

POWER OPTIMIZER (GENERAC PV LINK S2502 POWER OPTIMIZERS)	
RATED POWER	2500W
MAXIMUM INPUT VOLTAGE	420Voc
MPPT VOLTAGE RANGE	60-360Vmp
NOMINAL OUTPUT	380Vdc
MAXIMUM OUTPUT	420Adc
MAXIMUM OUTPUT CURRENT	8A
MAXIMUM SHORT CIRCUIT CURRENT	18A

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-10°
AMBIENT TEMP (HIGH TEMP 2%)	36°
MODULE TEMPERATURE COEFFICIENT OF Voc	-0.262%/°C

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	GENERAC PWRCELL: X7602 7600W INVERTER
NOMINAL AC POWER	7.600 KW
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	32A

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
0.80	4-6
0.70	7-9
0.50	10-20

AC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	NEUTRAL SIZE	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
INVERTER 1	AC DISCONNECT	240	32	40	40	CU #6 AWG	CU #6 AWG	CU #6 AWG	65	PASS	36	2	75	0.91	1	68.25	PASS	5	0.491	0.065	3/4" EMT	38.0488
AC DISCONNECT	POI	240	32	40	40	CU #6 AWG	CU #6 AWG	CU #6 AWG	65	PASS	36	2	75	0.91	1	68.25	PASS	5	0.491	0.065	3/4" EMT	38.0488

CUMULATIVE VOLTAGE DROP	0.13

DC FEEDER CALCULATIONS

CIRCUIT ORIGIN	CIRCUIT DESTINATION	VOLTAGE (V)	FULL LOAD AMPS "FLA" (A)	FLA*1.25 (A)	OCPD SIZE (A)	GROUND SIZE	CONDUCTOR SIZE	75°C AMPACITY (A)	AMPACITY CHECK #1	AMBIENT TEMP. (°C)	TOTAL CC CONDUCTORS IN RACEWAY	90°C AMPACITY (A)	DERATION FACTOR FOR AMBIENT TEMPERATURE NEC 310.15(B)(2)(a)	DERATION FACTOR FOR CONDUCTORS PER RACEWAY NEC 310.15(B)(3)(a)	90°C AMPACITY DERATED (A)	AMPACITY CHECK #2	FEEDER LENGTH (FEET)	CONDUCTOR RESISTANCE (OHM/KFT)	VOLTAGE DROP AT FLA (%)	CONDUIT SIZE	CONDUIT FILL (%)
STRING 1	SOLADECK	380	8.00	10.00	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	36	2	40	0.91	1	36.4	PASS	5	1.24	0.026	N/A	#N/A
STRING 2	SOLADECK	380	8.00	10.00	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	36	2	40	0.91	1	36.4	PASS	5	1.24	0.026	N/A	#N/A
STRING 3	SOLADECK	380	8.00	10.00	20	BARE COPPER #6 AWG	CU #10 AWG	35	PASS	36	2	40	0.91	1	36.4	PASS	5	1.24	0.026	N/A	#N/A
JUNCTION BOX	INVERTER	380	24.00	30.00	30	CU #10 AWG	CU #10 AWG	35	PASS	36	2	40	0.91	1	36.4	PASS	35	1.24	0.548	3/4" EMT	11.87617

String 1 Voltage Drop	0.574
String 2 Voltage Drop	0.574
String 3 Voltage Drop	0.574

ELECTRICAL NOTES

1. ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
2. ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
3. WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
4. WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
5. DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
6. WHERE SIZES OF SOLADECK, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
7. ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
8. 8.) MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
9. MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER G.E.C. VIA WEEB LUG OR ILSCO GBL-4DBT LAY-IN LUG.
10. TEMPERATURE RATINGS OF ALL CONDUCTORS, TERMINATIONS, BREAKERS, OR OTHER DEVICES ASSOCIATED WITH THE SOLAR PV SYSTEM SHALL BE RATED FOR AT LEAST 75 DEGREE C.

365Solar Energy

REVISIONS

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SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE

147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
WIRING CALCULATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-5

CAUTION:
AUTHORIZED SOLAR
PERSONNEL ONLY!

LABEL-1:
LABEL LOCATION:
AC DISCONNECT

WARNING: PHOTOVOLTAIC POWER SOURCE

EVERY 10' ON CONDUIT & ENCLOSURES

LABEL- 2:
LABEL LOCATION:
EMT/CONDUIT RACEWAY
SOLADECK / JUNCTION BOX
CODE REF: NEC 690.31 (D)(2)

⚠ WARNING

ELECTRICAL SHOCK HAZARD

TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL- 3:
LABEL LOCATION:
AC DISCONNECT
INVERTER
MAIN SERVICE PANEL
SUBPANEL
MAIN SERVICE DISCONNECT
CODE REF: NEC 690.13(B)

⚠WARNING **DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM**

LABEL- 4:
LABEL LOCATION:
PRODUCTION METER
UTILITY METER
MAIN SERVICE PANEL
SUBPANEL
CODE REF: NEC 705.12(C) & NEC 690.59

⚠ WARNING

TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

LABEL- 5:
LABEL LOCATION:
MAIN SERVICE PANEL
SUBPANEL
MAIN SERVICE DISCONNECT
CODE REF: NEC 110.27(C) & OSHA 1910.145 (f) (7)

⚠ CAUTION

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFEED

LABEL- 6:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(D) & NEC 690.59

⚠ WARNING

POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL- 7:
LABEL LOCATION:
MAIN SERVICE PANEL (ONLY IF SOLAR IS BACK-FED)
SUBPANEL (ONLY IF SOLAR IS BACK-FED)
CODE REF: NEC 705.12(B)(3)(2)

