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PV MATERIAL SUMMARY: DISTRIBUTOR	
Q.PEAK DUO BLK-G6+335	29
P340	29
SE10000H-US000BNU4	1
SE-CELL-B-R05-US-S-S2	1
XR-10-168B	4
XR-10-204B	10
XR-10-SPLC-M1	6
UFO-CL-01-B1	70
UFO-STP-32MM-B1	24
XR-LUG-03-A1	6
4 IN QB1	55
GC66803 Geocel Sealant	4
SOLADECK 0799-5B	3

CLIENT INFO	
ANDREW BOWMAN	
180 LYNCH AVENUE	
LILLINGTON, NC 27546	

PROJECT INFO	
DC INPUT:	9.72 kW
AC EXPORT:	10.00 kW
DOI INSPT. METHOD:	OPTION 2

CODE REFERENCES	
NATION ELECTRICAL CODE v. 2017	
NC FIRE PROTECTION CODE v. 2018	
NC BUILDING CODE v. 2018	
NC RESIDENTIAL CODE v. 2018	
ACSE v. 7-10	

SITE CONDITIONS	
WIND SPEED:	117 MPH
RISK CATEGORY:	II
EXPOSURE:	B
SNOW:	15 PSF

SHEET INDEX	
PV-1:	COVER SHEET
PV-2:	PV STRUCTURAL
PV-3:	PV ELECTRICAL
PV-4:	PV EQUIPMENT LABELS
PV-5:	PV INSTALL GUIDE

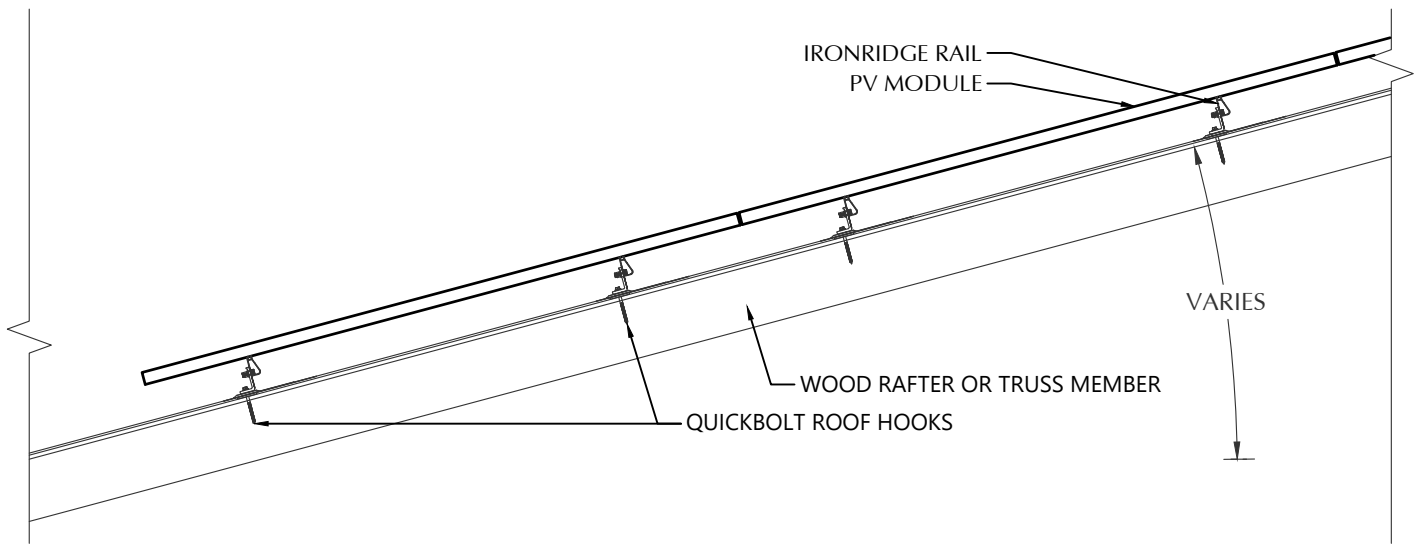
DESIGNER INFO	
DESIGNER	CRM
ENGINEER	AWK
DATE	11/14/2020
VERSION	P1

PV SYSTEM COVER PAGE	
PAGE	

**PV-1.1**



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**STATEMENT OF STRUCTURAL COMPLIANCE**

THE EXISTING ROOF STRUCTURE HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL LOADS OF THE PROPOSED PV SYSTEM. IN ADDITION, THE RACKING AND FASTENING SYSTEM SHALL BE CAPABLE OF SECURING THE SYSTEM TO THE STRUCTURE UNDER DESIGN CONDITIONS WHEN INSTALLED PROPERLY AND IN ACCORDANCE WITH THE RACKING AND FASTENING ARRANGEMENT DETAILED WITHIN THESE DRAWINGS.

NAME: ANDREW W. KING, PE

SIGNED: \_\_\_\_\_

PV MODULES	
MAKE	HANWHA Q-CELL
MODEL	Q,PEAK DUO BLK-G6 335
WIDTH	40.6"
LENGTH	68.5"
THICKNESS	32 mm
WEIGHT	43.9 LBS.
ARRAY AREA	431 SQFT.
ARRAY WEIGHT	1078 LBS.

