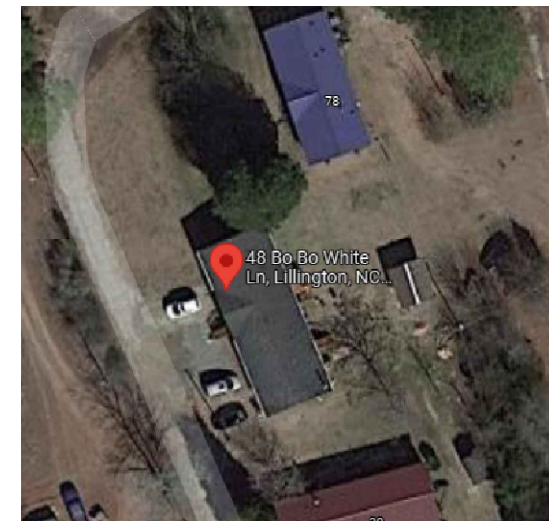
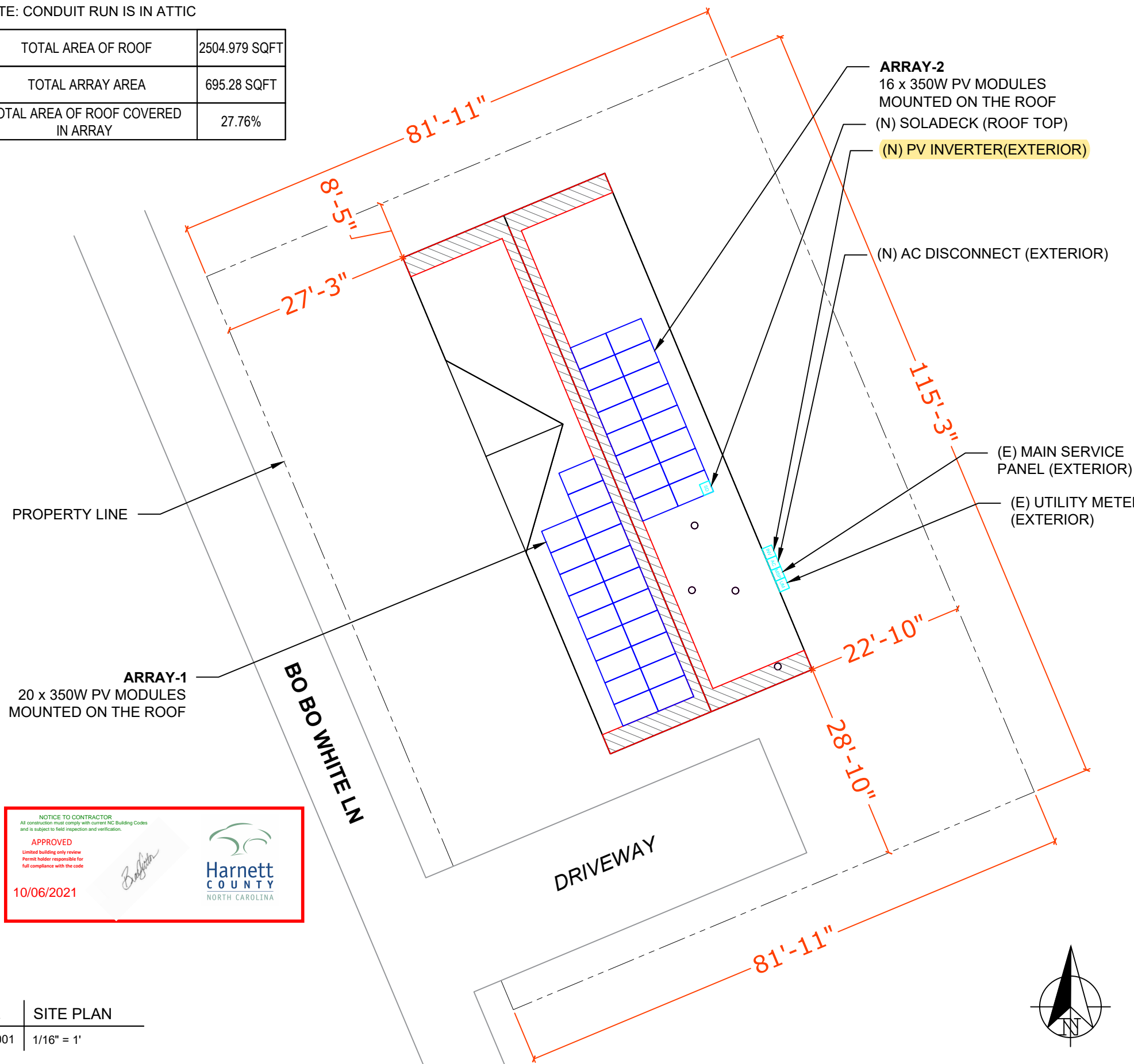


# NOE ASael AGUILAR AMAYA- 12.600kW DC, 10.000kW AC

## SITE PLAN

NOTE: CONDUIT RUN IS IN ATTIC

TOTAL AREA OF ROOF	2504.979 SQFT
TOTAL ARRAY AREA	695.28 SQFT
TOTAL AREA OF ROOF COVERED IN ARRAY	27.76%



A1 | AERIAL MAP  
S-001 | SCALE NTS

GENERAL INFORMATION	
ELECTRIC CODE	NEC 2017
FIRE CODE	NCFC 2018
RESIDENTIAL CODE	NCRC 2018
BUILDING CODE	NCBC 2018
WIND SPEED	118 MPH
SNOW LOAD	10 PSF

INDEX	
INDEX NO.	DESCRIPTION
S-001	SITE PLAN
G-001	GENERAL NOTES
S-002	MOUNTING DETAILS
S-003	STRUCTURAL DETAILS
E-001	SINGLE LINE DIAGRAM
E-002	WARNING PLACARDS
SS	SPEC SHEET(S)

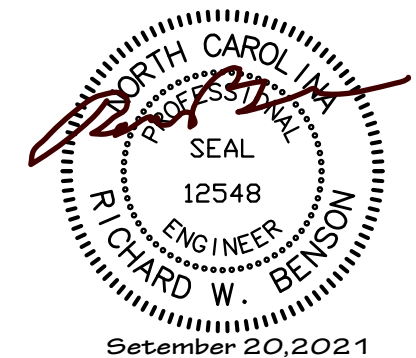


Sustainable Energy & Lighting Solutions  
Your future is brighter with us!

### SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

### ENGINEER OF RECORD



### CUSTOMER INFORMATION

NAME & ADDRESS:  
NOE ASael AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

### SITE PLAN

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

S-001

A | SITE PLAN

S-001 | 1/16" = 1'



## GENERAL NOTES

### GENERAL NOTES

1. MODULES ARE LISTED UNDER UL 1703 AND CONFORM TO THE STANDARDS.
2. INVERTERS ARE LISTED UNDER UL 1741 AND CONFORM TO THE STANDARDS.
3. DRAWINGS ARE DIAGRAMMATIC, INDICATING GENERAL ARRANGEMENT OF THE PV SYSTEM AND THE ACTUAL SITE CONDITION MIGHT VARY.
4. WORKING CLEARANCES AROUND THE NEW PV ELECTRICAL EQUIPMENT WILL BE MAINTAINED IN ACCORDANCE WITH NEC 110.26(A)(1).
5. ALL GROUND WIRING CONNECTED TO THE MAIN SERVICE GROUNDING IN MAIN SERVICE PANEL/ SERVICE EQUIPMENT.
6. ALL CONDUCTORS SHALL BE 600V, 75°C STANDARD COPPER UNLESS OTHERWISE NOTED.
7. WHEN REQUIRED, A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
8. THE SYSTEM WILL NOT BE INTERCONNECTED BY THE CONTRACTOR UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND/OR THE UTILITY.
9. ROOF ACCESS POINT SHALL BE LOCATED IN AREAS THAT DO NOT REQUIRE THE PLACEMENT OF GROUND LADDERS OVER OPENINGS SUCH AS WINDOWS OR DOORS, AND LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREES, WIRES OR SIGNS.
10. PV ARRAY COMBINER/JUNCTION BOX PROVIDES TRANSITION FROM ARRAY WIRING TO CONDUIT WIRING

### EQUIPMENT LOCATION:

11. ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26(A)(1).
12. WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31(A),(C) AND NEC TABLES 310.15(B)(2)(A) AND 310.15(B)(3)(C).
13. JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.
14. ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.
15. ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.
16. ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.