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY

LABEL- 8:
LABEL LOCATION:
AC DISCONNECT
CODE REF: IFC 605.11.3.1(1) & NEC 690.56(C)

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL- 9:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.56(C)(2)

PHOTOVOLTAIC
AC DISCONNECT

LABEL- 10:
LABEL LOCATION:
AC DISCONNECT
CODE REF: NEC 690.13(B)

PHOTOVOLTAIC
DC DISONNECT

LABEL- 11:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.13(B)

PHOTOVOLTAIC AC DISCONNECT

NOMINAL OPERATING AC VOLATGE	240 V
RATED AC OUTPUT CURRENT	32.00 A

LABEL- 12:
LABEL LOCATION:
MAIN SERVICE PANEL
SUBPANEL
AC DISCONNECT
CODE REF: NEC 690.54

INVERTER AC DISCONNECT

NOMINAL OPERATING AC VOLATGE	240 V
RATED AC OUTPUT CURRENT	32.00 A

LABEL- 13:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.54

MAXIMUM VOLTAGE	380 V
MAXIMUM CIRCUIT CURRENT	30 A
MAXIMUM RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)	

LABEL- 14:
LABEL LOCATION:
INVERTER
CODE REF: NEC 690.53

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

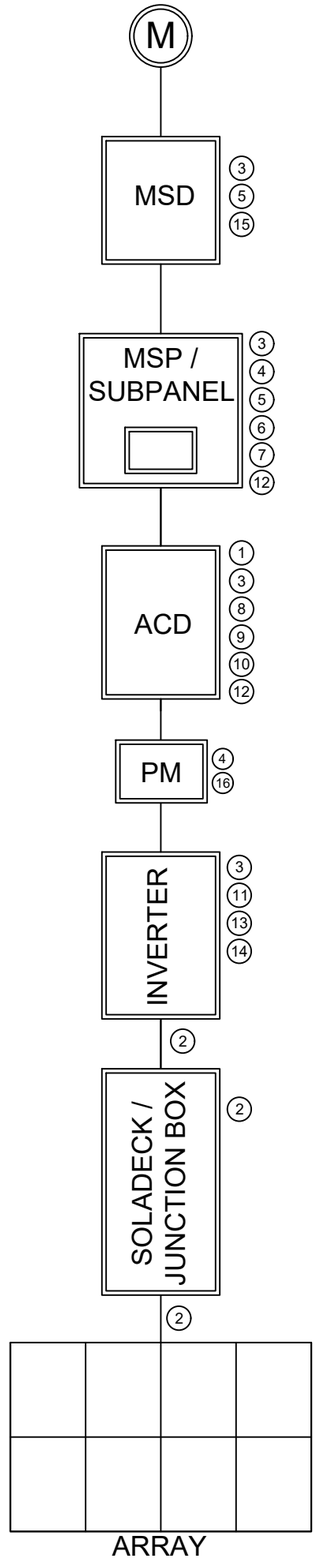
LABEL- 15:
LABEL LOCATION:
MAIN SERVICE DISCONNECT (ONLY IF MAIN SERVICE DISCONNECT IS PRESENT)
CODE REF: NEC 690.13(B)

PRODUCTION METER

LABEL- 16:
LABEL LOCATION:
PRODUCTION METER (ONLY IF PRODUCTION METER IS USED)

NOTE:

** ELECTRICAL DIAGRAM SHOWN IS FOR LABELING PURPOSES ONLY. NOT AN ACTUAL REPRESENATION OF EQUIPMENT AND CONNECTIONS TO BE INSTALLED. LABEL LOCATIONS PRESENTED MAY VERY DEPENDING ON TYPE OF INTERCONNECTION METHOD AND LOCATION PRESENTED ELECTRICAL DIAGRAM PAGE. **



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REVISIONS

DESCRIPTION	DATE	REV
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AS BUILT	08/30/2022	E

SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

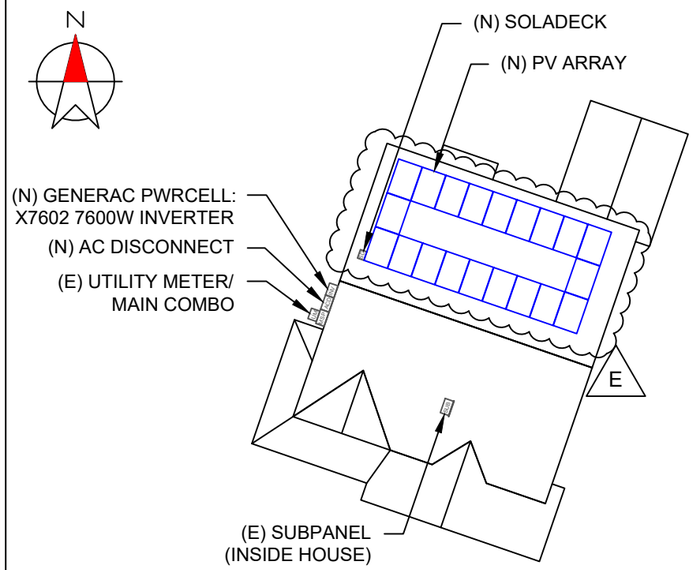
SHEET NAME
LABELS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-6

CAUTION

POWER TO THIS BUILDING IS ALSO SUPPLIED FROM MULTIPLE SOURCES OF POWER WITH SAFETY DISCONNECTS AS SHOWN:



147 KENSINGTON DR, SPRING LAKE, NC 28390

DIRECTORY

PERMANENT PLAQUE OR DIRECTORY PROVIDING THE LOCATION OF THE SERVICE DISCONNECTING MEANS AND THE PHOTOVOLTAIC SYSTEM.