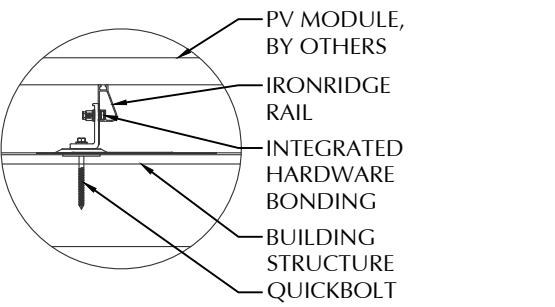
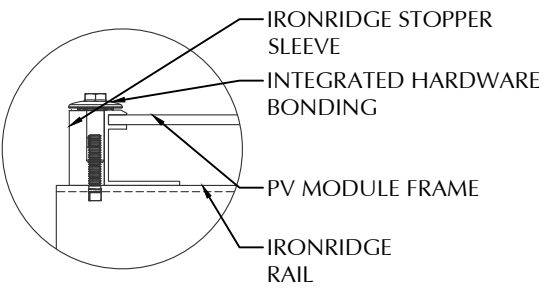
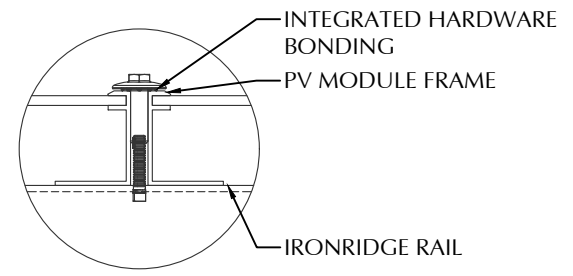
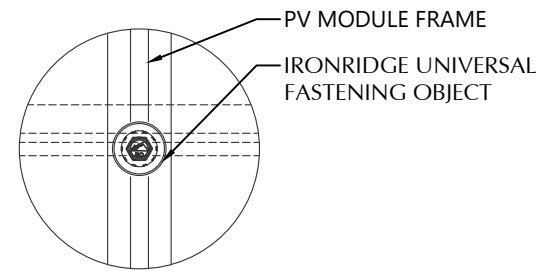
ROOF SUMMARY	
STRUCTURE:	
TYPE	TRUSSES
MATERIAL	SOUTHERN PINE #2
SIZE	2" X 6"
SPACING	24 IN O.C.
TOTAL SPAN	170 IN
PITCH	12/12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	COMPOSITE
THICKNESS	7/16 IN
WEIGHT	1.60 LBS/SQFT
ROOFING:	
TYPE	ARCH SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.3 LBS./SQFT.

ROOF MOUNT SUMMARY		
MAXIMUM	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	72 IN	19 IN
WIND ZONE 2	48 IN	19 IN
WIND ZONE 3	48 IN	19 IN

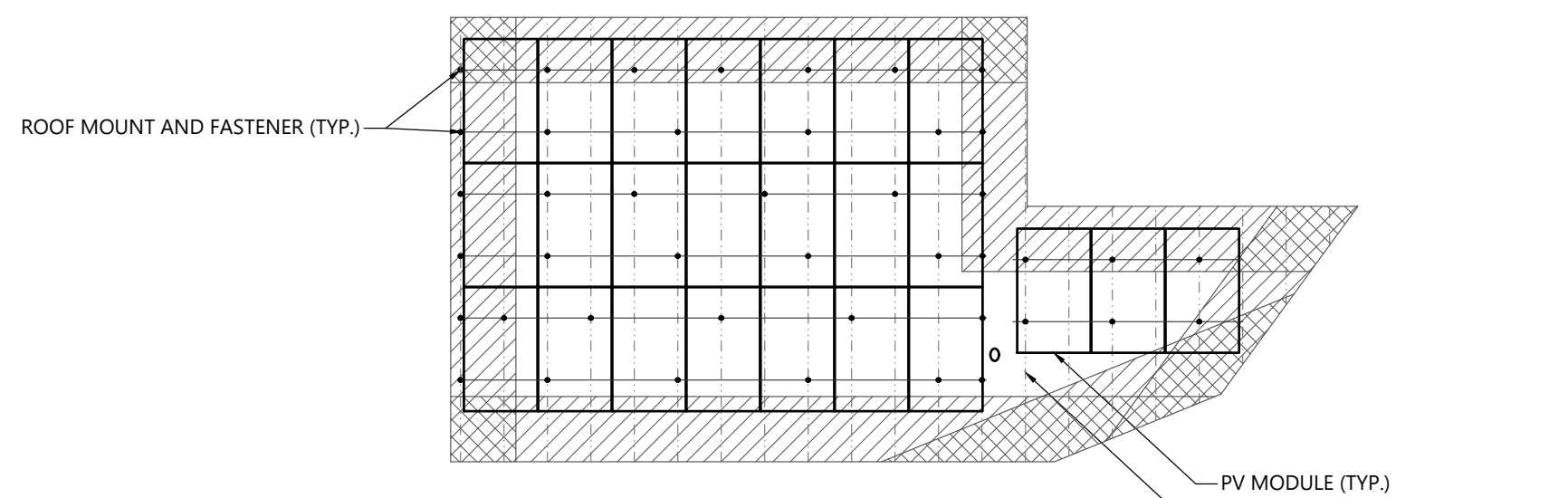
ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD	20 LBS./SQFT.
DEAD LOAD	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-26.9 LBS./SQFT.
UPLIFT ZONE 2	-32.4 LBS./SQFT.
UPLIFT ZONE 3	-32.4 LBS./SQFT.
DOWNWARD	24.7 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-443 LBS.
UPLIFT ZONE 2	-356 LBS.
UPLIFT ZONE 3	-356 LBS.
DOWNWARD	407 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT:	
MAKE	QUICKBOLT
MODEL	4 IN QB1
MATERIAL	STAINLESS / EPDM
FASTENER:	
MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-18 X 5-1/4"
GENERAL:	
WEIGHT	0.56 LBS.
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS.

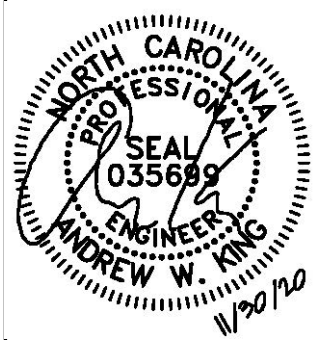
MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN



**1 ROOF FASTENER DETAIL**  
NOT TO SCALE



**2 ROOF ARRAY LAYOUT**  
1/8" = 1'-0"



**CLIENT INFO**  
ANDREW BOWMAN  
180 LYNCH AVENUE  
LILLINGTON, NC 27546

**PROJECT INFO**  
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DOI INSPT. METHOD: OPTION 2

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NATION ELECTRICAL CODE v. 2017  
NC FIRE PROTECTION CODE v. 2018  
NC BUILDING CODE v. 2018  
NC RESIDENTIAL CODE v. 2018  
ACSE v. 7-10

