



ELECTRICAL RESIDENTIAL

910-893-7525

www.harnett.org

PERMIT NUMBER

ERES2211-0041

JOB ADDRESS: 58 RAINMAKER ST	PERMIT SUBTYPE: RESIDENTIAL SOLAR PANELS	PARCEL NO: 0544-57-1159.000
DESCRIPTION: roof mounted solar panels	DATE ISSUED: 12/5/2022	DATE EXPIRED:
PLAN NAME:	ZONING DISTRICT: RA-20R - 0.47 acres (100.0%)	

APPLICANT: Sigora Solar 1222 Harris Street Charlottesville, VA 22903	PHONE: (434)465-6788 EMAIL: permitting@sigorasolar.com
CONTRACTOR: Sigora Solar 1222 Harris Street Charlottesville, VA 22903	PHONE: (434)465-6788 EMAIL: permitting@sigorasolar.com
OWNER: REID CHAD 58 RAINMAKER ST LINDEN, NC 28356 LINDEN, NC 28356	PHONE: EMAIL:

REQUIRED INSPECTIONS

INSPECTION TYPE	APPROVAL	DATE	COMMENTS
FINAL**			
ROUGH IN			



Scott E. Wyssling, PE
Coleman D. Larsen, SE, PE
Gregory T. Elvestad, PE

76 North Meadowbrook Drive
Alpine, UT 84004
office (201) 874-3483
swyssling@wysslingconsulting.com

December 19, 2022

Sigora Solar LLC
490 Westfield Road STE A
Charlottesville, VA 22901

Re: Engineering Services (Post-Install)
Reid Residence
58 Rainmaker Street, Linden, NC
8.505 kW System

To Whom It May Concern:

Pursuant to your request, we have reviewed the installation of the above-referenced solar panel system. As you are aware, this office initially prepared a structural assessment, dated November 3rd, 2022, of the solar panel installation. This installation was inspected and found to be in compliance with the layout plan as specified in our report, product installation criteria, and the requirements of the current building codes. The installation is in compliance with the 2018 North Carolina Residential Code Book, professional engineering assessment and judgment and covers this dwellings assessment for solar panel connections and support only. We have determined that the equipment will not create a negative impact on the building's structural design, including any additional loads imposed (dead, snow, wind).

This letter pertains only to the panel support attachments to the roof framing and not the engineered photovoltaic panel products, components, or electrical-related installations/connections.

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

Very truly yours,

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

THIS PLAN HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SCOTT WYSSLING, PE USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES



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



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Gregory T. Elvestad, PE

76 North Meadowbrook Drive
Alpine, UT 84004
office (201) 874-3483
swyssling@wysslingconsulting.com

November 3, 2022

Sigora Solar LLC
490 Westfield Road STE A
Charlottesville, VA 22901

Re: Engineering Services
Reid Residence
58 Rainmaker Street, Linden, NC
8.505 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: 26 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 = 115 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.

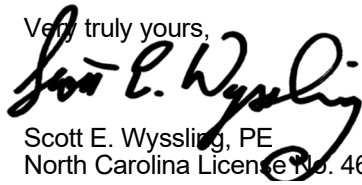
D. Solar Panel Anchorage

1. The solar panels shall be mounted in accordance with the most recent Unirac 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 $2\frac{1}{2}$ ", 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 $2\frac{1}{2}$ " 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, 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

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

Date Signed 11/3/2022

PROJECT DESCRIPTION:

21 x REC SOLAR: REC405AA PURE 405W MONO MODULES
 ROOF MOUNTED SOLAR PHOTOVOLTAIC MODULES
 DC SYSTEM SIZE: 8.505kW DC
 AC SYSTEM SIZE: 6.090kW AC

EQUIPMENT SUMMARY:

21 REC SOLAR: REC405AA PURE 405W MONO MODULES
 21 ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS
 EQUIPPED WITH RAPID SHUTDOWN

AUTHORITIES HAVING JURISDICTION:

BUILDING: HARNETT, COUNTY OF (NC)
 ZONING: HARNETT, COUNTY OF (NC)

SCOPE OF WORK:

DESIGNED FOR INSTALLATION OF GRID-TIED PHOTOVOLTAIC SOLAR SYSTEM

ROOF ARRAY AREA #1:- 258.83 SQ FT.
 ROOF ARRAY AREA #2:- 159.28 SQ FT.