(ALL PLAQUES AND SIGNAGE WILL BE INSTALLED AS OUTLINED WITHIN: NEC 690.56(B)&(C), [NEC 705.10])

LABELING NOTES:

1. LABELS CALLED OUT ACCORDING TO ALL COMMON CONFIGURATIONS. ELECTRICIAN TO DETERMINE EXACT REQUIREMENTS IN THE FIELD PER CURRENT NEC AND LOCAL CODES AND MAKE APPROPRIATE ADJUSTMENTS.
2. LABELING REQUIREMENTS BASED ON THE 2017 NATIONAL ELECTRIC CODE, OSHA STANDARD 19010.145, ANSI Z535.
3. MATERIAL BASED ON THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
4. LABELS TO BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED [NEC 110.21]
5. LABELS TO BE A MINIMUM LETTER HEIGHT OF 3/8", WHITE ON RED BACKGROUND; REFLECTIVE, AND PERMANENTLY AFFIXED [IFC 605.11.1.1]

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DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE

147 KENSINGTON DR SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME

PLACARD

SHEET SIZE

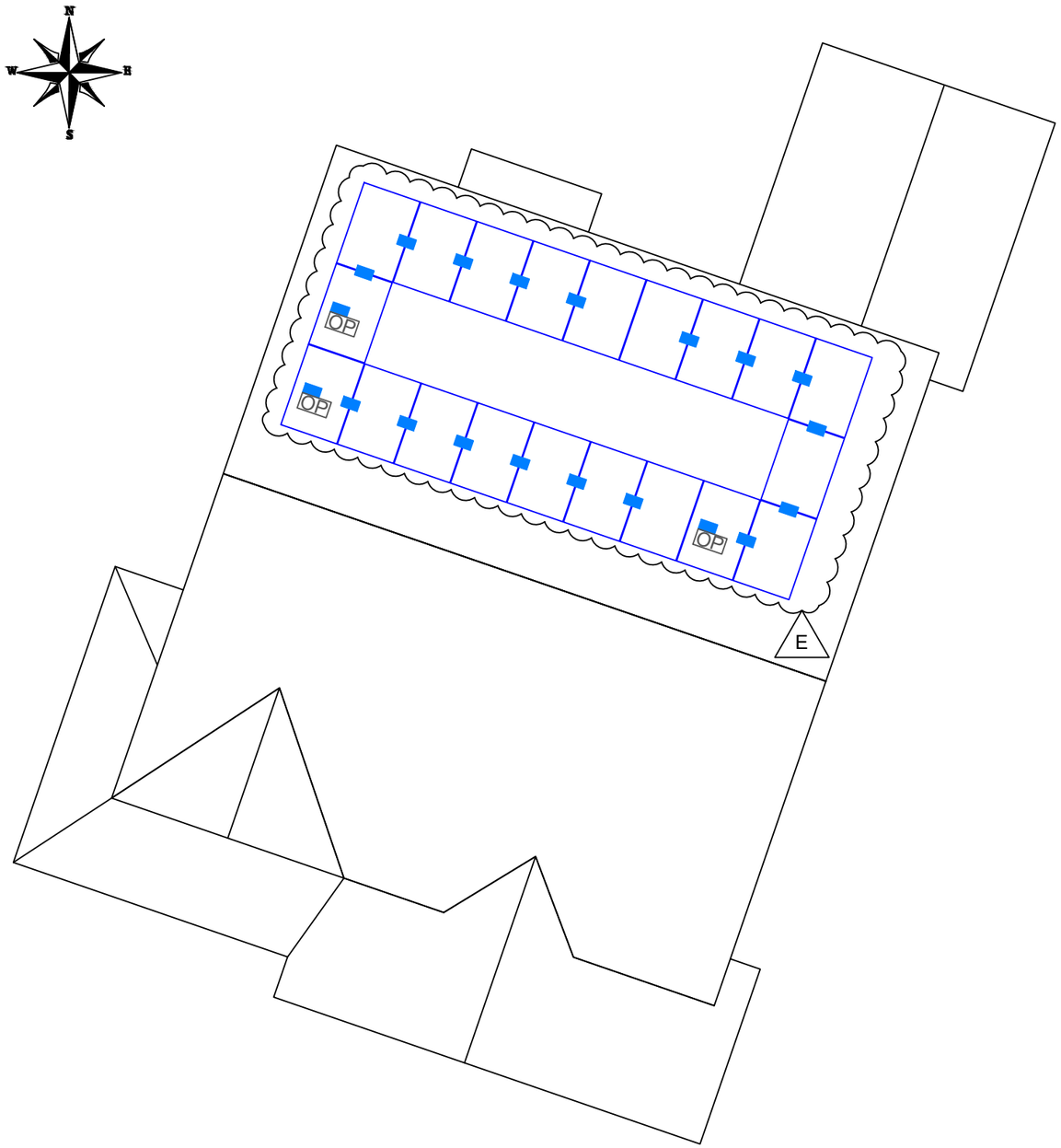
ANSI B
11" X 17"

SHEET NUMBER

PV-7

POWER OPTIMIZER CHART

	1-10	11-20	21-30	31-40	41-50	51-60
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						



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PROJECT NAME & ADDRESS

CANDICE HALL
RESIDENCE

147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
POWER
OPTIMIZER CHART

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-8

MSE PERC 60

MISSION SOLAR ENERGY

345W
Class leading power output

Positive Power Tolerance
-0 to +3%

True American Quality
True American Brand

Mission Solar Energy is headquartered in San Antonio, Texas, where we manufacture our modules. We produce American, high quality solar modules ensuring the highest in-class power output and best in-class reliability. Our product line is tailored for residential, commercial and utility applications. Every Mission Solar Energy solar module is certified and surpasses industry standard regulations, proving excellent performance over the long term.