**SITE CONDITIONS**  
WIND SPEED: 117 MPH  
RISK CATEGORY: II  
EXPOSURE: B  
SNOW: 15 PSF

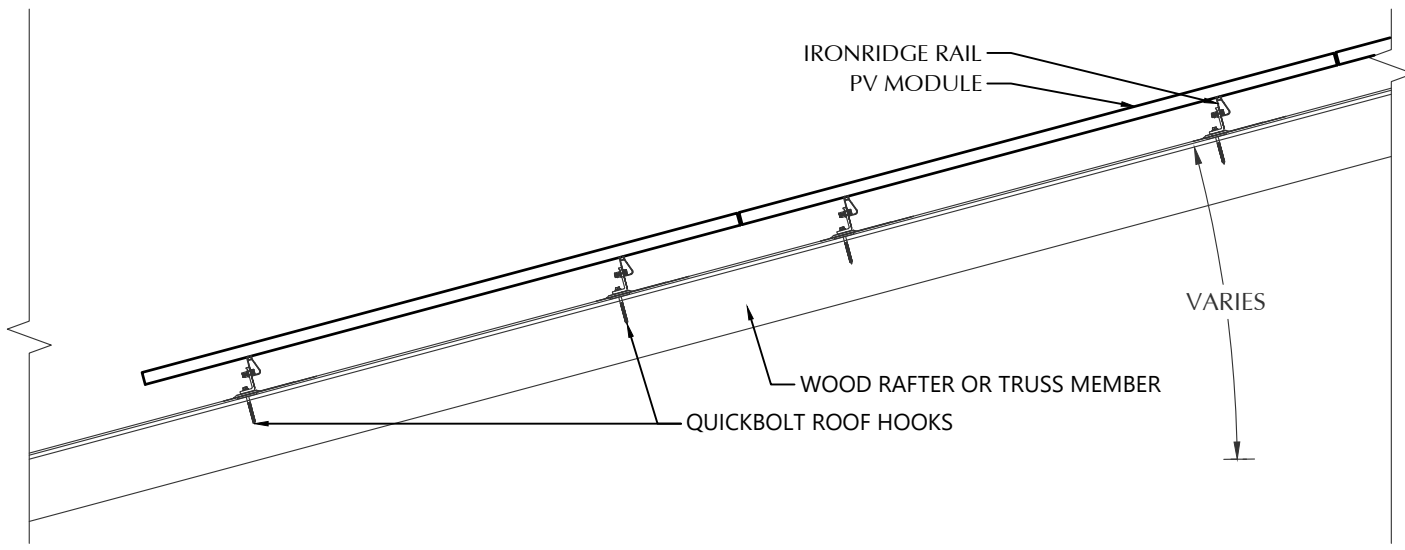
**SHEET INDEX**  
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**DESIGNER INFO**  
DESIGNER: CRM  
ENGINEER: AWK  
DATE: 11/14/2020  
VERSION: P1

**PV SYSTEM STRUCTURAL**

**PV-2.1**

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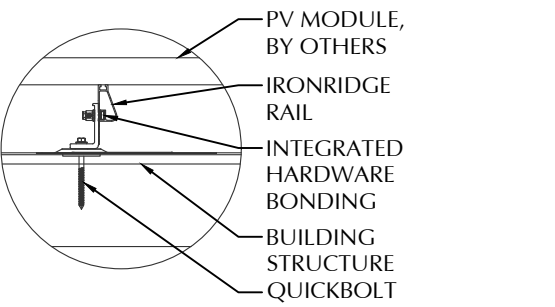
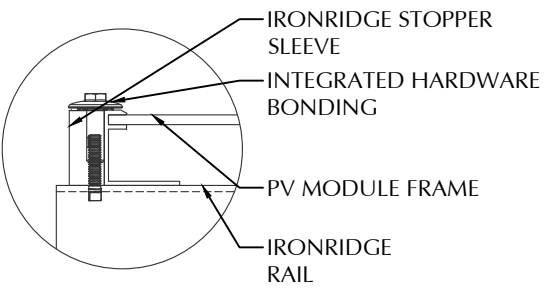
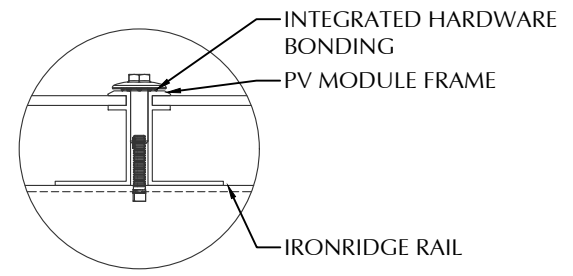
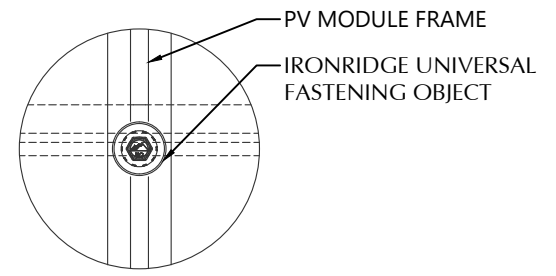
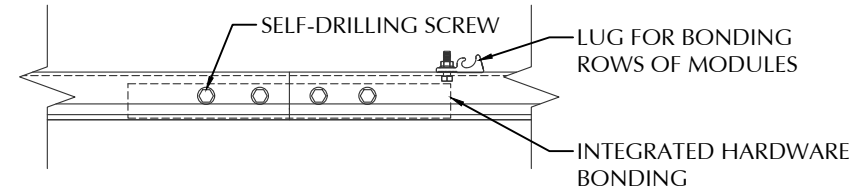