### STRUCTURAL NOTES:

17. RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.
18. JUNCTION BOX WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.
19. ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED WITH APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.
20. ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.
21. WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.

### WIRING & CONDUIT NOTES:

22. ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.
23. CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.
24. DC WIRING LIMITED TO MODULE FOOTPRINT. MICRO INVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY WITH SUITABLE WIRING CLIPS.
25. AC CONDUCTORS COLORED OR MARKED AS FOLLOWS: PHASE A OR L1- BLACK PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE PHASE C OR L3- BLUE, YELLOW, ORANGE\*\*, OR OTHER CONVENTION NEUTRAL-WHITE OR GREY IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].

### INTERCONNECTION NOTES:

26. LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 690.64(B)]
27. THE SUM OF THE UTILITY OCPD AND INVERTER CONTINUOUS INPUT MAY NOT EXCEED 120% OF BUSBAR RATING [NEC 705.12(D)(2)(3)].
28. WHEN SUM OF THE PV SOURCES EQUALS >100% OF BUSBAR RATING, PV DEDICATED BACKFFED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC 705.12(D)(2)(3)].
29. AT MULTIPLE PV OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVER CURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVER CURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12(D)(2)(3)(C).
30. FEEDER TAP INTER CONNECTION (LOAD SIDE) ACCORDING TO NEC 705.12(D)(2)(1) SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12(A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42 BACK FEEDING BREAKER FOR UTILITY-INTERACTIVE INVERTER OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12(D)(5)].

### GROUNDING NOTES:

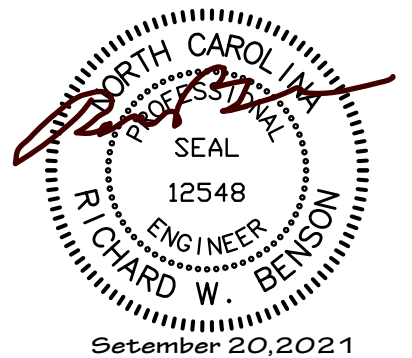
31. GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.
32. PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC 250.122.
33. METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).
34. EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45 AND MICRO INVERTER MANUFACTURER'S INSTRUCTIONS.
35. EACH MODULE WILL BE GROUNDED USING WEEB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEEBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS.
36. THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.
37. GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119]
38. THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 AND AHJ.
39. GROUND-FAULT DETECTION SHALL COMPLY WITH NEC 690.5 IN GENERAL AND NEC 690.5(A)(1) SPECIFICALLY.
40. DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:
41. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).
42. DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH
43. RAPID SHUTDOWN OF ENERGIZED CONDUCTORS BEYOND 10 FT OF PV ARRAY OR 5 FT INSIDE A BUILDING WITHIN 10 SECONDS. CONTROLLED CONDUCTORS  $\leq 30V$  AND  $\leq 240VA$  [NEC 690.12]. LOCATION OF LABEL ACCORDING TO AHJ.
44. ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9 AND 240.
45. MICRO INVERTER BRANCHES CONNECTED TO A SINGLE BREAKER OR GROUPED FUSES IN ACCORDANCE WITH NEC 110.3(B). 2.6.7 IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL1699B.



## SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREEDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

## ENGINEER OF RECORD



## CUSTOMER INFORMATION

NAME & ADDRESS:  
NOE ASAE AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

## GENERAL NOTES

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

G-001

**MODULES DATA**

Q CELLS Q.PEAK DUO-G6+ 350	
MODULE DIMS	68.5"x40.6"x1.3"
LAG SCREWS	5/16" X 3.5":2.5"MIN EMBEDMENT
<b>FIRE SETBACK</b>	

MINIMUM FIRE ACCESS PATHWAYS PER NCFC 2018  
 RIDGE TO ARRAY: 1'-6"  
 EAVE TO ARRAY : 3'-0"  
 HIP/VALLEY W/ ADJACENT ARRAY: 1'-6"  
 EACH SIDE HIP/VALLEY W/O ADJACENT ARRAY: 0'-0"  
**NOTE:** INSTALLER TO VERIFY RAFTER SIZE, SPACING AND SLOPED SPANS, AND NOTIFY ANY DISCREPANCIES BEFORE PROCEEDING.

**SITE INFORMATION**

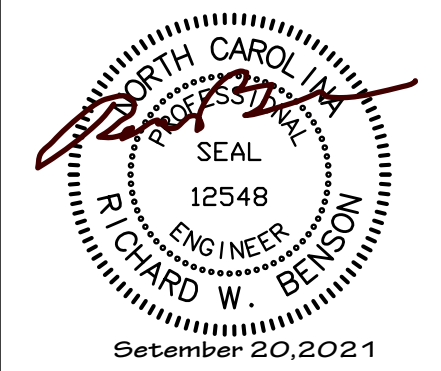
SR.NO	AZIMUTH	PITCH	NO. OF MODULES	ARRAY AREA (SQ. FT.)	ROOF TYPE	ATTACHMENT	ROOF EXPOSURE	FRAME TYPE	FRAME SIZE	FRAME SPACING	MAX RAIL SPAN	OVER HANG
MP-01	255°	14°	20	1027.18	COMPOSITION SHINGLE	SNAPNRACK ULTRA RAIL COMP KIT	ATTIC	RAFTERS	2X6	24"	6'-0"	2'-0"
MP-02	75°	10°	16	1210.13	COMPOSITION SHINGLE	SNAPNRACK ULTRA RAIL COMP KIT	ATTIC	RAFTERS	2X6	24"	6'-0"	2'-0"



**SYSTEM INFORMATION**

DC SYSTEM SIZE: 12.600 kW  
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 ANNUAL SOLAR OUPUT: 15864kWh/an  
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 (36) Q CELLS Q.PEAK DUO-G6+ 350  
 INVERTER:  
 (1) SOLAREDGE SE10000H-US  
 OPTIMIZER DETAILS  
 (36) P370 SOLAR EDGE POWER OPTIMIZER

**ENGINEER OF RECORD**



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NAME & ADDRESS:  
 NOE ASael AGUILAR AMAYA  
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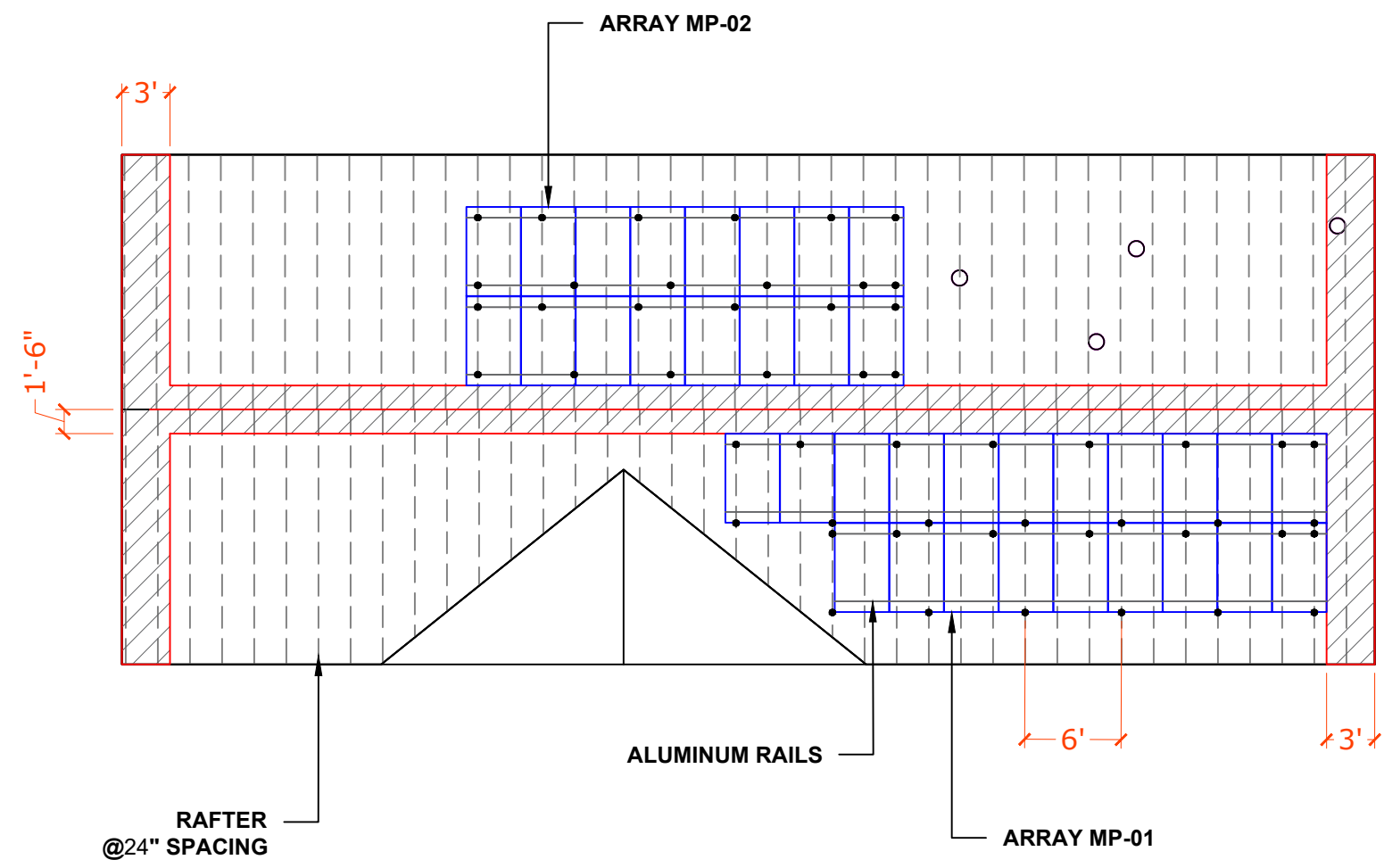
UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