Demand the best. Demand Mission Solar Energy.

Certified Reliability
- Tested to UL 61730 & IEC Standards
- PID resistant
- Resistance to salt mist corrosion

Advanced Technology
- 6 Busbar
- Passivated Emitter Rear Contact
- Ideal for all applications

Extreme Weather Resilience
- Up to 5,600 Pa front load & 5,631 Pa back load
- Tested load to UL 61730
- 40 mm frame

BAA Compliant for Government Projects
- Buy American Act
- American Recovery & Reinvestment Act

Module Assembled, Owned & Engineered IN THE USA

25 YEAR FRAME-TO-FRAME WARRANTY

FRAME-TO-FRAME WARRANTY

Degradation guaranteed not to exceed 2% in year one and 0.58% annually from years two to 30 with 84.08% guaranteed in year 25.
For more information visit www.missionsolar.com/warranty

CERTIFICATIONS

CEC · TÜV SUD · c UL us LISTED

UL 61730 / IEC 61215 / IEC 61730 / IEC 61701

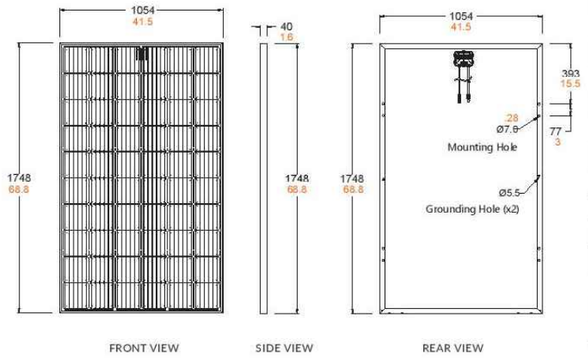
If you have questions or concerns about certification of our products in your area, please contact Mission Solar Energy.

Class Leading
340-350W

MSE PERC 60

BASIC DIMENSIONS

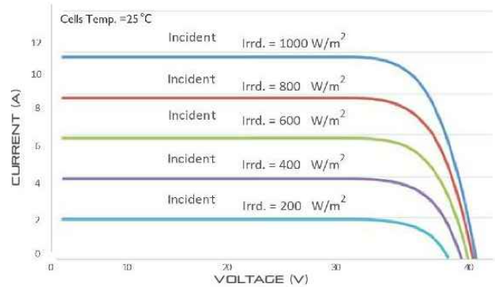
[UNITS: MM/IN]



CURRENT-VOLTAGE CURVE

MSE345SX5T: 345WP, 60 CELL SOLAR MODULE

Current-voltage characteristics with dependence on irradiance and module temperature



CERTIFICATIONS AND TESTS

IEC	61215, 61730, 61701
UL	61730

TÜV SUD · CEC · c UL us LISTED

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ELECTRICAL SPECIFICATION

PRODUCT TYPE			MSExxxSX5T (xxx = P_{max})		
Power Output	P_{max}	W_p	340	345	350
Module Efficiency		%	18.5	18.7	19.0
Tolerance		%	0/+3	0/+3	0/+3
Short Circuit Current	I_{sc}	V	10.86	10.92	10.97
Open Circuit Voltage	V_{oc}	A	40.82	41.00	41.18
Rated Current	I_{mp}	V	10.24	10.34	10.44
Rated Voltage	V_{mp}	V	33.20	33.37	33.52
Fuse Rating		A	20	20	20
System Voltage		V	1,000	1,000	1,000

TEMPERATURE COEFFICIENTS

Normal Operating Cell Temperature (NOCT)	44.43°C (±3.7%)
Temperature Coefficient of Pmax	-0.361%/°C
Temperature Coefficient of Voc	-0.262%/°C
Temperature Coefficient of Isc	0.039%/°C

OPERATING CONDITIONS

Maximum System Voltage	1,000Vdc
Operating Temperature Range	-40°C (-40°F) to +85°C (185°F)
Maximum Series Fuse Rating	20A
Fire Safety Classification	Type 1
Front & Back Load (UL Standard)	Up to 5,600 Pa front and 5,631 Pa back load, Tested to UL 61730
Hail Safety Impact Velocity	25mm at 23 m/s

MECHANICAL DATA

Solar Cells	P-type mono-crystalline silicon
Cell Orientation	60 cells (6x10)
Module Dimension	1748mm x 1054mm x 40mm
Weight	20.3 kg (44.8 lbs.)
Front Glass	3.2mm, tempered, low-iron, anti-reflective
Frame	Anodized
Encapsulant	Ethylene vinyl acetate (EVA)
Junction Box	Protection class IP67 with 3 bypass-diodes
Cable	1.0m, Wire 4mm2 (12AWG)
Connector	Staubli PV-KBT4/6II-UR and PV-KST4/6II-UR, MC4, Renhe 05-8

SHIPPING INFORMATION

Container Feet	Ship To	Pallet	Panels	345 W Bin
53'	Most States	34	884	304.98 kW
Double Stack	CA	28	728	251.16 kW

PALLET [26 PANELS]

Weight	Height	Width	Length
1263 lbs. (573 kg)	47.5 in (120.65 cm)	46 in (116.84 cm)	70.25 in (178.43 cm)

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DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-9

GENERAC

SnapRS™ 802

Inline Disconnect Switch
Model #: RS802

Intertek

Generac SnapRS are a simple way to satisfy rapid shutdown compliance for solar + storage systems. Generac SnapRS are 2017/2020 NEC 690.12 compliant, don't require any extra hardware to mount, and need no pairing or fussy digital communications.