**STATEMENT OF STRUCTURAL COMPLIANCE**

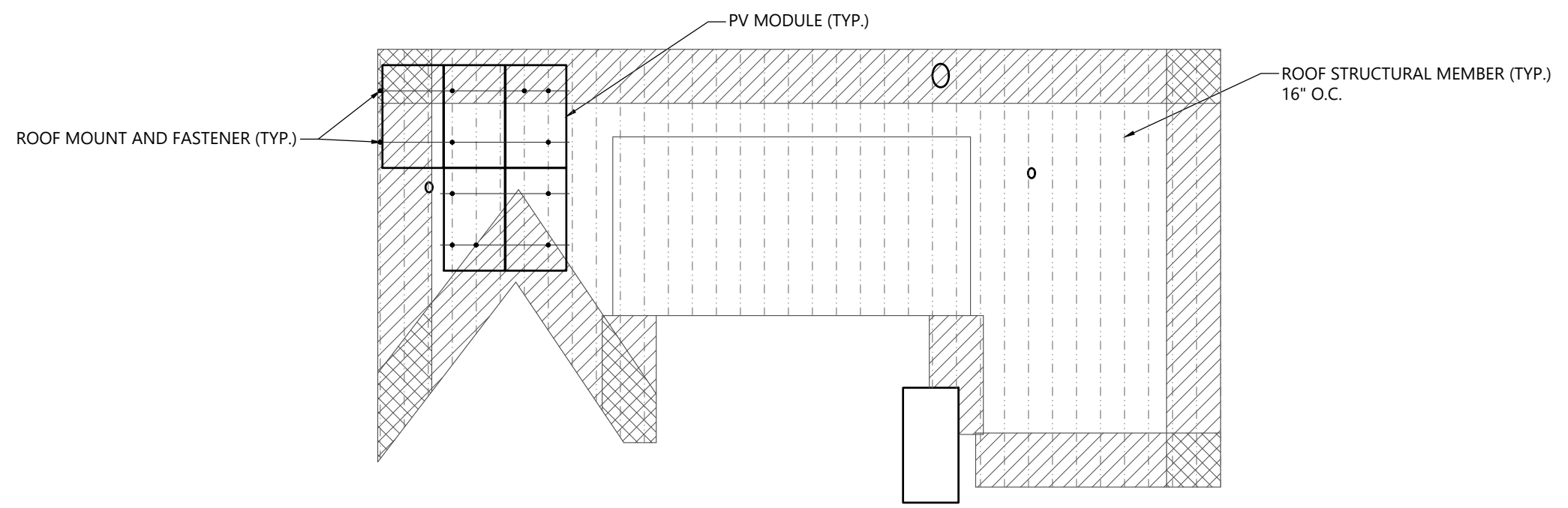
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NAME: ANDREW W. KING, PE

SIGNED: \_\_\_\_\_



**1 ROOF FASTENER DETAIL**  
NOT TO SCALE



**2 ROOF B ARRAY LAYOUT**  
1/8" = 1'-0"

PV MODULES	
MAKE	HANWHA
MODEL	Q.PEAK DUO BLK-G6+335
WIDTH	40.60 IN
LENGTH	68.50 IN
THICKNESS	32 MM
WEIGHT	43.90 LBS.
ARRAY AREA	97 SQFT.
ARRAY WEIGHT	241 LBS.

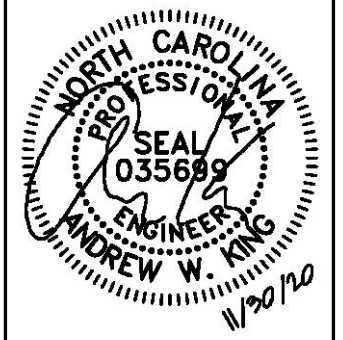
ROOF SUMMARY	
STRUCTURE:	
TYPE	RAFTERS
MATERIAL	SOUTHERN PINE #2
SIZE	2 X 8
SPACING	16 IN O.C.
EFFECTIVE SPAN	114 IN
PITCH	12/12
DENSITY	30 LBS./CU.FT.
DECKING:	
TYPE	OSB
MATERIAL	COMPOSITE
THICKNESS	7/16 IN
WEIGHT	1.60 LBS./SQFT
ROOFING:	
TYPE	ASPHALT SHINGLE
MATERIAL	ASPHALT
WEIGHT	2.30 LBS./SQFT.

ROOF MOUNT SUMMARY		
MAXIMUM (IN)	MOUNT SPACING	RAIL OVERHANG
WIND ZONE 1	64 IN	19 IN
WIND ZONE 2	48 IN	19 IN
WIND ZONE 3	48 IN	19 IN

ROOF LOADING	
GROUND SNOW LOAD:	15 LBS./SQFT.
LIVE LOAD	20 LBS./SQFT.
DEAD LOAD	
ROOFING	3.9 LBS./SQFT.
PV ARRAY	2.5 LBS./SQFT.
TOTAL	6.4 LBS./SQFT.
WIND LOAD:	
UPLIFT ZONE 1	-26.9 LBS./SQFT.
UPLIFT ZONE 2	-32.4 LBS./SQFT.
UPLIFT ZONE 3	-32.4 LBS./SQFT.
DOWNWARD	24.7 LBS./SQFT.
FASTENER LOAD:	
UPLIFT ZONE 1	-407 LBS.
UPLIFT ZONE 2	-368 LBS.
UPLIFT ZONE 3	-368 LBS.
DOWNWARD	374 LBS.

ROOF MOUNT & FASTENER	
ROOF MOUNT:	
MAKE	QUICKBOLT
MODEL	4 IN QB1
MATERIAL	STAINLESS / EPDM
FASTENER:	
MAKE	SOLAR ROOF HOOK
MODEL	HANGER BOLT
MATERIAL	304 SS
SIZE	5/16-18 X 5-1/4"
GENERAL:	
WEIGHT	0.56 LBS.
FASTENERS PER MOUNT	1
MAX. PULL-OUT FORCE	960.0 LBS.
SAFETY FACTOR	2
DESIGN PULL-OUT FORCE	480.0 LBS.

MOUNTING RAILS	
MAKE	IRONRIDGE
MODEL	XR10
MATERIAL	ALUMINUM
WEIGHT	0.425 LBS/IN
SPACING	34 IN



**CLIENT INFO**  
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180 LYNCH AVENUE  
LILLINGTON, NC 27546

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DOI INSPT. METHOD: OPTION 2

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ACSE v. 7-10

**SITE CONDITIONS**  
WIND SPEED: 117 MPH  
RISK CATEGORY: II  
EXPOSURE: B  
SNOW: 15 PSF

**SHEET INDEX**  
PV-1: COVER SHEET  
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**DESIGNER INFO**  
DESIGNER: CRM  
ENGINEER: AWK  
DATE: 11/14/2020  
VERSION: P1