APPLICABLE CODES & STANDARDS

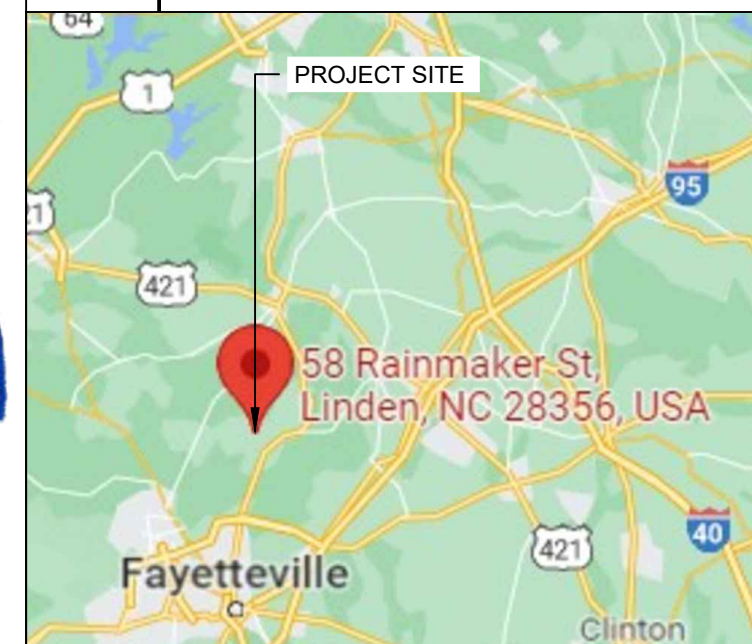
NCBC 2018
 NEC 2017

DESIGN SPECIFICATION

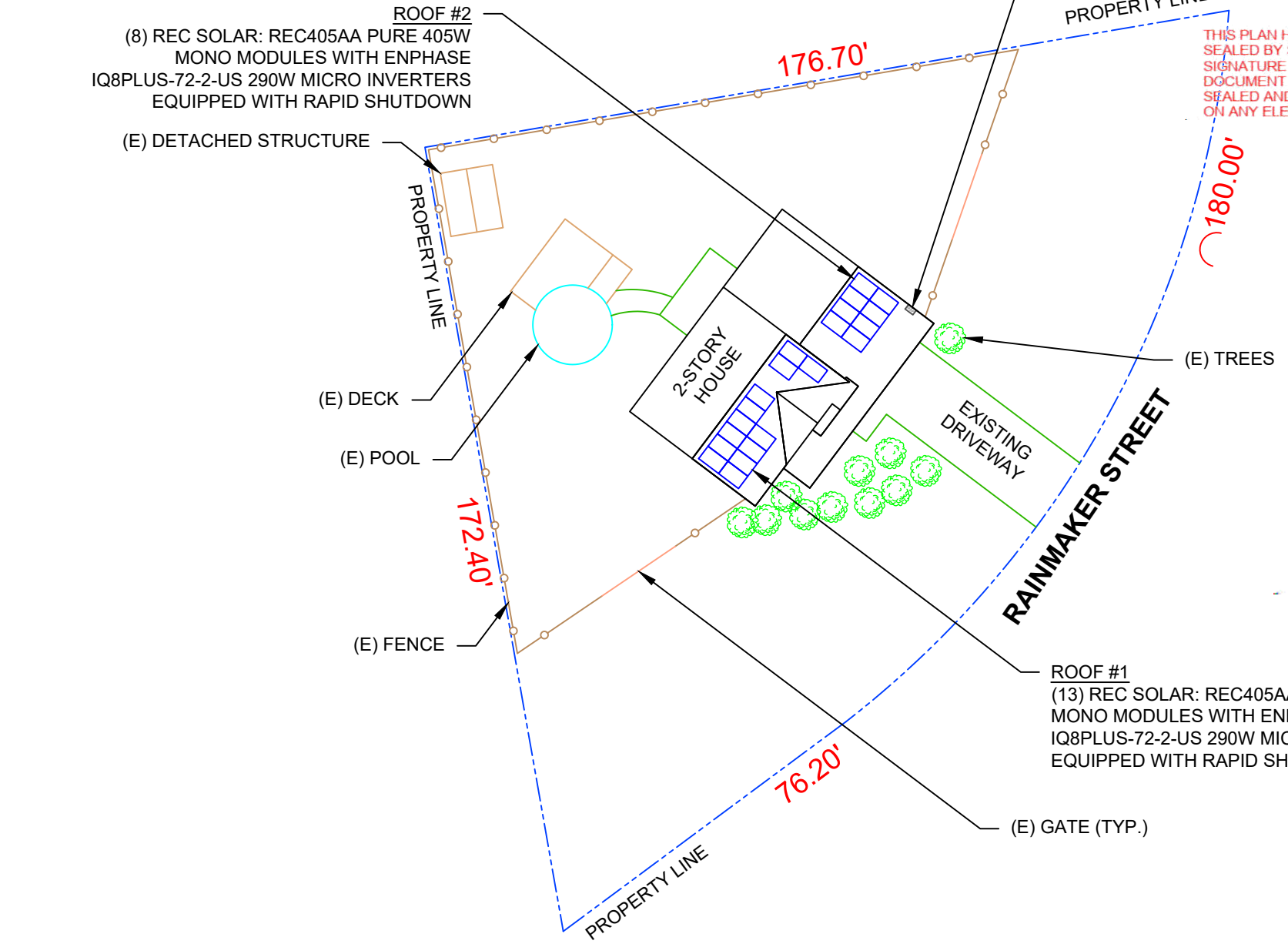
OCCUPANCY: II
 CONSTRUCTION: SINGLE-FAMILY
 ZONING: RESIDENTIAL
 GROUND SNOW LOAD: REFER STRUCTURAL LETTER
 WIND EXPOSURE: REFER STRUCTURAL LETTER
 WIND SPEED: REFER STRUCTURAL LETTER



2 HOUSE PHOTO
 PV-1 SCALE: NTS



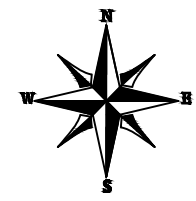
3 VICINITY MAP
 PV-1 SCALE: NTS



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Wyssling Consulting, PLLC
 76 N Meadowbrook Drive Alpine UT 84004
 North Carolina COA # P-2308
 Signed: 11/03/2022



1 PLOT PLAN WITH ROOF PLAN
 PV-1 SCALE: 1/32" = 1'-0"

SIGORA HOME
 SIGORA HOME LLC
 490 WESTFIELD RD STE A
 CHARLOTTEVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS
CHAD REID RESIDENCE
 58 RAINMAKER STREET,
 LINDEN, NC 28356

DRAWN BY
ESR

SHEET NAME
PLOT PLAN WITH ROOF PLAN

SHEET SIZE
**ANSI B
 11" X 17"**

SHEET NUMBER
PV-1

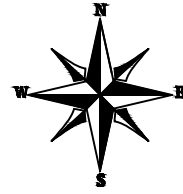
SHEET INDEX

PV-1	PLOT PLAN WITH ROOF PLAN
PV-2	ROOF PLAN & MODULES
PV-2A	CIRCUIT LAYOUT
PV-3	ATTACHMENT DETAIL
PV-4	ELECTRICAL LINE DIAGRAM
PV-5	LABELS
PV-6	PLACARD
PV-7	MICRO INVERTER CHART
PV-8	MODULE SPECIFICATIONS
PV-9	INVERTER SPECIFICATIONS
PV-10	COMBINER SPECIFICATIONS
PV-11	RAIL SPECIFICATIONS
PV-12	ATTACHMENT SPECIFICATIONS
PV-13	SOLADECK SPECIFICATIONS

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 21 MODULES
 MODULE TYPE = REC SOLAR: REC405AA PURE 405W MONO MODULES
 MODULE WEIGHT = 45.19 LBS / 20.5KG
 MODULE DIMENSIONS = 71.70"x 40.00" = 19.91 SF

- TOTAL WEIGHT OF PV MODULES AND RAILS = 1254.3 LBS
- WEIGHT PER ATTACHMENT POINT = 27 LBS
- DISTRIBUTED WEIGHT OF PV MODULE = 2.27 LBS/SF



ARRAY AREA & ROOF AREA CALC'S		
TOTAL PLAN VIEW PV ARRAY AREA (SQ. FT.)	TOTAL PLAN VIEW ROOF AREA (SQ. FT.)	ROOF AREA COVERED BY ARRAY (%)
375.90	2188.93	17

ROOF DESCRIPTION					
ROOF TYPE				ASPHALT SHINGLE	
ROOF LAYER				1 LAYER	
ROOF	# OF MODULES	ROOF PITCH	AZIMUTH	TRUSS SIZE	TRUSS SPACING
#1	13	26°	127°	2X4	24"
#2	8	26°	127°	2X4	24"

SIGORA HOME

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DATE: 11/03/2022

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CHAD REID RESIDENCE
 58 RAINMAKER STREET,
 LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