FEATURES & BENEFITS

- Safe and reliable
- Fast, easy, and simple to install
- One SnapRS device per PV module
- Achieves PVRSS Compliance
- Low cost, high efficiency solution

SYSTEM DESIGN

Snap a Generac SnapRS disconnect device (RS) to the negative lead (-) of each module in the solar array for simple module-level rapid shutdown compliance. SnapRS devices isolate array voltage when a rapid shutdown is initiated at a PWRcell™ Inverter. When rapid shutdown is initiated, SnapRS units isolate each PV module in the array, reducing array voltage to <80V in seconds.

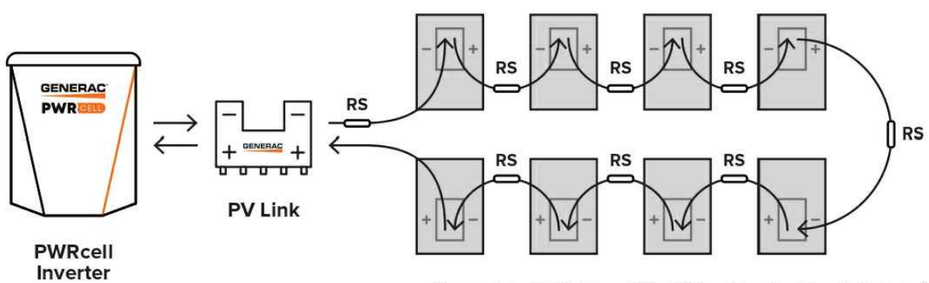

Diagram is applicable for most 60 cell PV modules. Modules with higher cell count may require a different arrangement. Contact Generac for more details.

Specifications

SnapRS™ (RS802)	
PV MODULE MAX VOC:	75 V
EFFICIENCY:	99.8%*
MAX INPUT CURRENT:	15 A
MAX STC ISC OF STRING:	12 A
MAX TOTAL QTY IN SUBSTRING:	10
SHUTDOWN TIME:	< 10 Seconds
ENCLOSURE RATING:	NEMA 6P
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-40 to 158 °F (-40 to 70 °C)
CERTIFICATIONS:	UL1741
PROTECTIONS:	PVRSE
WEIGHT - LB (KG):	0.17 (0.08)
DIMENSIONS, L x W x H - IN (MM):	7" x 1" x 1" (177.8 x 25.4 x 25.4)
WARRANTY:	25 Years

**When used with a 50V panel*

Connect one SnapRS device to the negative lead of each PV module in the PV Link controlled array for complete PV Rapid shutdown performance

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SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

GENERAC

PV Link™

2500W MPPT Substring Optimizer
Model #: S2502 (Ordering SKU: APKE00010)

PV Link is the simple solar optimizer for quick installation and long-lasting performance. Connect PV modules to each PV Link to overcome shading and challenging roof lines.

FEATURES & BENEFITS

- Fast, simple installation
- Lower failure risk than module-level optimizers
- 2017/2020 NEC rapid shutdown compliant with SnapRS™
- Quick connections with MC4 connectors
- Exports up to 2500W
- Compatible with PWRcell™ Inverters
- Cost-effective solution for high-performance PV
- Ground-fault protection

SINGLE-STRING PV ARRAY WITH SnapRS DEVICES

Where PV module-level rapid shutdown is required (NEC 690.12), a SnapRS device (RS) is installed to negative (-) lead of each PV module.

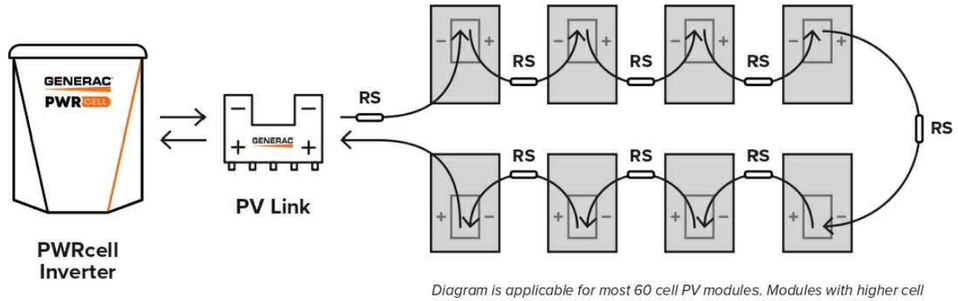

Diagram is applicable for most 60 cell PV modules. Modules with higher cell count may require a different arrangement. Contact Generac for more details.

Specifications

PV Link™ (APKE00010)	
RATED POWER*:	2500W
PEAK EFFICIENCY:	99%
MPPT VOLTAGE RANGE:	60-360 VMP
MAX INPUT VOLTAGE:	420 VOC; max when cold
MAX OUTPUT:	420 VOC
NOMINAL OUTPUT (REbus™):	380 VDC
MAX OUTPUT CURRENT (CONTINUOUS):	8 A
MAX OUTPUT CURRENT (FAULT):	10 A
MAX INPUT CURRENT (CONTINUOUS):	13 A @ 50°C, 10 A @ 70°C
MAX INPUT SHORT CIRCUIT CURRENT (ISC):	18 A
STANDBY POWER:	<1 W
PROTECTIONS:	Ground-fault, Arc-fault (Arc-fault Type 1 AFCI, Integrated), PVRSE
MAX OPERATING TEMP: FAHRENHEIT (CELSIUS)	158 °F (70 °C)
SYSTEM MONITORING:	PWRview™ Web Portal and Mobile App
ENCLOSURE:	Type 4X
WEIGHT - LB (KG):	7.3 lb (3.3 kg)
DIMENSIONS, L x W x H - IN (MM):	15.4" x 2" x 9.6" (391.2 x 50.8 x 243.8)
COMPLIANCE:	UL 1741, CSA 22.2
WARRANTY:	25 Years