**PV SYSTEM STRUCTURAL**

**PV-2.2**

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### CONDUCTOR SCHEDULE

TAG	CURRENT CARRYING CONDUCTORS			GROUNDING CONDUCTORS			CONDUIT/RACEWAY			NOTES
	QTY.	SIZE	INSULATION	QTY.	SIZE	INSULATION	QTY.	SIZE	LOCATION	
C1	4	10 AWG	PV WIRE	1	6 AWG	BARE	-	-	FREE AIR	1
C2	4	10 AWG	THWN	1	10 AWG	THWN	1	3/4"	EXT/INT	2,4
C3	3	6 AWG	THWN	1	10 AWG	THWN	1	3/4"	EXTERIOR	2,4
XC	-	-	-	-	-	-	-	-	-	3

**NOTES:**

1. MANUFACTURER PROVIDED, UL LISTED WIRING HARNESS FOR USE ON EXPOSED ROOFS
2. CONDUIT SIZE SHOWN IS CODE MINIMUM. LARGER SIZES ARE ALLOWED.
3. EXISTING CONDUCTORS, FIELD VERIFY
4. EQUIPMENT TERMINAL RATING SHALL BE A MINIMUM OF 75°C AT BOTH END OF CONDUCTOR

### PV MODULE

MAKE	HANWHA
MODEL	Q.PEAK DUO BLK-G6+335
NOM. POWER (PNOM)	335 WATTS
NOM. VOLT. (VMPP)	33.6 VOLTS
O.C. VOLT (VOC)	40.4 VOLTS
MAX. SYS. VOLT.	1000 VOLTS
NOM. CURR. (IMPP)	10.0 AMPS
S.C. CURR. (ISC)	10.5 AMPS
TEMP. COEF. (PMPP)	-.36 %/C
TEMP. COEF. (Voc)	-.27 %/C
MAX SERIES FUSE	20 AMPS

### SUB PANEL (EXISTING)

MAKE	SQUARE D
MODEL	QOC30UF
ENCL. RATING	NEMA 1
VOLT. RATING	240 VOLTS
BUS RATING	200 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	YES (NEW)
MAIN BREAKER RATING	200 AMPS

- INSTALL 200A MAIN BREAKER

### MODULE OPTIMIZER

MAKE	SOLAREEDGE
MODEL	P340
DC INPUT:	
NOM. POWER	340 WATTS
VOLT. RANGE	8 to 48
MAX. CURR.	11.0 AMPS
DC OUTPUT:	
NOM. POWER	340 WATTS
MAX. VOLT.	60 VOLTS
MAX. CURR.	15 AMPS
MIN-MAX STRING	8-25 OPTIMIZERS
UL LIST. (Y/N)	YES

### JUNCTION BOX

MAKE	SOLADECK
PROTECT. RATING	NEMA TYPE 3R
UL LIST. (Y/N)	YES

### METER COMBO (EXISTING)

MAKE	SQUARE D
MODEL	0 0 3 2 8 6 7
ENCL. RATING	NEMA 3R
VOLT. RATING	240
BUS RATING	200 AMPS
UL LIST. (Y/N)	YES
MAIN BREAKER (Y/N)	YES
MAIN BREAKER RATING	200 AMPS

- BACK-FEED SOLAR OUTPUT VIA 60A BREAKER AT THE OPPOSITE END OF THE BUS BAR FROM EXISTING POWER SOURCE
- MAIN BREAKER SERVES AS SERVICE DISCONNECT SWITCH

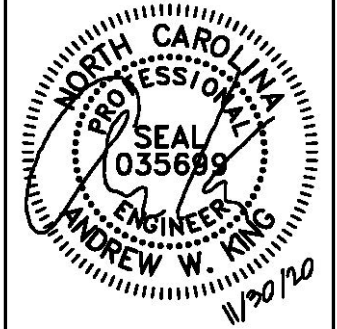
### DC / AC INVERTER

MAKE	SOLAREEDGE
MODEL	SE10000H-US000BNU4
DC INPUT:	
MAX POWER	15500 WATTS
VOLT. RANGE	400-480
NOM. VOLT.	400 VOLTS
MAX. CURRENT	27 AMPS
STRING INPUTS	3 STRINGS
AC OUTPUT:	
MAX. POWER	10000 WATTS
NOM. POWER	10000 WATTS
NOM. VOLT.	211-240-264
MAX. CURR.	42.00 AMPS
DC DISC. (Y/N)	YES
RAPID SHUTDOWN (Y/N)	YES
PROTECT. RATING	NEMA TYPE 4X
UL LIST. (Y/N)	YES
CONSUMPTION MONITOR	No

### AC DISCONNECT

MAKE	GENERIC
MODEL	NA
ENCL. RATING	NEMA 3R
VOLT. RATING	240 VOLTS
AMP RATING	60 AMPS
UL LIST. (Y/N)	YES
FUSED (Y/N)	NO
FUSE RATING	N/A

- LOAD-BREAK RATED
- VISIBLE OPEN
- LOCKABLE IN OPEN POSITION
- INSTALL ADJACENT TO METER
- DISCONNECT TO BE READILY ACCESSIBLE TO UTILITY COMPANY PERSONNEL AT ALL TIMES



### CLIENT INFO

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180 LYNCH AVENUE  
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### SITE CONDITIONS