ROOF PLAN & MODULES

SHEET SIZE

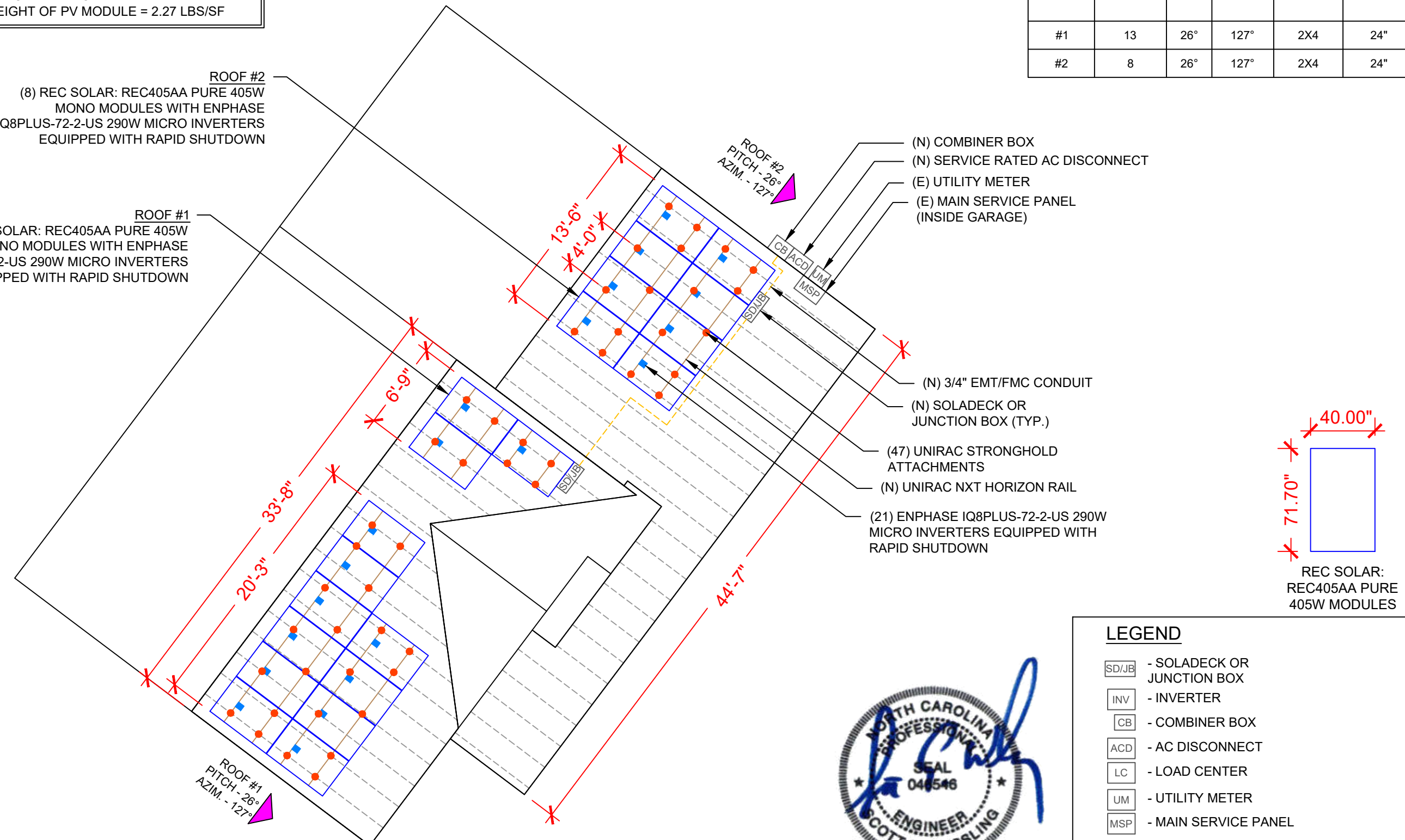
ANSI B
 11" X 17"

SHEET NUMBER

PV-2

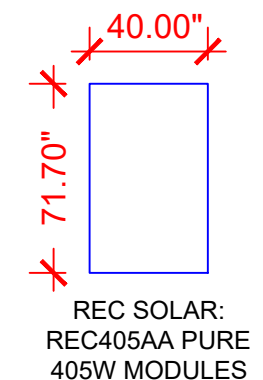
ROOF #2
 (8) REC SOLAR: REC405AA PURE 405W MONO MODULES WITH ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN

ROOF #1
 (13) REC SOLAR: REC405AA PURE 405W MONO MODULES WITH ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN



- (N) COMBINER BOX
- (N) SERVICE RATED AC DISCONNECT
- (E) UTILITY METER
- (E) MAIN SERVICE PANEL (INSIDE GARAGE)

- (N) 3/4" EMT/FMC CONDUIT
- (N) SOLADECK OR JUNCTION BOX (TYP.)
- (47) UNIRAC STRONGHOLD ATTACHMENTS
- (N) UNIRAC NXT HORIZON RAIL
- (21) ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN



LEGEND

- [SD/JB] - SOLADECK OR JUNCTION BOX
- [INV] - INVERTER
- [CB] - COMBINER BOX
- [ACD] - AC DISCONNECT
- [LC] - LOAD CENTER
- [UM] - UTILITY METER
- [MSP] - MAIN SERVICE PANEL
- [] - VENT, ATTIC FAN (ROOF OBSTRUCTION)
- - ROOF ATTACHMENT
- - - - - TRUSS
- - - - - CONDUIT



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 76 N Meadowbrook Drive Alpine UT 84004
 North Carolina COA # P-2308
 Signed: 11/03/2022

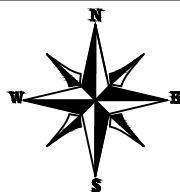
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1 ROOF PLAN & MODULES

PV-2 SCALE: 1/8" = 1'-0"

CIRCUIT LEGENDS

- - - - - CIRCUIT #1
- - - - - CIRCUIT #2



BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULES	21	REC SOLAR: REC405AA PURE 405W
MICRO INVERTERS	21	ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN
SOLADECKS OR JUNCTION BOXES	2	SOLADECKS OR JUNCTION BOXES
MODULE CLAMPS	30	MID MODULE CLAMPS
END CLAMPS	24	END CLAMPS / STOPPER SLEEVE
ATTACHMENT	47	UNIRAC STRONGHOLD ATTACHMENT
BOLT	47	LAG BOLT