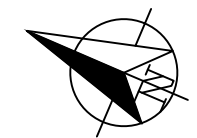
**MOUNTING DETAILS**

DESIGNER / CHECKED BY:  
 J.B. / J.B.

SCALING: AS NOTED	PAPER SIZE: 17"x11"	
DATE: 9/17/21	REV:A	<b>S-002</b>

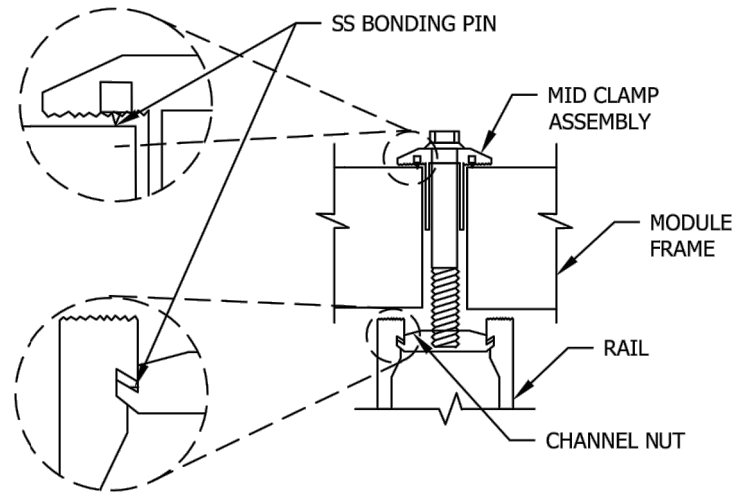


B | MOUNTING DETAILS  
 S-002 | 3/32" = 1'



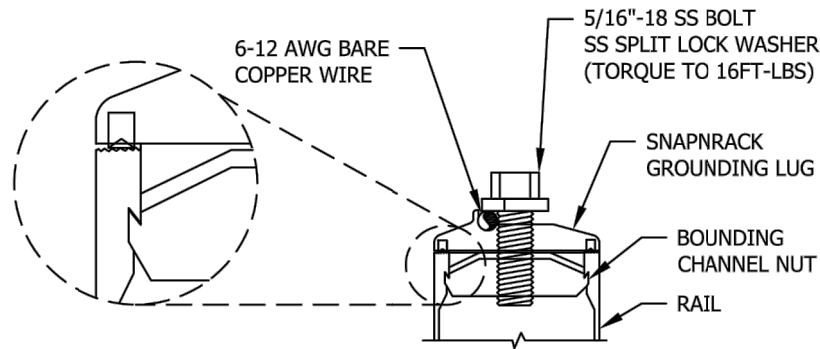
**GROUNDING DETAILS**

**MODULE TO MODULE & MODULE TO RAIL**



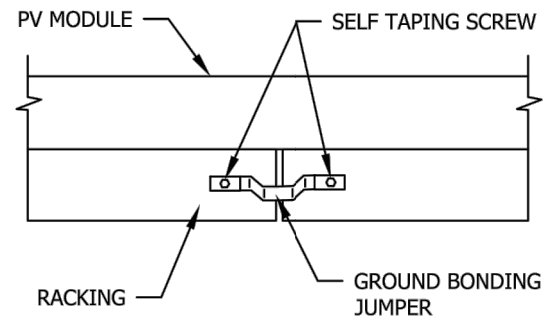
SNAPRACK GROUNDING MID-CLAMP  
SCALE: NTS

**SNAPRACK GROUNDING**



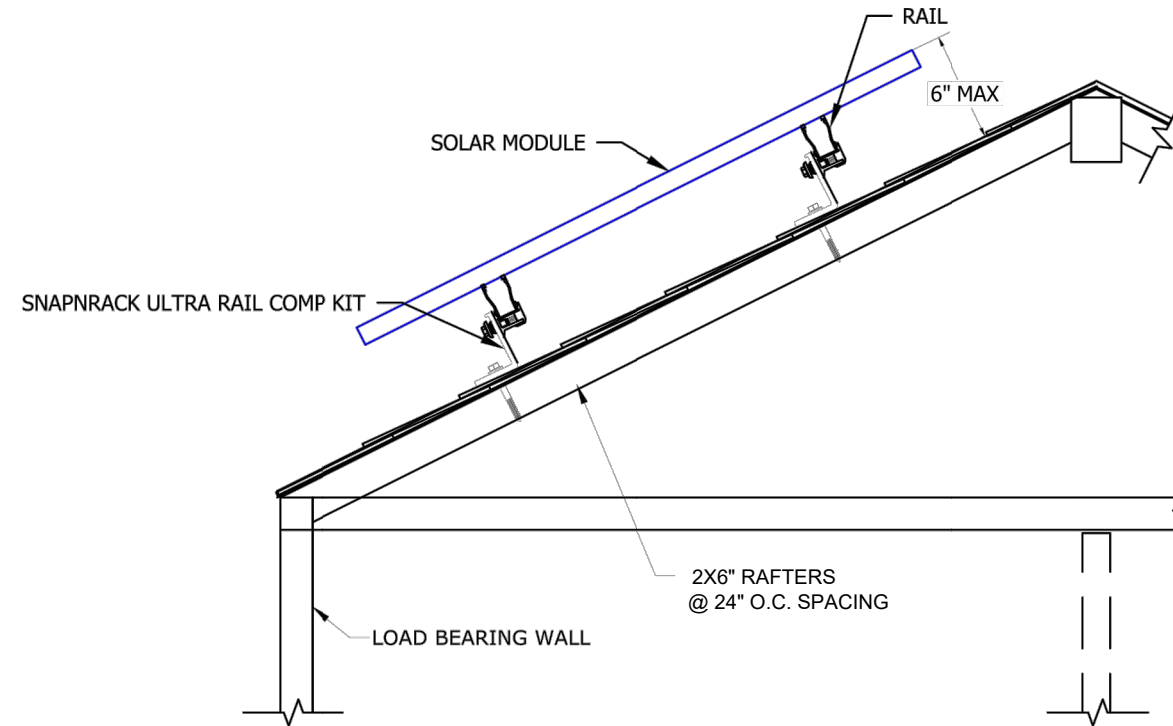
- NOTES:
- ALL HARDWARE IS INCLUDED FROM MANUFACTURER
  - A MINIMUM OF ONE GROUND LUG IS TO BE INSTALLED ON EVERY CONTINUOUS ROW OF MODULES
  - GROUNDING LUG MAY BE INSTALLED IN EITHER RAIL CHANNEL
  - GROUNDING LUG MAY BE INSTALLED SO GROUND WIRE IS PARALLEL OR PERPENDICULAR TO RAIL
  - ENSURE SPLIT LOCK WASHER IS INSTALLED ON TOP OF COPPER WIRE.
- SCALE:NTS