WIND SPEED:	117 MPH
RISK CATEGORY:	II
EXPOSURE:	B
SNOW:	15 PSF

### SHEET INDEX

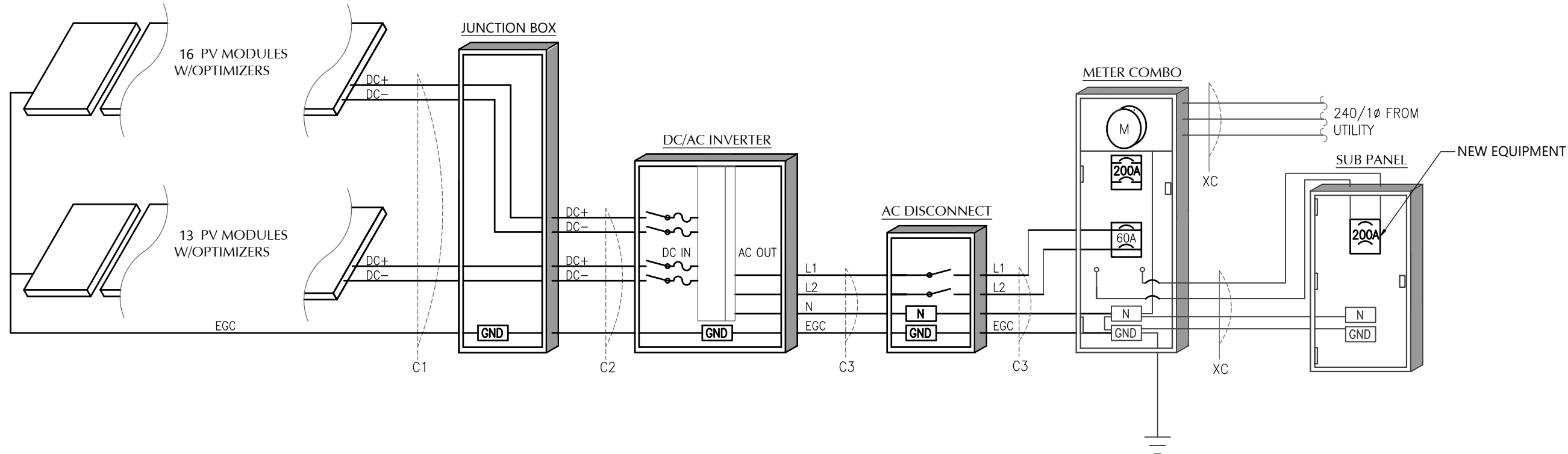
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### DESIGNER INFO

DESIGNER	CRM
ENGINEER	AWK
DATE	11/14/2020
VERSION	P1

### PV SYSTEM ELECTRICAL

# PV-3.1



1 ELECTRICAL SCHEMATIC  
NTS

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**⚠ WARNING**  
**ELECTRIC SHOCK HAZARD**  
 TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

NEC 690.13 (B)  
 PLACE ON PV SYSTEM DISCONNECTING MEANS.

**⚠ WARNING**  
**POWER SOURCE OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE**

NEC 705.12 (B)(2)(3)(b)  
 PLACE ADJACENT TO BACK-FED BREAKER

**⚠ WARNING**  
**DUAL POWER SUPPLY**  
 SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

NEC 705.12 (B)(3)  
 PLACE ON ALL EQUIPMENT THAT IS SUPPLIED BY BOTH POWER SOURCES

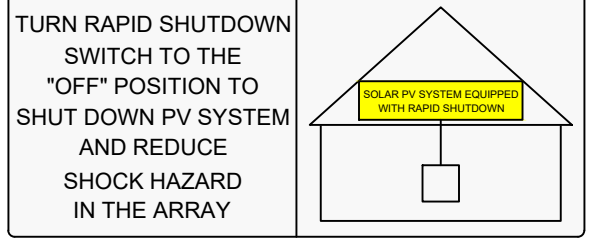
**WARNING: PHOTOVOLTAIC POWER SOURCE**

NEC 690.31 (G)(3)&(4)  
 PLACE ON ALL JUNCTION BOXES, EXPOSED RACEWAYS, AND OTHER WIRING METHODS EVERY 10' AND ON EVERY SECTION SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

NEC 690.56 (C)(3)  
 PLACE ON RAPID SHUTDOWN SWITCH OR EQUIPMENT WITH INTEGRATED RAPID SHUTDOWN \*REFLECTIVE\*

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**



NEC 690.56 (C)(1)(a)  
 PLACE WITHIN 3FT OF SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL INDICATE THE LOCATIONS OF RAPID SHUTDOWN SWITCHES

**PV SYSTEM DISCONNECT**

NEC 690.13 (B)  
 PLACE ON PV SYSTEM DISCONNECTING MEANS.

**PHOTOVOLTAIC POWER SOURCE**  
 OPERATING AC VOLTAGE 240 V  
 MAXIMUM OPERATING AC OUTPUT CURRENT 42.0 A

NEC 690.54  
 PLACE ON INTERCONNECTION DISCONNECTING MEANS

**DIRECT CURRENT PHOTOVOLTAIC POWER SOURCE**  
 MAXIMUM VOLTAGE 600 VDC  
 MAX CIRCUIT CURRENT 30.0 AMPS

NEC 690.53  
 PLACE ON ALL DC DISCONNECTING MEANS

**⚠ WARNING**  
**DO NOT ADD LOADS**

PLACE ON METER COMBO

**⚠ WARNING**  
 THIS EQUIPMENT FED BY MULTIPLE SOURCES. THE TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN SUPPLY OVERCURRENT DEVICE SHALL NOT EXCEED THE AMPACITY OF THE BUSBAR.

NEC 705.12 (B)(2)(c)  
 PLACE ON METER COMBO

**LABEL NOTES**

1. LABELS SHOWN ARE HALF THEIR ACTUAL REQUIRED SIZE.
2. LABEL MATERIAL SHALL BE SUITABLE FOR THE EQUIPMENT ENVIRONMENT.
3. DC CONDUIT SHALL BE MARKED WITH REQUIRED LABEL EVERY 10 FEET.
4. LABELS WILL BE APPLIED IN ACCORDANCE WITH THE NEC. SOME LABELS MAY NOT BE NECESSARY.

**DC WIRING NOTES**

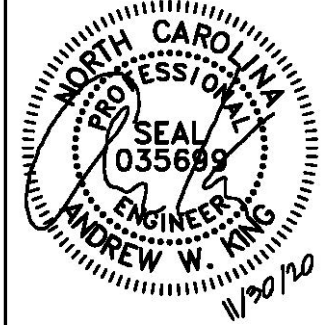
1. CONDUCTORS SHALL BE COPPER, RATED AT NOT LESS THAN 600 VOLTS FOR RESIDENTIAL CONSTRUCTION AND NOT LESS THAN 1000 VOLTS FOR COMMERCIAL CONSTRUCTION.
2. MINIMUM SIZE SHALL BE #10 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. EXPOSED WIRING CONDUCTOR INSULATION SHALL BE TYPE PV WIRE, USE-2, OR RHW-2 WHERE THE OUTER LAYER OF THE INSULATION IS UV, SUNLIGHT, AND MOISTURE RESISTANT.
6. EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT) OR RIGID POLYVINYL CHLORIDE CONDUIT(PVC). ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED AS WELL WHEN RATED FOR USE IN WET LOCATIONS.
7. INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN-2 AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), OR METAL CLAD CABLE(MC).
6. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
7. MINIMUM CONDUIT SIZE TO BE 1/2".
8. WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**AC WIRING NOTES**