**PV Link can tolerate higher than rated power at its input if Max Input Voltage and Short Circuit Current specifications are not exceeded*

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DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-11

GENERAC®

PWRCELL

7.6kW 1Ø PWRcell Inverter with CTs
Model #: X7602 (Ordering SKU: APKE00014)

11.4 kW 3Ø PWRcell Inverter with CTs
Model #: X11402 (Ordering SKU: APKE00013)

C ETL LISTED US
Intertek

Solar + storage is simple with the Generac PWRcell™ Inverter. This bi-directional, REbus™-powered inverter offers a simple, efficient design for integrating smart batteries with solar. Ideal for self-supply, backup power, zero-export and energy cost management, the PWRcell Inverter is the industry's most feature-rich line of inverters, available in single-phase and three-phase models.

FEATURES & BENEFITS

- Single inverter for grid-tied solar with smart battery integration
- Simplified system design: No autotransformer or battery inverter needed
- User-selectable modes for backup power, self-supply, time-of-use, zero-import and export limiting
- Free system monitoring included via PWRview™ Web Portal and Mobile App

AC OUTPUT/GRID-TIE	MODEL X7602	MODEL X11402
CONT. GRID-TIED AC POWER @ 50°C (122°F):	7600 W	11400 W
AC OUTPUT VOLTAGE:	120/240, 1Ø VAC	120/208, 3Ø VAC
AC FREQUENCY:	60 Hz	
MAXIMUM CONTINUOUS OUTPUT CURRENT:	32 A, RMS	
GROUND-FAULT ISOLATION DETECTION:	Included	
CHARGE BATTERY FROM AC:	Yes	
THD (CURRENT):	< 2%	
TYPICAL NIGHTTIME POWER CONSUMPTION:	< 7 W	

AC OUTPUT/ISLANDED	MODEL X7602	MODEL X11402
MAX. CONT. ISLANDED AC POWER WITHOUT AN EXTERNAL TRANSFER SWITCH[1]:	7600 W	
MAX. CONT. ISLANDED AC POWER W/ EXTERNAL TRANSFER SWITCH AND SINGLE 6 MODULE BATTERY CABINET[2]:	9000 W	
MAX. CONT. ISLANDED AC POWER W/ EXTERNAL TRANSFER SWITCH AND 2 BATTERY CABINETS (8 MODULES MINIMUM)[2]:	11000 W	9600 W-11000 W*
PEAK MOTOR STARTING CURRENT (2 SEC):	50 A, RMS	
AC BACKUP OUTPUT VOLTAGE:	120/240, 1Ø VAC	120/208, 1Ø VAC
AC FREQUENCY:	60 Hz	
THD (VOLTAGE):	< 2%	
ALLOWABLE SPLIT PHASE IMBALANCE:	Up to 30%	

DC INPUT	MODEL X7602	MODEL X11402
DC INPUT VOLTAGE RANGE:	360-420 VDC	
NOMINAL DC BUS VOLTAGE:	380 VDC	
DC DISTRIBUTION INPUT BREAKERS:	4 x 2P30 A	
MAX INPUT CURRENT PER DC INPUT:	30 A	
REVERSE-POLARITY PROTECTION:	Yes	
TRANSFORMERLESS, UNGROUNDED:	Yes	
TYPICAL NIGHTTIME POWER CONSUMPTION:	< 7 W	
DC BUS EXPORT FUSES (+/-):	40 A	
2-POLE DISCONNECTION:	Yes	

EFFICIENCY	MODEL X7602	MODEL X11402
PEAK EFFICIENCY:	97.3%	97.7%
CEC WEIGHTED EFFICIENCY:	96.5%	97.5%

[1]When islanded, continuous power output is restricted to 7.6kW unlsess backup power is routed through an external transfer switch.
[2]Peak performance, values provided for 40°C (104°F).
**In Island mode X11402 protected loads only supply 2 phases 120 VAC L-N, 208 L-L which results in lower power than in grid tied 3 phase mode. The low value of the range is for full L-L loading while high value of the range is full L-N loading*

Specifications

FEATURES AND MODES	
ISLANDING[4]:	Yes
GRID SELL:	Yes
SELF CONSUMPTION:	Yes
PRIORITIZED CHARGING FROM RENEWABLES:	Yes
GRID SUPPORT - ZERO EXPORT:	Yes
ESS PCS OPERATION MODES (IMPORT ONLY, EXPORT ONLY):	Yes

ADDITIONAL FEATURES	
SUPPORTED COMMUNICATION INTERFACES:	REbus™, CANbus, Ethernet
SYSTEM MONITORING:	PWRview™ Web Portal and Mobile App
BACKUP LOADS DISCONNECT[4]:	Yes, 50 A Circuit Breaker
INVERTER BYPASS SWITCH:	Automatic
WARRANTY:	10 Years

STANDARDS COMPLIANCE	
SAFETY:	UL 1741 SA, CSA 22.2, UL 1998
GRID CONNECTION STANDARDS:	IEEE 1547, Rule 21, Rule 14H, CSIP, UL 1741 PCS CRD (Import Only, Export Only)
EMISSIONS:	FCC Part 15 Class B