**RAIL TO RAIL**

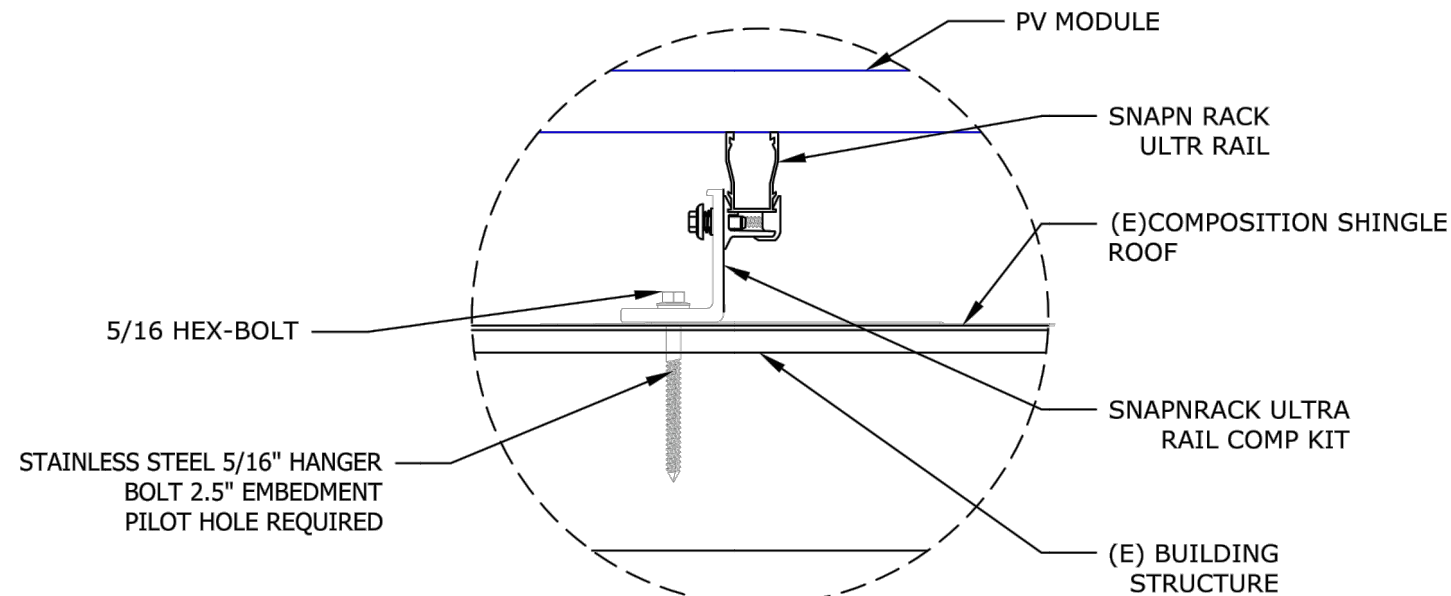


NTS REMOVAL OF ONE PIECE OF EQUIPMENT SHALL NOT DISCONNECT THE BONDING CONNECTION BETWEEN ANY OTHER PIECES.  
SCALE:NTS

**ROOF FRAMING DETAIL**

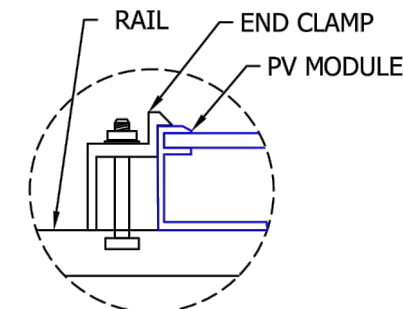
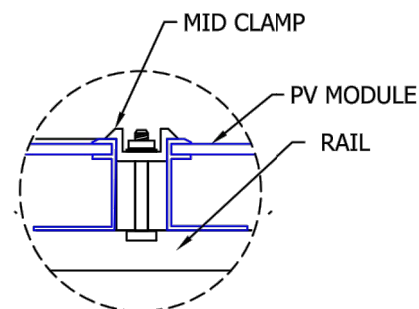


**ATTACHMENT DETAIL-SNAPRACK ULTRA RAIL COMP KIT**



SCALE: NTS

**MID-CLAMP & END CLAMP DETAIL**



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**SYSTEM INFORMATION**

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

**ENGINEER OF RECORD**



**CUSTOMER INFORMATION**

NAME & ADDRESS:  
NOE ASael AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC  
27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

**STRUCTURAL DETAILS**

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

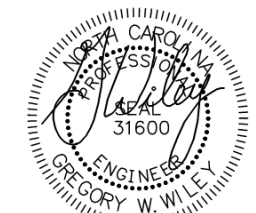
S-003



## SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
 AC SYSTEM SIZE: 10.000 kW  
 ANNUAL SOLAR OUPUT: 15864kWh/an  
 MODULES:  
 (36) Q CELLS Q.PEAK DUO-G6+ 350  
 INVERTER:  
 (1) SOLAREEDGE SE10000H-US  
 OPTIMIZER DETAILS  
 (36) P370 SOLAR EDGE POWER OPTIMIZER

## ENGINEER OF RECORD



09/30/21

## CUSTOMER INFORMATION

NAME & ADDRESS:  
 NOE ASael AGUILAR AMAYA  
 48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
 APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

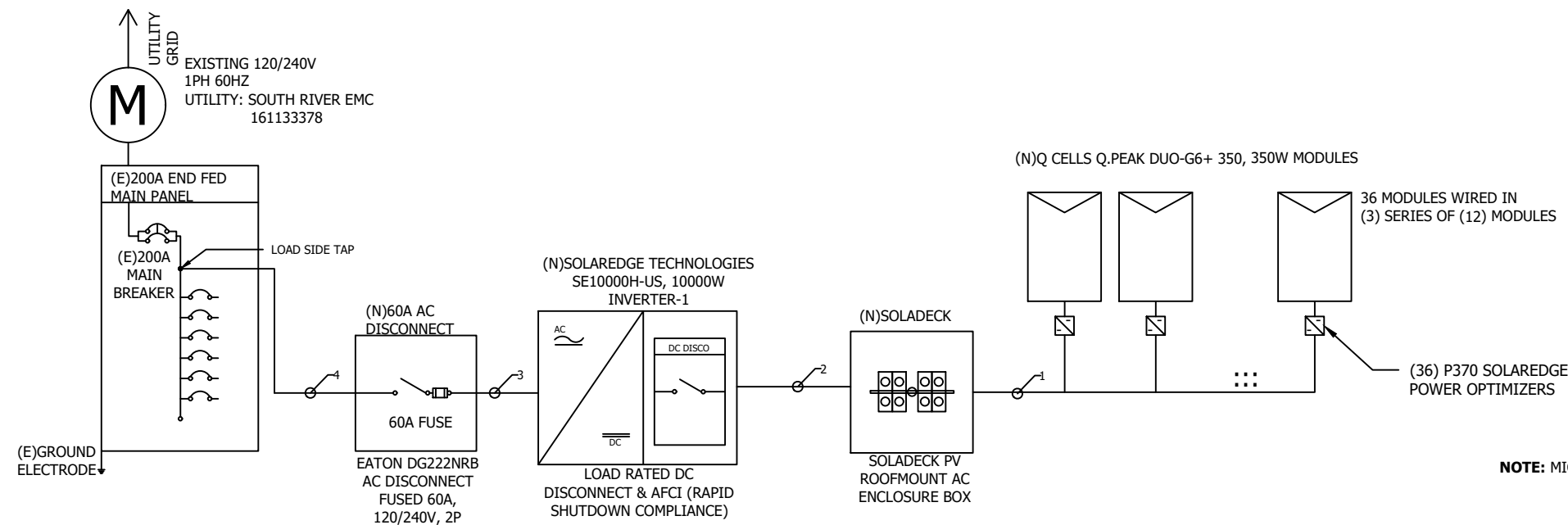
PROJECT NUMBER: ----

## SINGLE LINE DIAGRAM

DESIGNER / CHECKED BY:  
 J.B. / J.B.