1. CONDUCTORS SHALL BE COPPER RATED AT NOT LESS THAN 600 VOLTS.
2. MINIMUM SIZE SHALL BE #14 AWG UNLESS OTHERWISE NOTED ON THE DRAWINGS.
3. EXTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THWN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), RIGID POLYVINYL CHLORIDE CONDUIT(PVC), LIQUID-TIGHT FLEXIBLE METAL CONDUIT(LFMC), OR LIQUID-TIGHT FLEXIBLE NON-METALLIC CONDUIT(LFNC) . ALTERNATIVELY, METAL CLAD CABLE(MC) CAN BE USED AS WELL WHEN RATED FOR USE IN WET LOCATIONS.
4. INTERIOR WIRING CONDUCTOR INSULATION SHALL BE TYPE THHN AND INSTALLED IN ELECTRICAL METALLIC TUBING(EMT), FLEXIBLE METAL CONDUIT(FMC), METAL CLAD CABLE(MC), OR ROMEX.
5. USE SCHEDULE 40 PVC OUTDOORS WHERE NOT SUBJECT TO PHYSICAL DAMAGE OR BELOW FLOOR SLAB. USE SCHEDULE 80 PVC OUTDOORS WHERE SUBJECT TO PHYSICAL DAMMAGE
6. MINIMUM CONDUIT SIZE TO BE 1/2".
7. WIRING METHODS TO CONFORM TO ARTICLES 330, 334, 348, 350, 352, 356, AND 358 OF THE 2017 NEC.

**CONSTRUCTION NOTES**

1. ALL WORK IS TO BE PERFORMED IN ACCORDANCE WITH THE NEC, STATE, AND LOCAL APPLICABLE CODES.
2. FOLLOW MANUFACTURER'S INSTALLATION INSTRUCTIONS, BEST PRACTICES, AND SPECIFICATIONS.
3. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED.
4. WIRES SHALL BE RATED AND LABELED "SUNLIGHT RESISTANT" WHERE EXPOSED TO AMBIENT CONDITIONS.
5. FUSES 0 - 600 AMPS SHALL BE UL CLASS "RK-1" LOW PEAK DUAL ELEMENT TIME DELAY WITH 200,000 AMPERE INTERRUPTING RATING AS MANUFACTURED BY BUSSMANN, UNLESS NOTED OTHERWISE.
6. ALL TERMINALS/LUGS SHALL BE 75° RATED. ALL TERMINALS, SPlicing CONNECTORS, LUGS, ETC SHALL BE IDENTIFIED FOR USE WITH THE MATERIAL (CU/AL) OF THE CONDUCTOR AND SHALL BE PROPERLY INSTALLED.
7. PROVIDE A PULLWIRE IN ALL EMPTY CONDUITS.
8. ALL PENETRATIONS THROUGH EXTERIOR ROOFS SHALL BE FLASHED IN A WATERPROOF MANNER.
9. ALL PENETRATIONS THROUGH ATTIC FIRE BARRIERS SHALL BE SEALED WITH FIRE-BARRIER SEALANT CAULK.
10. SUPPORT ALL CONDUIT AND EQUIPMENT IN ACCORDANCE W/ NEC. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE.
11. METAL CONDUIT COUPLINGS CAN BE COMPRESSION TYPE, THREADED, OR BE SET-SCREW TYPE. PLASTIC CONDUIT COUPLINGS TO BE SOCKET GLUED TYPE.
12. A COMPLETE GROUNDING SYSTEM SHALL BE PRESENT OR PROVIDED AND INSTALLED IN ACCORDANCE WITH ARTICLE 250 OF THE NEC, AND AS SHOWN ON THE DRAWINGS.
13. EACH ELECTRICAL APPLIANCE SHALL BE PROVIDED WITH A NAMEPLATE GIVING THE IDENTIFYING NAME AND THE RATING IN VOLTS AND AMPERES, OR VOLTS AND WATTS. IF THE APPLIANCE IS TO BE USED ON A SPECIFIC FREQUENCY OR FREQUENCIES, IT SHALL BE SO MARKED. WHERE MOTOR OVERLOAD PROTECTION EXTERNAL TO THE APPLIANCES IS REQUIRED, THE APPLIANCE SHALL BE SO MARKED.
14. WHERE APPLICABLE, GROUNDING ELECTRODE CONDUCTOR TO BE CONTINUOUS. GROUNDING CRIMPS TO BE IRREVERSIBLE.
15. PHOTOVOLTAIC SYSTEMS SHALL BE PERMANENTLY MARKED AT VARIOUS EQUIPMENT LOCATIONS TO IDENTIFY THAT A PHOTOVOLTAIC SYSTEM IS INSTALLED AND THAT VARIOUS DANGERS ARE PRESENT.
16. EACH PHOTOVOLTAIC SYSTEM DISCONNECTING MEANS SHALL BE PERMANENTLY MARKED TO IDENTIFY IT AS A PHOTOVOLTAIC SYSTEM DISCONNECT.
17. WHERE ALL TERMINALS OF A DISCONNECTING MEANS MAY BE ENERGIZED IN THE OPEN POSITION, A WARNING SIGN SHALL BE MOUNTED ON OR ADJACENT TO THE DISCONNECT.
18. A PERMANENT LABEL FOR THE DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE SHALL BE PROVIDED AT THE DC DISCONNECT MEANS.
19. A PERMANENT PLAQUE OR DIRECTORY, DENOTING ALL ELECTRIC POWER SOURCES SERVING THE PREMISES, SHALL BE INSTALLED AT EACH SERVICE EQUIPMENT LOCATION AND AT LOCATIONS OF ALL POWER PRODUCTION SOURCES.
20. ALL MODULE GROUND CONNECTIONS SHALL BE MADE IN ACCORDANCE WITH NEC SECTION 690.4 (C)
21. A NORTH CAROLINA REGISTERED DESIGN PROFESSIONAL WILL BE REQUIRED TO SEAL THE STRUCTURAL DESIGN AT THE TIME OF PERMIT APPLICATION IF ANY OF THE FOLLOWING EXIST AND ARE ATTESTED TO BY THE APPLICANT:
  - I. THE WEIGHT OF THE PV SYSTEM EXCEEDS THREE (3) POUNDS PER SQUARE FOOT(PSF)
  - II. THE ROOF POSSESSES MORE THAN ONE (1) LAYER OF ASPHALT SHINGLES
  - III. THE ROOFING MATERIAL CONSISTS OF A TYPE OTHER THAN ASPHALT SHINGLES OR METAL
  - IV. THE ROOF IS LOCATED IN A 140 MPH OR GREATER WIND ZONE