DIMENSIONS AND INSTALLATION SPECIFICATIONS	
ENCLOSURE KNOCKOUTS - QTY, SIZE - IN (MM):	6 x Combo 3/4" x 1" (19 x 25.4) 7 x Combo 1/2" x 3/4" (12.7 x 19)
DIMENSIONS L x W x H - IN (MM):	24.5" x 19.25" x 8" (622.3 x 488.9 x 203.2)
WEIGHT - LB (KG):	62.7 (28.4)
COOLING:	Forced convection
AUDIBLE NOISE:	< 40 dBA
OPERATING TEMPERATURE - FAHRENHEIT (CELSIUS):	-4 to 122 °F (-20 to 50 °C)[5]
ENCLOSURE TYPE:	Type 3R

INSTALLATION GUIDELINES	
BATTERY TYPES SUPPORTED:	PWRcell™ Battery
MODULE STRING SIZE PER PV LINK OPTIMIZER:	Varies, refer to PV Link Installation Manual
MAXIMUM RECOMMENDED DC POWER FROM PV[6]:	10 kW (1Ø), 15 kW (3Ø)

[4]3Ø inverters offer islanding for 1Ø loads.
[5]Includes ambient temperature rising from inverter operation. Reduced power at extreme temperatures.
Specifications listed in this document are achieved with firmware version 13310 or greater. Confirm inverter has latest firmware to ensure full performance.
[6]Values provided for PV-only or small storage systems. Additional PV power is permissible if sufficient battery storage capacity is installed.

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147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-12

PEGASUS SOLAR™
A Better Day on the Job

RAIL SYSTEM

Instant Bonding

The N-S Bonding Jumper bonds row to row with no tools.

One Clamp Anywhere

The Multi-Clamp works as mid- or end-clamp, and fits standard 30-40mm frames.

Lifetime Wire Management

Open rail channel holds and protects wires. Clamps won't pinch wires after tightening.

Bonding Structural Splice

Connect rails instantly, without tools, interference or limitations.

Next-Level Solar Mounting

A complete system for hassle-free rooftop installation, from watertight mounts to lifetime wire management.

Simplicity
1/2"socket for everything.
One clamp for mid or end.
No tool splicing and bonding.
Easy wire management.

Code Compliant
UL 2703 listed
LTR-AE-001-2012 listed
Class A fire rating for any slope
ASCE 7-16 PE Certified

Premium Aesthetics
The narrowest panel gap available. Optional Hidden End Clamps and End Caps provide a flush look on the edge of the array.

Watertight for Life
Secured on industry-leading Pegasus Mounts, for composite shingle and tile roofs. Backed by a 25-year warranty.

Pegasus Solar Inc | 506 West Ohio Avenue, Richmond, CA 94804 | T: 510.210.3797 | **www.pegasussolar.com**

PEGASUS SOLAR™

RAIL SYSTEM

Pegasus Rail

Available in 14' and 7' lengths for easy layout and shipping.

Open-channel design holds MC4 connectors, PV wire and trunk cables.

Black and Mill finish

Pegasus Max Rail

Maximum-strength design.

Meets specifications for high snow-load and hurricane zones.

Black and Mill finish

Splice and Max Splice

Installs by hand.

Works over mounts.

Structurally connects and bonds rails automatically; UL2703 listed as reusable.

Dovetail T-bolt

Dovetail shape for extra strength.

Uses ½" socket.

Multi-Clamp

Fits 30-40mm PV frames, as mid- or end-clamp.

Twist-locks into position; doesn't pinch wires in rail.

Bonds modules to rail; UL2703 listed as reusable

Hidden End Clamp

Offers premium edge appearance.

Preinstalled pull-tab grips rail edge, allowing easy, one-hand installation.

Tucks away for reuse.

Ground Lug

Holds 6 or 8 AWG wire.

Mounts on top or side of rail.

Assembled on MLPE Mount.

UL2703 listed as reusable.

N-S Bonding Jumper

Installs by hand, eliminates row-to-row copper wire.

UL2703 listed as reusable only with Pegasus Rail.

MLPE Mount

Secures and bonds most micro-inverters and optimizers to rail.

Connectors and wires easily route underneath after installation.

UL2703 listed as reusable.

Cable Grip

Secures four PV wires or two trunk cables.

Stainless-steel backing provides durable grip.

Eliminates sagging wires.

Wire Clip

Hand operable.

Holds wires in channel.

Won't slip.

End Cap and Max End Cap

Fits flush to PV module and hides raw or angled cuts.

Hidden drain quickly clears water from rail.

Certifications:
- UL 2703, Edition 1
- LTR-AE-001-2012
- ASCE 7-16 PE certified
- Class A fire rating for any slope roof

C SA US

FREE
PEGASUS SOLAR
Design Tool

Quickly calculate the most efficient layout, spans and materials needed to suit your job. Visit the Pegasus Customer Portal. **pegasussolar.com/portal**

LOAD		SPAN			
SNOW (PSF)	WIND (MPH)	32"	4'	6'	8'
0	120				
	160				
	190				
15	140				
	160				
	190				
30	160				
	190				
45	190				
70	190				
110	190				

PEGASUS RAIL PEGASUS MAX RAIL

For reference only. Spans above are calculated using ASCE 7-16 for a Gable Roof, Exposure Category B, 7-20deg roof angle, 30ft mean roof height with non-exposed modules. For PE certified span tables, visit www.pegasussolar.com/spans.

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365Solar Energy

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	06/17/2022	
CAPACITY INCREASE	07/09/2022	A
LAYOUT CHANGE	08/04/2022	B
ATTACHMENT AND RAIL CHANGE	08/16/2022	C
ELECTRICAL CHANGE	08/24/2022	D
AS BUILT	08/30/2022	E

SIGNATURE WITH SEAL

DATE: 06/17/2022

PROJECT NAME & ADDRESS

CANDICE HALL RESIDENCE
147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-13

PEGASUS SOLAR™
A Better Day on the Job

COMP MOUNT

One-Piece Flashing with Elevated Cone
No press-fits or deck-level EPDM washers to fail

Encapsulating Design
Raises the water seal 0.9" Above roof deck


PSCR-UBB0


PSCR-UBBDT


PSCR-UMM0


PSCR-UMMDT

Simple 3-Piece Design Watertight For Life

Pegasus solar's comp mounts are a cost effective, high-quality option for rail installations on composition shingle roofs. Designed to last decades, the one-piece flashing with elevated cone means there is simply nothing to fail.