SIGORA HOME

SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS

**CHAD REID
RESIDENCE**

58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

**CIRCUIT
LAYOUT**

SHEET SIZE

**ANSI B
11" X 17"**

SHEET NUMBER

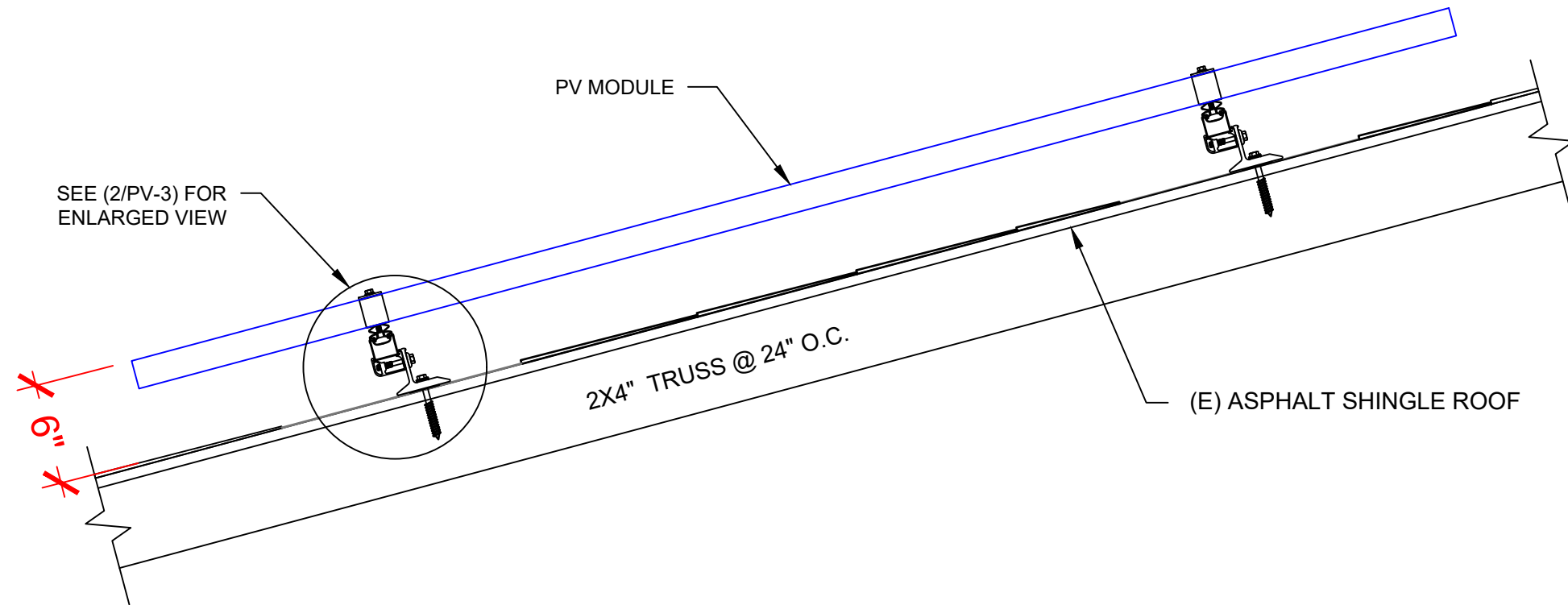
PV-2A



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76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2308

Signed: 11/03/2022

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1 | STRUCTURAL ATTACHMENT (SIDE VIEW)

PV-3

SCALE: N.T.S



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DATE: 11/03/2022

PROJECT NAME & ADDRESS

CHAD REID
RESIDENCE
58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

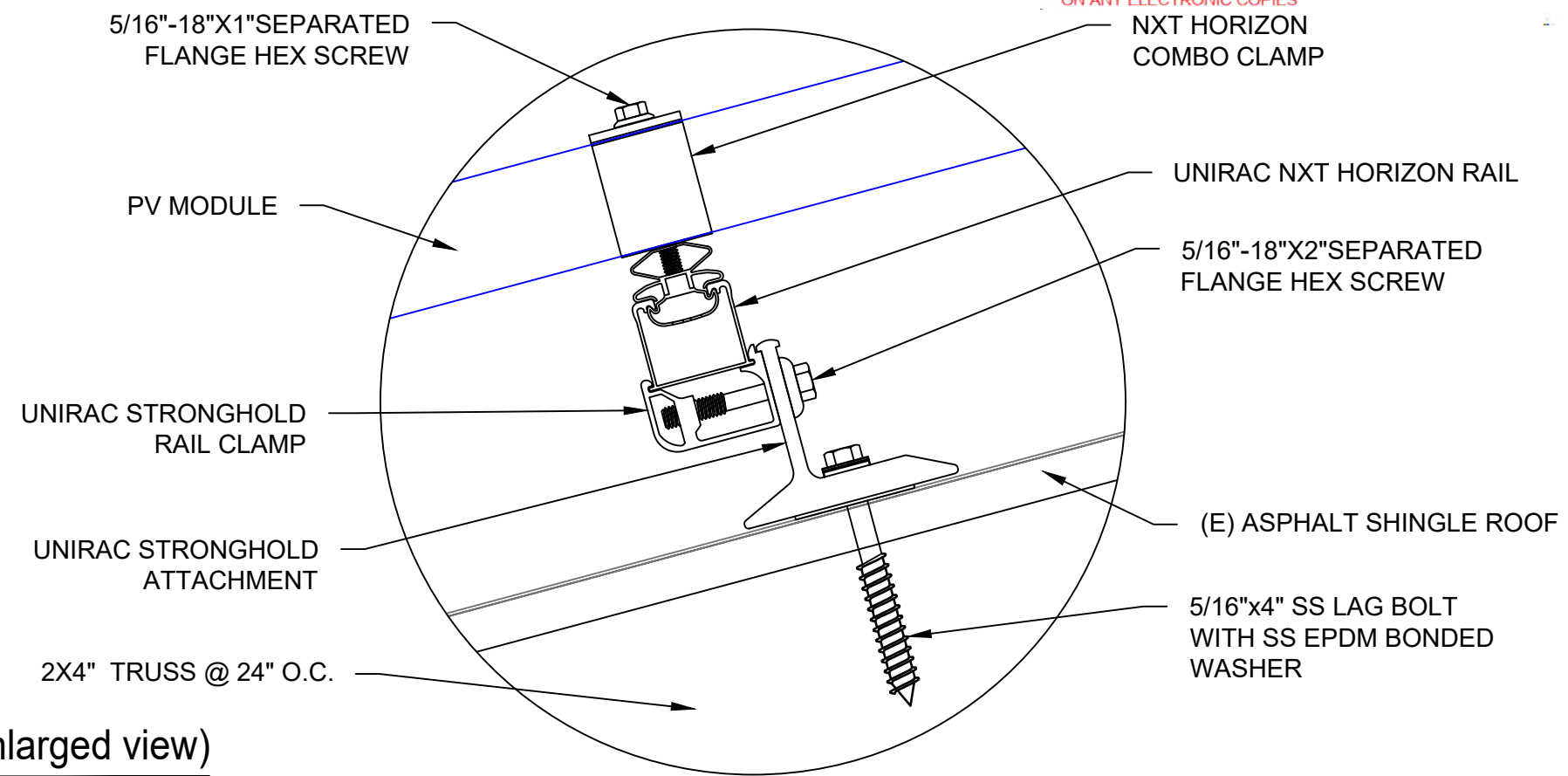
ATTACHMENT
DETAIL

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-3



2 | ATTACHMENT DETAIL (enlarged view)

PV-3

SCALE: N.T.S

DC SYSTEM SIZE: 8.505 kW DC
AC SYSTEM SIZE: 6.090 kW AC

(21) REC SOLAR: REC405AA PURE 405W MONO MODULES WITH (21) ENPHASE IQ8PLUS-72-2-US 290W MICRO INVERTERS EQUIPPED WITH RAPID SHUTDOWN
(1) BRANCH CIRCUIT OF 13 MODULES AND
(1) BRANCH CIRCUIT OF 8 MODULES CONNECTED IN PARALLEL

INTERCONNECTION NOTES:

1. INTERCONNECTION SIZING, LIMITATIONS AND COMPLIANCE DETERMINED IN ACCORDANCE WITH [NEC 705.12], AND [NEC 690.64].
2. GROUND FAULT PROTECTION IN ACCORDANCE WITH [NEC 215.9], [NEC 230.95] AND [NEC 690.5]
3. ALL EQUIPMENT TO BE RATED FOR BACKFEEDING.
4. PV BREAKER TO BE POSITIONED AT THE OPPOSITE END OF THE BUSBAR RELATIVE TO THE MAIN BREAKER.