SCALING: AS NOTED PAPER SIZE: 17"x11"

DATE: 9/17/21 REV:A E-001



NOTE: MICRO INVERTERS ARE RAPID SHUTDOWN COMPLIANT

MODULE -1 SPECIFICATION		INVERTER-1 SPECIFICATIONS		SYSTEM CHARACTERISTICS	
MODEL	Q CELLS Q.PEAK DUO-G6+ 350	MODEL	SOLAREEDGE SE10000H-US	DC SYSTEM SIZE	12600 W
MODULE POWER @ STC	350W	POWER RATING	10000W	INVERTER STRING VOLTAGE	400V
OPEN CIRCUIT VOLTAGE:Voc	40.73V	MAX OUPUT CURRENT	42A	MAX INVERTER SYSTEM VOLTAGE	480V
MAX POWER VOLTAGE:Vmp	34.07V	CEC WEIGHTED EFFICIENCY	0.99	MAX SHORT CIRCUIT CURRENT	45A
SHOR CIRCUIT VOLTAGE:Isc	10.79A	MAX INPUT CURRENT	27A	OPERATING CURRENT	31.5A
MAX POWER CURRENT:Imp	10.27A	MAX DC VOLTAGE	480V		

CONDUIT SCHEDULE					OPTIMIZER CHRACTERISTICS	
TAG ID	CONDUIT SIZE	CONDUCTOR	NEUTRAL	GROUND	MODEL	P370
1	NONE	(6) 10 AWG PV WIRE	NONE	(1) 6 AWG BARE COPPER	MIN INPUT VOLTAGE	8 VDC
2	3/4" EMT OR EQUIV	(6) 10 AWG THHN/THWN-2	NONE	(1) 10 AWG THHN/THWN-2	MAX INPUT VOLTAGE	60 VDC
3	3/4" EMT OR EQUIV	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	MAX INPUT CURRENT	11 ADC
4	3/4" EMT OR EQUIV	(2) 6 AWG THHN/THWN-2	(1) 6 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	MAX OUTPUT CURRENT	15 ADC

ELECTRICAL CALCULATION																						
DC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C																						
TAG ID	REQUIRED CONDUCTOR AMPACITY								CORRECTED AMPACITY CALCULATION				TERMINAL RATING CHECK			DERATED CONDUCTOR AMPACITY CHECK						
1	1	X	15.00	X	1	X	1.25	=	18.75A	40	X	0.71	X	1	=	28.40A	18.75A	<	30A	18.75A	<	28.40A
2	1	X	15.00	X	1	X	1.25	=	18.75A	40	X	0.76	X	0.8	=	24.32A	18.75A	<	30A	18.75A	<	24.32A
AC WIRE CALCULATIONS:- MATERIAL:COPPER & TEMPERATURE RATING:90°C																						
TAG ID	REQUIRED CONDUCTOR AMPACITY								CORRECTED AMPACITY CALCULATION				TERMINAL RATING CHECK			DERATED CONDUCTOR AMPACITY CHECK						
3	42	X	1	=	42.00	X	1.25	=	52.5A	75	X	0.91	X	1	=	68.25A	52.5	<	65A	52.5	<	68.25A
4	42	X	1	=	42.00	X	1.25	=	52.5A	75	X	0.91	X	1	=	68.25A	52.5	<	65A	52.5	<	68.25A

### OCPD CALCULATIONS:

MAIN PANEL RATING: 200A,  
 LOAD SIDE TAP:100% ALLOWABLE BACK FEED IS 200A  
 INVERTER OVERCURRENT PROTECTION=  
 INVERTER O/P I X CONTINUOUS LOAD(1.25)X  
 #OF INVERTERS =42X1.25X1=52.50A =< PV  
 BREAKER = 60A

### ELECTRICAL NOTES:

- MAXIMUM DC/AC VOLTAGE DROP SHALL BE NO MORE THAN 2%.
- BREAKER/FUSE SIZES CONFORMS TO NEC 240.6 CODE SECTION.
- AC GROUNDING ELECTRODE CONDUCTOR SIZED PER NEC 250.66.
- AMBIENT TEMPERATURE CORRECTION FACTOR IS BASED ON NEC 690.31(A).
- AMBIENT TEMPERATURE ADJUSTMENT FACTOR IS BASED ON NEC 310.15(B)(2)(C) AND 310.15(B)(2)(B)
- AC SYSTEM VOLTAGE CORRECTION IS PER NEC 690.7(A)
- CONDUCTORS ARE SIZED PER WIRE AMPACITY TABLE NEC 310.15(B)(16).
- CONDUCTORS EXPOSED TO SUNLIGHT SHALL BE LISTED AS SUNLIGHT RESISTANT PER NEC 310.10(D).
- CONDUCTORS EXPOSED TO WET LOCATIONS SHALL BE SUITABLE FOR USE IN WET LOCATIONS PER NEC 310.10(C).

**WARNING PLACARDS**

**WARNING**

**ELECTRIC SHOCK HAZARD**

THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNGROUNDED AND MAY BE ENERGIZED

LABEL LOCATION  
DC DISCONNECT, INVERTER  
[PER CODE: NEC 690.41]  
[To be used when inverter is ungrounded]

**WARNING**

**ELECTRIC SHOCK HAZARD**

DO NOT TOUCH TERMINALS  
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

LABEL LOCATION  
AC DISCONNECT, POINT OF INTERCONNECTION  
[PER CODE: NEC 690.13(B)]

**WARNING**

**ELECTRIC SHOCK HAZARD**

DO NOT TOUCH TERMINALS  
TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION  
AC DISCONNECT, POINT OF INTERCONNECTION  
[PER CODE: NEC 690.13(B)]

**WARNING-Electric Shock Hazard**  
**No User Serviceable Parts inside**  
**Contact authorized service provide for assistance**

LABEL LOCATION  
INVERTER, JUNCTION BOXES(ROOF),  
AC DISCONNECT  
[PER CODE: NEC 690.13]

**WARNING:PHOTOVOLTAIC POWER SOURCE**

LABEL LOCATION  
CONDUIT, COMBINER BOX  
[PER CODE: NEC690.31(G)(3)]

**WARNING**

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

LABEL LOCATION  
POINT OF INTERCONNECTION  
[PER CODE: NEC705.12(D)(4)]

**PHOTOVOLTAIC SYSTEM DC DISCONNECT**

MAXIMUM VOLATAGE 480 VDC  
MAXIMUM CIRCUIT CURRENT 45 ADC  
MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC TO DC CONCERTER (IF INSTALLED) 15 ADC

LABEL LOCATION  
DC DISCONNECT SWITCH, INVERTER  
REF. CODE: NEC 690.14(C)(2), NEC 690.53

**PHOTOVOLTAIC SYSTEM AC DISCONNECT SWITCH**

RATED AC OPERATING CURRENT 42.00 AMPS AC  
AC NOMINAL OPERATING VOLTAGE 240 VAC

LABEL LOCATION  
AC DISCONNECT , POINT OF INTERCONNECTION  
[PER CODE: NEC 690.54]

**WARNING**  
**INVERTER OUTPUT CONNECTION**  
**DO NOT RELOCATE THIS OVER-CURRENT DEVICE**

LABEL LOCATION  
POINT OF INTERCONNECTION  
(PER CODE: NEC 705.12(2)(b))  
[ Not Required if Panel board is rated not less than sum of ampere ratings of all overcurrent devices supplying it]

**CAUTION: SOLAR CIRCUIT**

LABEL LOCATION  
MARKINGS PLACED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLES AT LEAST EVERY 10 FT, AT TURNS AND ABOVE/BELOW PENETRATIONS AND ALL COMBINER/JUNCTION BOXES.  
(PER CODE: IFC605.11.1.4)

**SOLAR DISCONNECT**

LABEL LOCATION  
DISCONNECT, POINT OF INTERCONNECTION  
[PER CODE: NEC690.13(B)]

**CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED**

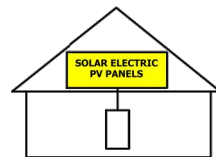
LABEL LOCATION  
WEATHER RESISTANT MATERIAL, DURABLE ADHESDIVE, UL969 AS STANDARD TO WEATHER RATING (UL LISTING OF MARKINGS NOT REQUIRED), MIN 3/8" LETTER HEIGHT ARIAL OR SIMILAR FONT NON-BOLD, PLACED WITHIN THE MAIN SERVICE DISCONNECT, PLACED ON THE OUTSIDE OF THE COVER WHEN DISCONNECT IS OPERATED WITH THE SERVICE PANEL CLOSED.  
(PWER CODE: NEC690.15 ,690.13(B))

**RAPID SHUTDOWN SWITCH FOR SOLAR SYSTEM**

LABEL LOCATION  
INVERTER, POINT OF INTERCONNECTION  
[PER CODE: NEC 690.56(C)(3)]

**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**

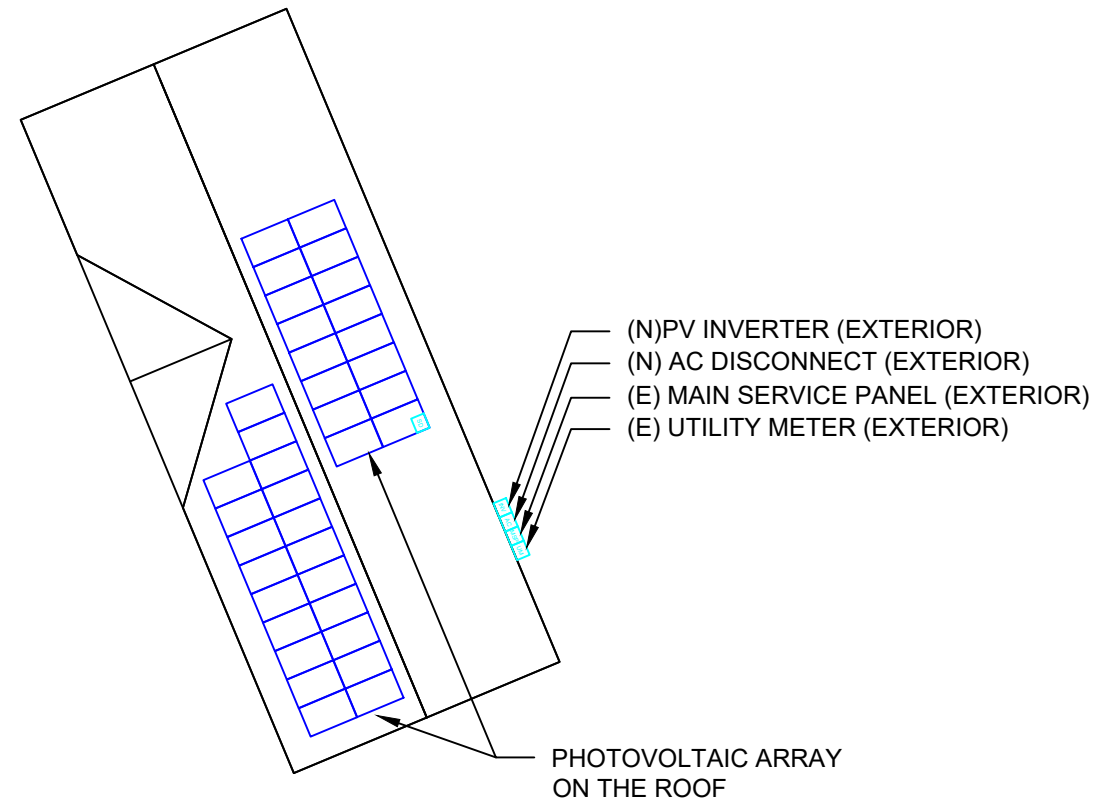


LABEL LOCATION  
POINT OF INTERCONNECTION  
(PER CODE: NEC690.56(C))

ALL PLACARDS SHALL BE OF WEATHER PROOF CONSTRUCTION, BACKGROUND ON ALL PLACARDS SHALL BE RED WITH WHITE LETTERING U.O.N.  
PLACARD SHALL BE MOUNTED DIRECTLY ON THE EXISTING UTILITY ELECTRICAL SERVICE.FASTENERS APPROVED BY THE LOCAL JURISDICTION

NOTE:ALL SIGNAGE CANNOT BE HAND WRITTEN NEC 110.21

**WARNING**   
**POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN**



48 BO BO WHITE LN, LILLINGTON, NC 27546

SYSTEM UTILIZES MICRO-INVERTERS LOCATED UNDER SOLAR MODULE



**SYSTEM INFORMATION**

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1)SOLAREEDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

**ENGINEER OF RECORD**



09/30/21

**CUSTOMER INFORMATION**

NAME & ADDRESS:  
NOE ASAEI AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

**WARNING PLACARDS**

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

E-003

powered by  
**Q.ANTUM DUO**

# Q.PEAK DUO-G6+ 340-355

ENDURING HIGH PERFORMANCE



- Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY**  
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.1%.
- INNOVATIVE ALL-WEATHER TECHNOLOGY**  
Optimal yields, whatever the weather with excellent low-light and temperature behavior.
- ENDURING HIGH PERFORMANCE**  
Long-term yield security with Anti LID and Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.
- EXTREME WEATHER RATING**  
High-tech aluminum alloy frame, certified for high snow (5400Pa) and wind loads (4000Pa).
- A RELIABLE INVESTMENT**  
Inclusive 25-year product warranty and 25-year linear performance warranty<sup>2</sup>.
- STATE OF THE ART MODULE TECHNOLOGY**  
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015, method B (-1500V, 168h)  
<sup>2</sup> See data sheet on rear for further information

**THE IDEAL SOLUTION FOR:**

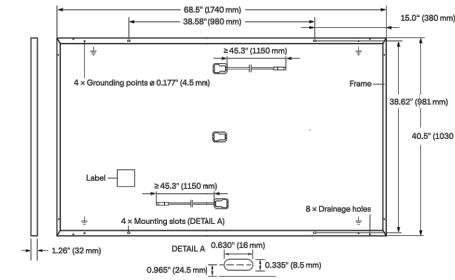


Engineered in Germany



Format	68.5 × 40.6 × 1.26 in (including frame) (1740 × 1030 × 32 mm)
Weight	43.9 lbs (19.9 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 20 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98 × 1.26-2.36 × 0.59-0.71 in (53-101 × 32-60 × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm <sup>2</sup> Solar cable; (+) ≥ 45.3 in (1150 mm), (-) ≥ 45.3 in (1150 mm)
Connector	Stäubli MC4; IP68

**MECHANICAL SPECIFICATION**

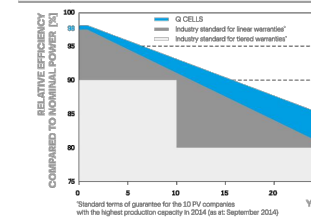


**ELECTRICAL CHARACTERISTICS**

POWER CLASS	340	345	350	355	
<b>MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC<sup>1</sup> (POWER TOLERANCE +5 W / -0 W)</b>					
Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	340	345	350	355
Short Circuit Current <sup>1</sup>	I <sub>SC</sub> [A]	10.68	10.73	10.79	10.84
Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub> [V]	40.24	40.49	40.73	40.98
Current at MPP	I <sub>MPP</sub> [A]	10.16	10.22	10.27	10.33
Voltage at MPP	V <sub>MPP</sub> [V]	33.45	33.76	34.07	34.38
Efficiency <sup>1</sup>	η [%]	≥ 19.0	≥ 19.3	≥ 19.5	≥ 19.8
<b>MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup></b>					
Power at MPP	P <sub>MPP</sub> [W]	254.5	258.2	261.9	265.7
Short Circuit Current	I <sub>SC</sub> [A]	8.60	8.65	8.69	8.74
Open Circuit Voltage	V <sub>OC</sub> [V]	37.94	38.17	38.41	38.65
Current at MPP	I <sub>MPP</sub> [A]	8.00	8.04	8.09	8.13
Voltage at MPP	V <sub>MPP</sub> [V]	31.81	32.10	32.40	32.69

<sup>1</sup> Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000 W/m<sup>2</sup>, 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • 2800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

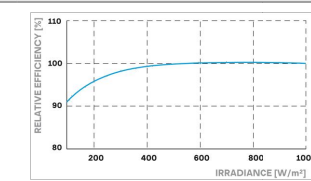
**Q CELLS PERFORMANCE WARRANTY**



At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organization of your respective country.