25-Year Warranty
Manufactured with advanced materials and coatings to outlast the roof itself

Code Compliant
Fully IBC/CBC Code Compliant Exceeds ASCE 7-16 Standards

Superior Waterproofing
Tested to AC286 without sealant Water seal elevated 0.9" above

All-In-One Kit Packaging
Flashings, L-Feet and SS lags with bonded EPDM washers are included in each 24-pack

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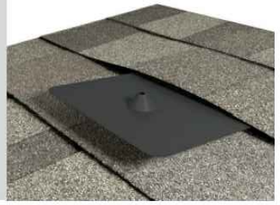
PEGASUS SOLAR

COMP MOUNT

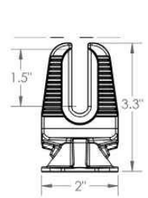
1
Drill pilot hole in the center of the rafter.

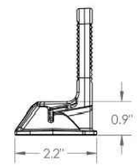
2
Optional: Apply a "u-shape" of sealant to the underside of the flashing and position under 2nd shingle course, cone over pilot hole.

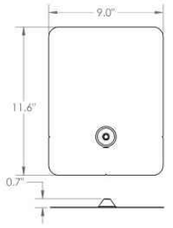


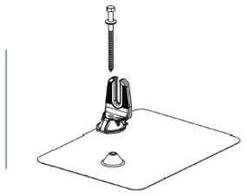
3
Place L-Foot over cone and install lag with washer through L-Foot.

4
Drive lag to required depth. Attach rail per rail manufacturer's instructions.









SPECIFICATIONS	COMP MOUNT INSTALL KITS				
SKU	PSCR-UBB0	PSCR-UBBDT	SPCR-UBBH	PSCR-UMM0	PSCR-UMMDT
Finish	Black L-Foot And Black Flashing			Mill L-Foot And Mill Flashing	
L-Foot Type	Open Slot	Open Slot	Open Slot	Open Slot	Open Slot
Kit Contents	L-Foot, Flashing, 5/16" x 4 1/2" SS Lag with metalized EPDM washer	L-Foot, Flashing, 5/16" x 4 1/2" SS Lag with metalized EPDM washer and Pegasus Dovetail T-bolt w/ Nut	L-Foot, Flashing, 5/16" x 4 1/2" SS Lag with metalized EPDM washer and M10 Hex Bolt w/ Nut	L-Foot, Flashing, 5/16" x 4 1/2" SS Lag with metalized EPDM washer	L-Foot, Flashing, 5/16" x 4 1/2" SS Lag with metalized EPDM washer and Pegasus Dovetail T-bolt w/ Nut
Roof Type	Composition Shingle				
Certifications	IBC, ASCE/SEI 7-16, AC286				
Install Application	Railed Systems				
Compatible Rail	Most				
Kit Quantity	24				
Boxes per Pallet	72				

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147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

SolaDeck

FLASHED PV ROOF-MOUNT COMBINER/ENCLOSURE

Basic Features

- Stamped Seamless Construction
- 18 Gauge Galvanized Steel
- Powder Coated Surfaces
- Flashes into the roof deck
- 3 Roof deck knockouts .5", .75", 1"
- 5 Centering dimples for entry/exit fittings or conduit
- 2 Position Ground lug installed
- Mounting Hardware Included

SolaDeck Model SD 0783

SolaDeck UL50 Type 3R Enclosures

Available Models:
Model SD 0783 - (3" fixed Din Rail)
Model SD 0786 - (6" slotted Din Rail)

SolaDeck UL 1741 Combiner/Enclosures

Models SD 0783-41 and SD 0786-41 are labeled and ETL listed UL STD 1741 according to the UL STD 1741 for photovoltaic combiner enclosures.

Max Rated - 600VDC, 120AMPS

Model SD 0783-41 3" Fixed Din Rail fastened using Norlock System

****Typical System Configuration**

4- Din Rail Mounted Fuse Holders 600VDC 30 AMP
1- Power Distribution Block 600VDC 175AMP
1- Bus Bar with UL lug

Model SD 0786-41 6" Slotted Din Rail fastened using steel studs

****Typical System Configuration**

4- Din Rail Mounted Fuse Holders 600VDC 30 AMP
4- Din Rail Mounted Terminal Blocks
Bus Bars with UL lug

**Fuse holders and terminal blocks added in the field must be UL listed or recognized and meet 600 VDC 30 AMP 110C for fuse holders, 600V 50 AMP 90C for rail mounted terminal blocks and 600 V 175 AMP 90C for Power Distribution Blocks. Use Copper Wire Conductors.

Cover is trimmed to allow conduit or fittings, base is center dimpled for fitting locations.

Model SD 0783-41, wired with Din Rail mounted fuse holders, bus bar and power distribution block.

Model SD 0786-41, wired with Din Rail mounted fuse holders, terminal blocks and bus bars.

RSTC Enterprises, Inc • 2219 Heimstead Road • Eau Cliare, WI 54703
For product information call 1(866) 367-7782

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PROJECT NAME & ADDRESS

CANDICE HALL
RESIDENCE

147 KENSINGTON DR
SPRING LAKE, NC 28390

DC SIZE: 6.900 KW
AC SIZE: 7.600 KW

SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-15