DISCONNECT NOTES:

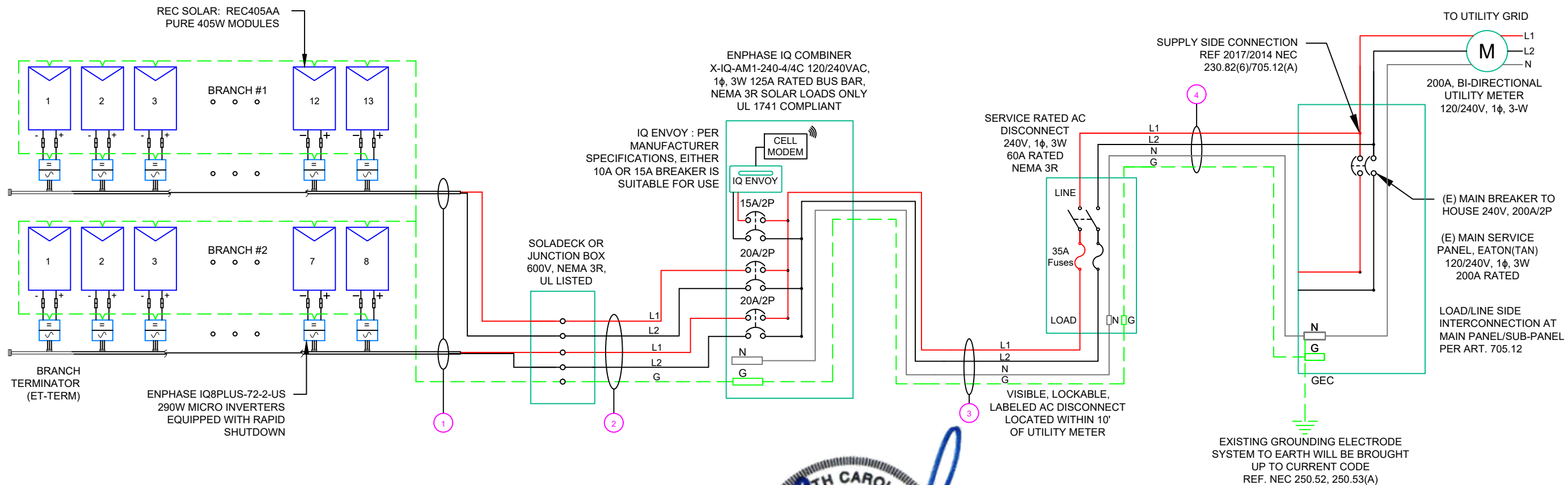
1. DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING LIVE ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS)
2. AC DISCONNECT MUST BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH

RACKING NOTE:

1. BOND EVERY RAIL WITH #6 BARE COPPER

GROUNDING & GENERAL NOTES:

1. A SECOND FACILITY GROUNDING ELECTRODE IS NOT REQUIRED PER [NEC 690.47(C)(3)]
2. PV INVERTER IS UNGROUNDED, TRANSFORMER-LESS TYPE.
3. DC GEC AND AC EGC TO REMAIN UNSPLICED, OR SPLICED TO EXISTING ELECTRODE
4. ANY EXISTING WIRING INVOLVED WITH PV SYSTEM CONNECTION THAT IS FOUND TO BE INADEQUATE PER CODE SHALL BE CORRECTED PRIOR TO FINAL INSPECTION.
5. SOLADECK OR JUNCTION BOX QUANTITIES, AND PLACEMENT SUBJECT TO CHANGE IN THE FIELD - SOLADECK OR JUNCTION BOX DEPICTED ON ELECTRICAL DIAGRAM REPRESENT WIRE TYPE TRANSITIONS.
6. AC DISCONNECT NOTED IN EQUIPMENT SCHEDULE OPTIONAL IF OTHER AC DISCONNECTING MEANS IS LOCATED WITHIN 10' OF SERVICE DISCONNECT
7. RACEWAYS AND CABLES EXPOSED TO SUNLIGHT ON ROOFTOPS SHOULD BE INSTALLED MORE THAN 7/8" ABOVE THE ROOF USING CONDUIT SUPPORTS.
8. 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.



SIGORA HOME
SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

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PROJECT NAME & ADDRESS
CHAD REID RESIDENCE
58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY
ESR

SHEET NAME
ELECTRICAL LINE DIAGRAM

SHEET SIZE
ANSI B 11" X 17"

SHEET NUMBER
PV-4



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

Signed: 11/03/2022

QTY	CONDUCTOR INFORMATION	CONDUIT TYPE	CONDUIT SIZE
① (4)	#12AWG - ENPHASE ENGAGE CABLE (L1 & L2 NO NEUTRAL)	N/A	N/A
(1)	#6AWG - BARE COPPER IN FREE AIR		
② (4)	#10AWG - CU, THWN-2	EMT OR FMC IN ATTIC	3/4"
(1)	#10AWG - CU, THWN-2 GND		
(2)	#6AWG - CU, THWN-2	EMT, LFMC OR PVC	3/4"
(1)	#6AWG - CU, THWN-2 N		
(1)	#8AWG - CU, THWN-2 GND		
(2)	#6AWG - CU, THWN-2	EMT, LFMC OR PVC	3/4"
(1)	#6AWG - CU, THWN-2 N		
(1)	#8AWG - CU, THWN-2 GND		

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**WARNING:PHOTOVOLTAIC
POWER SOURCE**

LABEL 1

AT DIRECT-CURRENT EXPOSED RACEWAYS, CABLE TRAYS, COVERS AND ENCLOSURES OF JUNCTION BOXES, AND OTHER WIRING METHODS; SPACED AT MAXIMUM 10FT SECTION OR WHERE SEPARATED BY ENCLOSURES, WALLS, PARTITIONS, CEILINGS, OR FLOORS.

NEC 690.31(G)(3&4)

(NOT USED FOR ENPHASE MICROINVERTERS)

PHOTOVOLTAIC

DC DISCONNECT

LABEL 2

AT EACH PV DISCONNECTING MEANS

NEC 690.13(B)

(NOT USED FOR ENPHASE MICROINVERTERS)

MAXIMUM VOLTAGE
 MAXIMUM CIRCUIT CURRENT
 MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC CONVERTER (IF INSTALLED)

LABEL 3

AT DC PV SYSTEM DISCONNECT

NEC 690.53

(NOT USED FOR ENPHASE MICROINVERTERS)

PHOTOVOLTAIC

AC DISCONNECT

LABEL 4

AT AC DISCONNECT

NEC 690.13(B)

SERVICE RATED AC DISCONNECT

RATED AC OUTPUT CURRENT:
 NOMINAL OPERATING AC VOLTAGE:

LABEL 5

AT AC DISCONNECT

NEC 690.54

21 MICROS X 1.21 AMP/MICRO = 25.41AMP

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 North Carolina COA # P-2308

Signed: 11/03/2022

WARNING

INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL 6

PLACED ADJACENT TO THE BACK-FED BREAKER FROM THE INVERTER IF TIE IN CONSISTS OF LOAD SIDE CONNECTION TO BUSBAR.
 NEC 705.12(D)(2)(3)(B)

WARNING: DUAL POWER SOURCE

SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

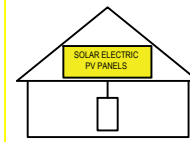
LABEL 7

SIGN LOCATED AT LOAD CENTER

NEC 705.12(B)(3-4) & NEC 690.59

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

FOR PV SYSTEMS THAT SHUT DOWN THE ARRAY AND CONDUCTORS LEAVING THE ARRAY:

SIGN TO BE LOCATED ON OR NO MORE THAN 3 FT AWAY FROM SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED AND SHALL INDICATE THE LOCATION OF ALL IDENTIFIED RAPID SHUTDOWN SWITCHES IF NOT AT THE SAME LOCATION.