**PERFORMANCE AT LOW IRRADIANCE**



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>)

**TEMPERATURE COEFFICIENTS**

Temperature Coefficient of I <sub>SC</sub>	α [%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β [%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ [%/K]	-0.36	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

**PROPERTIES FOR SYSTEM DESIGN**

Maximum System Voltage V <sub>MYS</sub> [V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating [A DC]	20	Fire Rating based on ANSI/UL 61730	TYPE 2
Max. Design Load, Push / Pull <sup>3</sup> [lbs / ft <sup>2</sup> ]	75 (3600 Pa) / 55 (2667 Pa)	Permitted Module Temperature on Continuous Duty	-40 °F up to +185 °F (-40 °C up to +85 °C)
Max. Test Load, Push / Pull <sup>3</sup> [lbs / ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)		

**QUALIFICATIONS AND CERTIFICATES**

UL 1703, CE-compliant, VDE Quality Tested IEC 61215-2016, IEC 61780-2016, U.S. Patent No. 9,893,215 (solar cells)



**PACKAGING INFORMATION**

	Horizontal packaging	Vertical packaging
70.1 in / 1780 mm	42.5 in / 1080 mm	47.6 in / 1208 mm
1485 lbs / 674 kg	1485 lbs / 674 kg	1485 lbs / 674 kg
28 pallets	28 pallets	26 pallets
32 modules	32 modules	32 modules

**Note:** Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document "Packaging and Transport Information", available from Q CELLS.

**Hanwha Q CELLS America Inc.**  
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL Inquiry@us.q-cells.com | WEB www.q-cells.us



**SYSTEM INFORMATION**

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREEDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

**ENGINEER OF RECORD**

**CUSTOMER INFORMATION**

NAME & ADDRESS:  
NOE ASAE AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC 27546  
  
GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

**MODULE SPECSHEET**

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED	PAPER SIZE: 17"x11"	
DATE: 9/17/21	REV: A	SS-001

Specifications subject to technical changes © Q CELLS Q.PEAK DUO-G6+ DA\_340-355\_2020-07\_Rev01.NA

### SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
 AC SYSTEM SIZE: 10.000 kW  
 ANNUAL SOLAR OUPUT: 15864kWh/an  
 MODULES:  
 (36) Q CELLS Q.PEAK DUO-G6+ 350  
 INVERTER:  
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 OPTIMIZER DETAILS  
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UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

### INVERTER SPECSHEET

DESIGNER / CHECKED BY:  
 J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

SS-002

## / Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /  
 SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US	
APPLICABLE TO INVERTERS WITH PART NUMBER	SEXXXXH-XXXXXBXX4							
<b>OUTPUT</b>								
Rated AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
Maximum AC Power Output	3000	3800 @ 240V 3300 @ 208V	5000	6000 @ 240V 5000 @ 208V	7600	10000	11400 @ 240V 10000 @ 208V	VA
AC Output Voltage Min.-Nom.-Max. (211 - 240 - 264)	✓	✓	✓	✓	✓	✓	✓	Vac
AC Output Voltage Min.-Nom.-Max. (183 - 208 - 229)	-	✓	-	✓	-	-	✓	Vac
AC Frequency (Nominal)	59.3 - 60 - 60.5 <sup>(1)</sup>							Hz
Maximum Continuous Output Current @240V	12.5	16	21	25	32	42	47.5	A
Maximum Continuous Output Current @208V	-	16	-	24	-	-	48.5	A
Power Factor	Adjustable - 0.85 to 0.85							
GFDI Threshold	1							A
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes							
<b>INPUT</b>								
Maximum DC Power @240V	4650	5900	7750	9300	11800	15500	17650	W
Maximum DC Power @208V	-	5100	-	7750	-	-	15500	W
Transformer-less, Ungrounded	Yes							
Maximum Input Voltage	480							Vdc
Nominal DC Input Voltage	380							Vdc
Maximum Input Current @240V <sup>(2)</sup>	8.5	10.5	13.5	16.5	20	27	30.5	Adc
Maximum Input Current @208V <sup>(2)</sup>	-	9	-	13.5	-	-	27	Adc
Max. Input Short-Circuit Current	45							Adc
Reverse-Polarity Protection	Yes							
Ground-Fault Isolation Detection	1600ka Sensitivity							
Maximum Inverter Efficiency	99			99.2				%
CEC Weighted Efficiency			99				99 @ 240V 98.5 @ 208V	%
Nighttime Power Consumption	< 2.5							W

(1) For other regional settings please contact SolarEdge support  
 (2) A higher current source may be used; the inverter will limit its input current to the values stated

## Single Phase Inverter with HD-Wave Technology for North America

SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US /  
 SE7600H-US / SE10000H-US / SE11400H-US



12-25  
 YEAR  
 WARRANTY

INVERTERS

### Optimized installation with HD-Wave technology

- / Specifically designed to work with power optimizers
- / Record-breaking 99% weighted efficiency
- / Quick and easy inverter commissioning directly from a smartphone using the SolarEdge SetApp
- / Fixed voltage inverter for longer strings
- / Integrated arc fault protection and rapid shutdown for NEC 2014, NEC 2017 and NEC 2020 per article 690.11 and 690.12
- / UL1741 SA certified, for CPUC Rule 21 grid compliance
- / Small, lightweight, and easy to install both outdoors or indoors
- / Built-in module-level monitoring
- / Optional: Faster installations with built-in consumption metering (1% accuracy) and production revenue grade metering (0.5% accuracy, ANSI C12.20)

solaredge.com





## SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

## ENGINEER OF RECORD

## CUSTOMER INFORMATION

NAME & ADDRESS:  
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48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

## COMBINER SPECSHEET

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED PAPER SIZE: 17"x11"

DATE: 9/17/21 REV:A SS-003

# Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505

25  
YEAR  
WARRANTY



# POWER OPTIMIZER

## PV power optimization at the module-level

- Specifically designed to work with SolarEdge inverters
- Up to 25% more energy
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch losses, from manufacturing tolerance to partial shading
- Flexible system design for maximum space utilization
- Fast installation with a single bolt
- Next generation maintenance with module-level monitoring
- Meets NEC requirements for arc fault protection (AFCI) and Photovoltaic Rapid Shutdown System (PVRSS)
- Module-level voltage shutdown for installer and firefighter safety

solaredge.com

## Power Optimizer

For North America

P370 / P400 / P401 / P485 / P505

Optimizer model (typical module compatibility)	P370 (for higher-power 60 and 72-cell modules)	P400 (for 72 & 96-cell modules)	P401 (for high power 60 and 72 cell modules)	P485 (for high-voltage modules)	P505 (for higher current modules)	
<b>INPUT</b>						
Rated Input DC Power <sup>(1)</sup>	370		400	485	505	W
Absolute Maximum Input Voltage (Voc at lowest temperature)	60	80	60	125 <sup>(2)</sup>	83 <sup>(2)</sup>	Vdc
MPPT Operating Range	8 - 60	8 - 80	8-60	12.5 - 105	12.5 - 83	Vdc
Maximum Short Circuit Current (Isc)	11	10.1	11.75	11	14	Adc
Maximum Efficiency			99.5			%
Weighted Efficiency			98.8			%
Overvoltage Category			II			
<b>OUTPUT DURING OPERATION (POWER OPTIMIZER CONNECTED TO OPERATING SOLAREGE INVERTER)</b>						
Maximum Output Current			15			Adc
Maximum Output Voltage		60		85		Vdc
<b>OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM SOLAREGE INVERTER OR SOLAREGE INVERTER OFF)</b>						
Safety Output Voltage per Power Optimizer			1 ± 0.1			Vdc
<b>STANDARD COMPLIANCE</b>						
Photovoltaic Rapid Shutdown System	NEC 2014, 2017 & 2020			NEC 2014, 2017 & 2020	NEC 2014, 2017 & 2020	
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3					
Safety	IEC62109-1 (class II safety), UL1741					
Material	UL94 V-0, UV Resistant					
RoHS	Yes					
<b>INSTALLATION SPECIFICATIONS</b>						
Maximum Allowed System Voltage	1000					
Compatible inverters	All SolarEdge Single Phase and Three Phase inverters					
Dimensions (W x L x H)	129 x 153 x 27.5 / 5.1 x 6 x 1.1	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 153 x 29.5 / 5.1 x 6 x 1.16	129 x 153 x 33.5 / 5.1 x 6 x 1.3	129 x 162 x 59 / 5.1 x 6.4 x 2.3	mm / in
Weight (including cables)	655 / 1.4	750 / 1.7	655 / 1.4	845 / 1.9	1064 / 2.3	gr / lb
Input Connector	MC4 <sup>(3)</sup>			Single or dual MC4 <sup>(3)(4)</sup>	MC4 <sup>(3)</sup>	
Input Wire Length	0.16 / 0.52, 0.9 / 2.95 <sup>(4)</sup>	0.16 / 0.52	0.16 / 0.52, 0.9 / 2.95 <sup>(4)</sup>	0.16 / 0.52	0.16 / 0.52	m / ft
Output Wire Type / Connector	Double Insulated / MC4					
Output Wire Length	1.2 / 3.9					
Operating Temperature Range <sup>(5)</sup>	-40 to +85 / -40 to +185					
Protection Rating	IP68 / NEMA6P					
Relative Humidity	0 - 100					