**CLIENT INFO**

ANDREW BOWMAN
180 LYNCH AVENUE
LILLINGTON, NC 27546

**PROJECT INFO**

DC INPUT:	9.72 kW
AC EXPORT:	10.00 kW
DOI INSPT. METHOD:	OPTION 2

**CODE REFERENCES**

NATION ELECTRICAL CODE v. 2017
NC FIRE PROTECTION CODE v. 2018
NC BUILDING CODE v. 2018
NC RESIDENTIAL CODE v. 2018
ACSE v. 7-10

**SITE CONDITIONS**

WIND SPEED:	117 MPH
RISK CATEGORY:	II
EXPOSURE:	B
SNOW:	15 PSF

**SHEET INDEX**

PV-1:	COVER SHEET
PV-2:	PV STRUCTURAL
PV-3:	PV ELECTRICAL
PV-4:	PV EQUIPMENT LABELS
PV-5:	PV INSTALL GUIDE

**DESIGNER INFO**

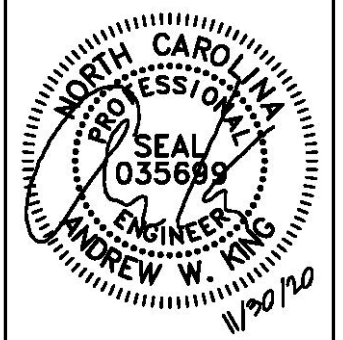
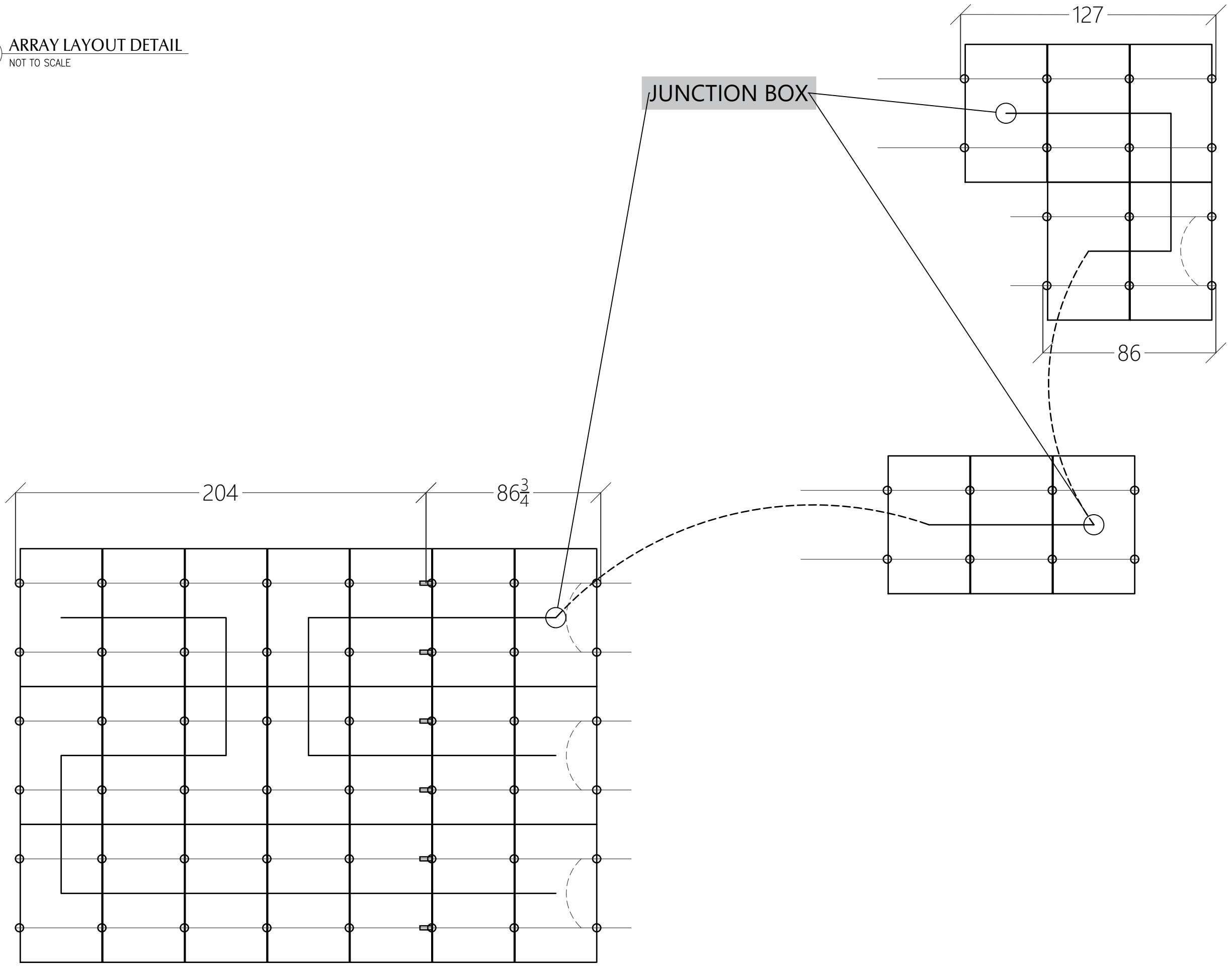
DESIGNER:	CRM
ENGINEER:	AWK
DATE:	11/14/2020
VERSION:	P1

**PV SYSTEM EQUIPMENT LABELS**

**PV-4.1**

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**1** ARRAY LAYOUT DETAIL  
NOT TO SCALE



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DESIGNER INFO	
DESIGNER	CRM
ENGINEER	AWK
DATE	11/14/2020
VERSION	P1

PV SYSTEM INSTALL  
GUIDE

**PV-5.1**