- (1) Rated power of the module at STC will not exceed the optimizer "Rated Input DC Power". Modules with up to +5% power tolerance are allowed  
(2) NEC 2017 requires max input voltage be not more than 80V  
(3) For other connector types please contact SolarEdge  
(4) For dual version for parallel connection of two modules use P485-4NMDMRM. In the case of an odd number of PV modules in one string, installing one P485 dual version power optimizer connected to one PV module. When connecting a single module seal the unused input connectors with the supplied pair of seals  
(5) For ambient temperature above +85°C / +185°F power de-rating is applied. Refer to Power Optimizers Temperature De-Rating Technical Note for more details

PV System Design Using a SolarEdge Inverter <sup>(6)(7)</sup>	Single Phase HD-Wave	Single phase	Three Phase for 208V grid	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	P370, P400, P401 P485, P505	8 6	10 8	18 14	
Maximum String Length (Power Optimizers)		25	25	50	
Maximum Nominal Power per String		5700 <sup>(8)</sup> (6000 with SE7600-US - SE11400-US)	5250 <sup>(8)</sup>	6000 <sup>(8)</sup>	12750 <sup>(8)</sup> W
Parallel Strings of Different Lengths or Orientations	Yes				

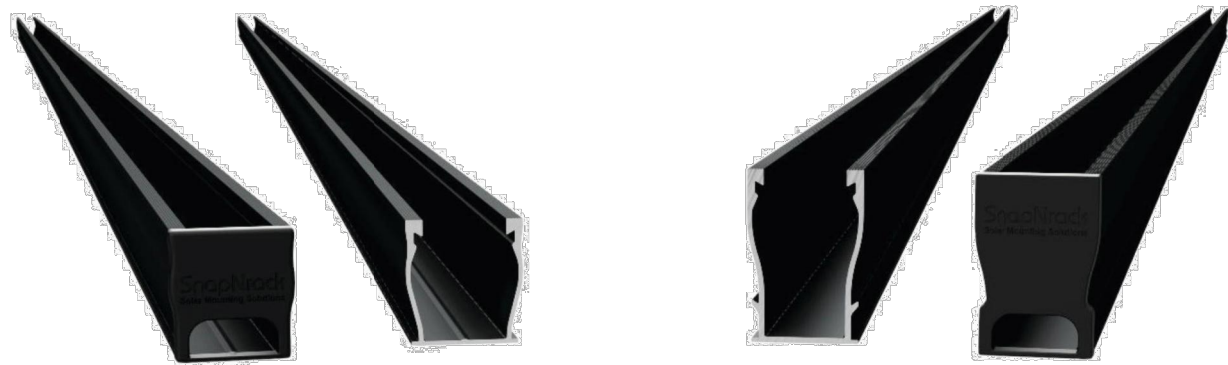
- (6) For detailed string sizing information refer to: [http://www.solaredge.com/sites/default/files/string\\_sizing\\_na.pdf](http://www.solaredge.com/sites/default/files/string_sizing_na.pdf)  
(7) It is not allowed to mix P485/P505 with P370/P400/P401 in one string  
(8) If the inverters rated AC power < maximum nominal power per string, then the maximum power per string will be able to reach up to the inverters maximum input DC power. Refer to: <https://www.solaredge.com/sites/default/files/se-power-optimizer-single-string-design-application-note.pdf>  
(9) For 208V grid: it is allowed to install up to 7,200W per string when the maximum power difference between each string is 1,000W  
(10) For 277/480V grid: it is allowed to install up to 15,000W per string when the maximum power difference between each string is 2,000W

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# Ultra Rail

**UR-40**  
**UR-60**




## The Ultimate Value in Rooftop Solar

 Industry leading Wire Management Solutions

 Mounts available for all roof types

 Single Tool Installation

 All SnapNrack Module Clamps & Accessories are compatible with both rail profiles

## Start Installing Ultra Rail Today

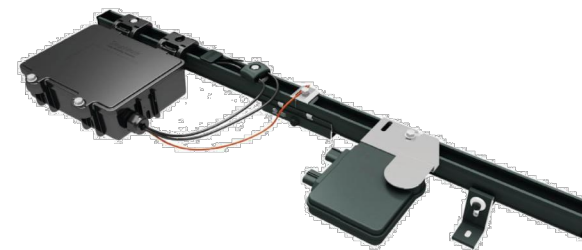
**RESOURCES** [snapnrack.com/resources](http://snapnrack.com/resources)  
**DESIGN** [snapnrack.com/configurator](http://snapnrack.com/configurator)  
**WHERE TO BUY** [snapnrack.com/where-to-buy](http://snapnrack.com/where-to-buy)

## SnapNrack Ultra Rail System

A sleek, straightforward rail solution for mounting solar modules on all roof types. Ultra Rail features two rail profiles; UR-40 is a lightweight rail profile that is suitable for most geographic regions and maintains all the great features of SnapNrack rail, while UR-60 is a heavier duty rail profile that provides a larger rail channel and increased span capabilities. Both are compatible with all existing mounts, module clamps, and accessories for ease of install.

### The Entire System is a Snap to Install

- New Ultra Rail Mounts include snap-in brackets for attaching rail
- Compatible with all the SnapNrack Mid Clamps and End Clamps customers love
- Universal End Clamps and snap-in End Caps provide a clean look to the array edge



### Unparalleled Wire Management

- Open rail channel provides room for running wires resulting in a long-lasting quality install
- Industry best wire management offering includes Junction Boxes, Universal Wire Clamps, MLPE Attachment Kits, and Conduit Clamps
- System is fully bonded and listed to UL 2703 Standard

### Heavy Duty UR-60 Rail

- UR-60 rail profile provides increased span capabilities for high wind speeds and snow loads
- Taller, stronger rail profile includes profile-specific rail splice and end cap
- All existing mounts, module clamps, and accessories are retained for the same great install experience



## Quality. Innovative. Superior.

SnapNrack Solar Mounting Solutions are engineered to optimize material use and labor resources and improve overall installation quality and safety.

877-732-2860 [www.snapnrack.com](http://www.snapnrack.com) [contact@snapnrack.com](mailto:contact@snapnrack.com)

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### SYSTEM INFORMATION

DC SYSTEM SIZE: 12.600 kW  
AC SYSTEM SIZE: 10.000 kW  
ANNUAL SOLAR OUPUT: 15864kWh/an  
MODULES:  
(36) Q CELLS Q.PEAK DUO-G6+ 350  
INVERTER:  
(1) SOLAREEDGE SE10000H-US  
OPTIMIZER DETAILS  
(36) P370 SOLAR EDGE POWER OPTIMIZER

### ENGINEER OF RECORD

### CUSTOMER INFORMATION

NAME & ADDRESS:  
NOE ASael AGUILAR AMAYA  
48 BO BO WHITE LN, LILLINGTON, NC 27546

GPS: 35.3425154, -78.9448008  
APN: 130528 0035

AHJ: NC-HARNETT COUNTY

UTILITY: SOUTH RIVER EMC

PROJECT NUMBER: ----

### RACKING SPECSHEET

DESIGNER / CHECKED BY:  
J.B. / J.B.

SCALING: AS NOTED

PAPER SIZE: 17"x11"

DATE: 9/17/21

REV:A

SS-004