[NEC 690.56(C)(1)(A)]

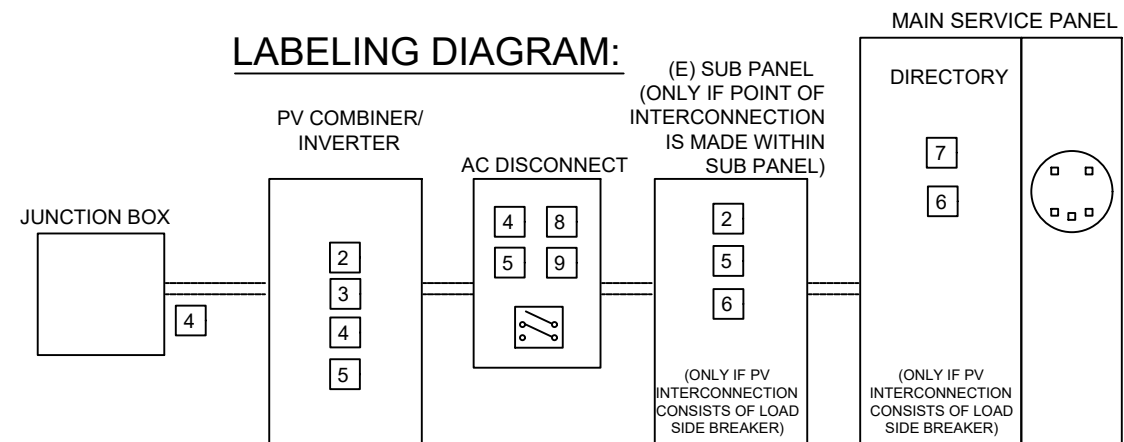
RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL 9

AT AC DISCONNECT

NEC 690.56(C)(3)

LABELING DIAGRAM:



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

SIGORA HOME

SIGORA HOME LLC
 490 WESTFIELD RD STE A
 CHARLOTTEVILLE, VA 22901

REVISIONS

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INITIAL	11/03/2022	

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PROJECT NAME & ADDRESS

CHAD REID
 RESIDENCE
 58 RAINMAKER STREET,
 LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

LABELS

SHEET SIZE

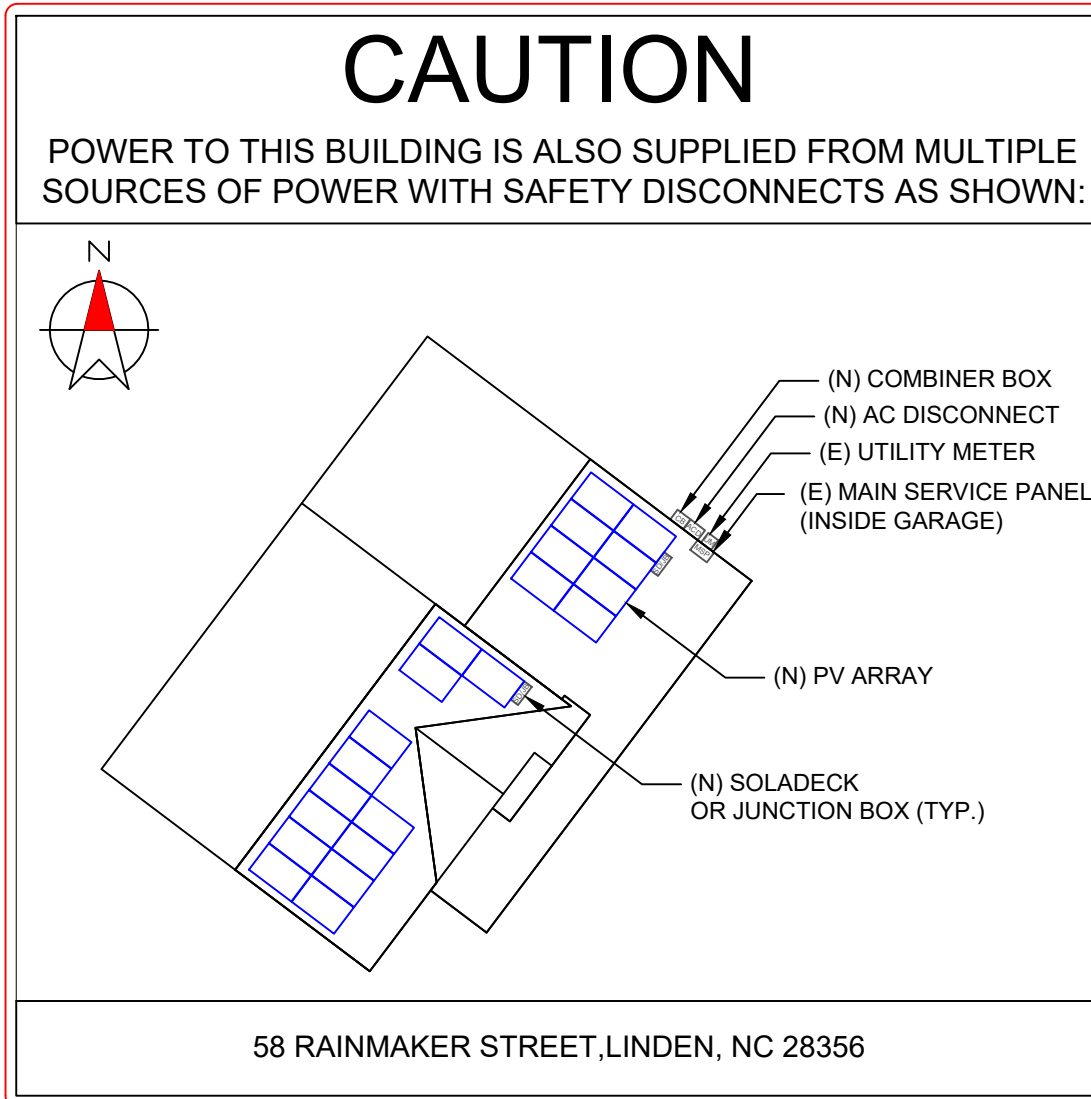
ANSI B
 11" X 17"

SHEET NUMBER

PV-5

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]



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.
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THIS PLAN HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SCOTT WYSSLING, PE USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES



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

Signed: 11/03/2022

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE:11/03/2022

PROJECT NAME & ADDRESS

**CHAD REID
RESIDENCE**

58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

PLACARD

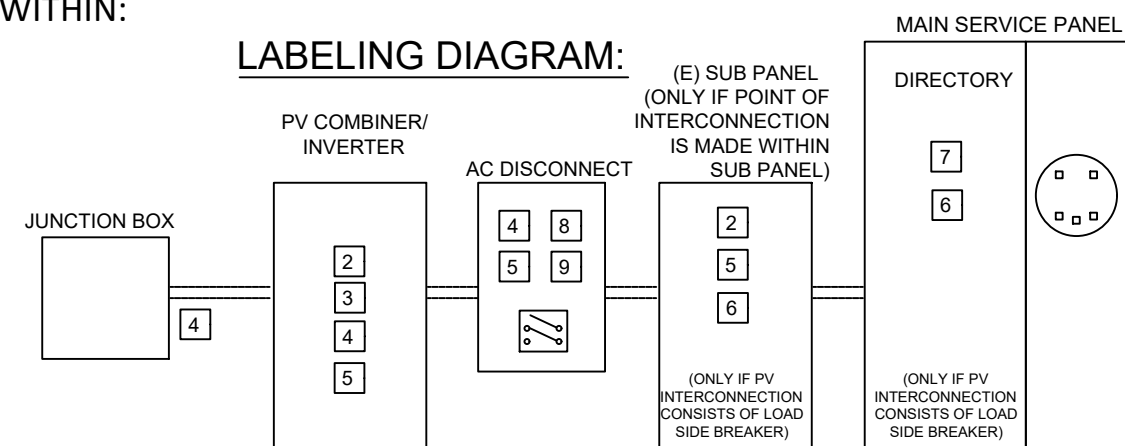
SHEET SIZE

**ANSI B
11" X 17"**

SHEET NUMBER

PV-6

LABELING DIAGRAM:



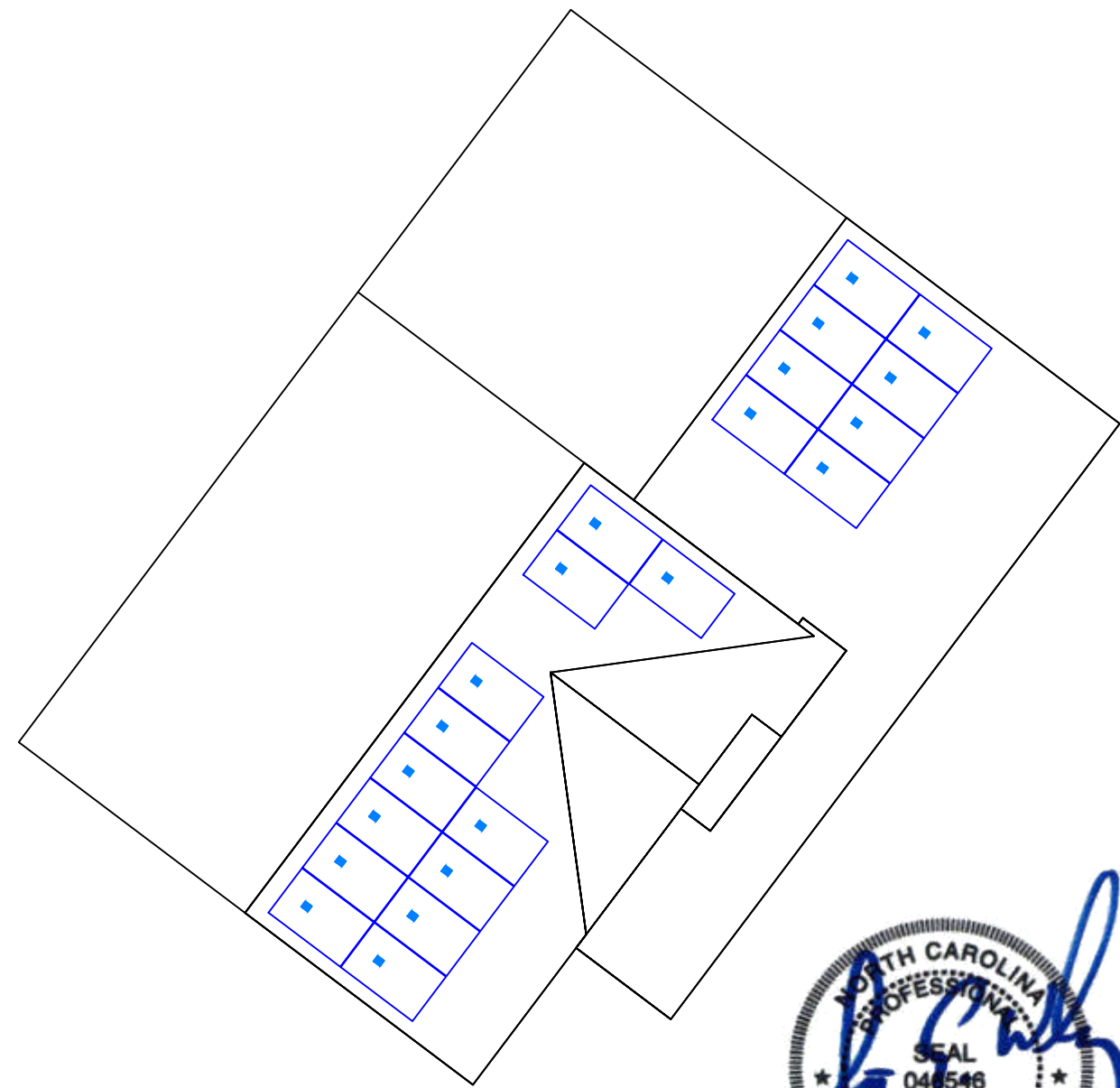
** ELECTRICAL DIAGRAM SHOWN ABOVE IS FOR LABELING PURPOSES ONLY. NOT AN ACTUAL REPRESENTATION OF EQUIPMENT AND CONNECTIONS TO BE INSTALLED. LABEL LOCATIONS PRESENTED MAY VARY DEPENDING ON TYPE OF INTERCONNECTION METHOD AND LOCATION PRESENTED ELECTRICAL DIAGRAM PAGE. **

1-10 11-20 21-30 31-40 41-50 51-60 61-70

1
2
3
4
5
6
7
8
9
10



MICRO INVERTER CHART



THIS PLAN HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY SCOTT WYSSLING, PE USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES

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

Signed: 11/03/2022

SIGORA HOME

SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS

**CHAD REID
RESIDENCE**

58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY
ESR

SHEET NAME
**MICRO INVERTER
CHART**

SHEET SIZE
**ANSI B
11" X 17"**

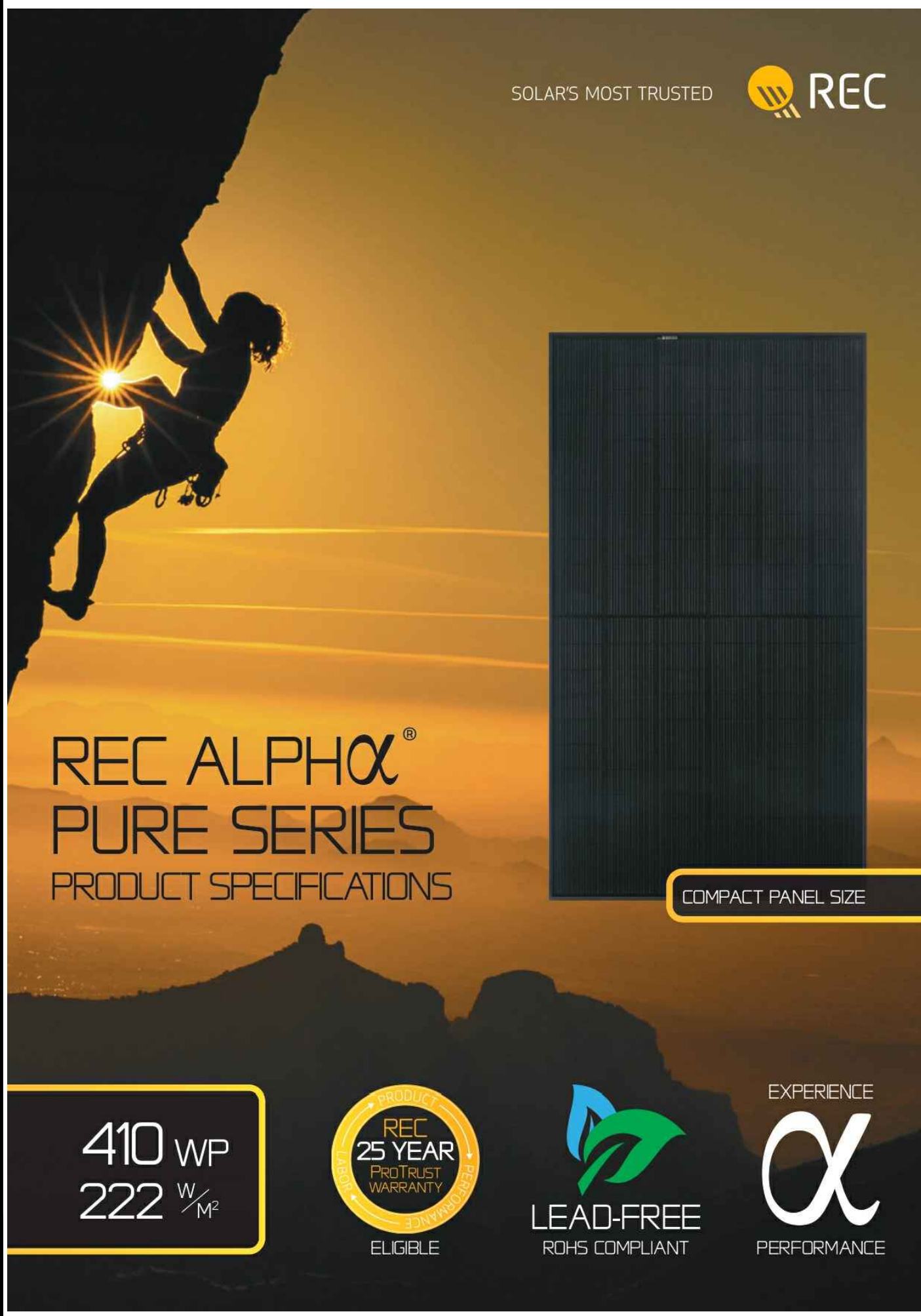
SHEET NUMBER
PV-7

SOLAR'S MOST TRUSTED



REC ALPHA PURE SERIES

PRODUCT SPECIFICATIONS



REC ALPHA[®] PURE SERIES

PRODUCT SPECIFICATIONS

COMPACT PANEL SIZE

410 WP
222 W/M²

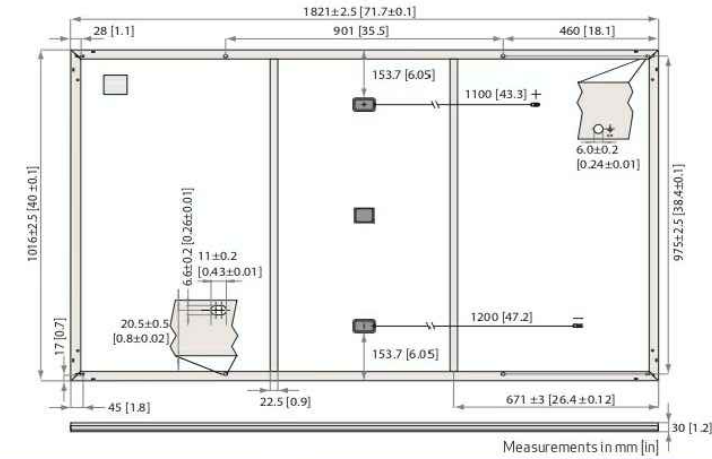


ELIGIBLE



GENERAL DATA

Cell type:	132 half-cut REC heterojunction cells with lead-free, gapless technology, 6 strings of 22 cells in series
Glass:	3.2 mm solar glass with anti-reflective surface treatment in accordance with EN 12150
Backsheet:	Highly resistant polymer (black)
Frame:	Anodized aluminum (black)
Junction box:	3-part, 3 bypass diodes, lead-free IP68 rated, in accordance with IEC 62790
Connectors:	Stäubli MC4 PV-KBT4/KST4 (4 mm ²) in accordance with IEC 62852, IP68 only when connected
Cable:	4 mm ² solar cable, 1.1 m + 1.2 m in accordance with EN 50618
Dimensions:	1821 x 1016 x 30 mm (1.85 m ²)
Weight:	20.5 kg
Origin:	Made in Singapore



ELECTRICAL DATA

Product Code*: RECxxxAA Pure

	385	390	395	400	405	410
Power Output - P _{MAX} (Wp)	385	390	395	400	405	410
Watt Class Sorting - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Nominal Power Voltage - V _{MPP} (V)	41.2	41.5	41.8	42.1	42.4	42.7
Nominal Power Current - I _{MPP} (A)	9.35	9.40	9.45	9.51	9.56	9.61
Open Circuit Voltage - V _{OC} (V)	48.5	48.6	48.7	48.8	48.9	49.0
Short Circuit Current - I _{SC} (A)	10.18	10.19	10.20	10.25	10.30	10.35
Power Density (W/m ²)	208	211	214	216	219	222
Panel Efficiency (%)	20.8	21.1	21.4	21.6	21.9	22.2
Power Output - P _{MAX} (Wp)	293	297	301	305	309	312
Nominal Power Voltage - V _{MPP} (V)	38.8	39.1	39.4	39.7	40.0	40.2
Nominal Power Current - I _{MPP} (A)	7.55	7.59	7.63	7.68	7.72	7.76
Open Circuit Voltage - V _{OC} (V)	45.7	45.8	45.9	46.0	46.1	46.2
Short Circuit Current - I _{SC} (A)	8.16	8.20	8.24	8.28	8.32	8.36

STC

NMOT

Values at standard test conditions (STC: air mass AM1.5, irradiance 1000 W/m², temperature 25°C), based on a production spread with a tolerance of P_{MAX}, V_{OC} & I_{SC} ±3% within one watt class. Nominal module operating temperature (NMOT: air mass AM1.5, irradiance 800 W/m², temperature 20°C, wind speed 1 m/s). * Where xxx indicates the nominal power class (P_{MAX}) at STC above.

MAXIMUM RATINGS

Operational temperature:	-40 ... +85°C
Maximum system voltage:	1000 V
Maximum test load (front):	+7000 Pa (713 kg/m ²)*
Maximum test load (rear):	-4000 Pa (407 kg/m ²)*
Max series fuse rating:	25 A
Max reverse current:	25 A

* See installation manual for mounting instructions. Design load = Test load / 1.5 (safety factor)

WARRANTY

	Standard	REC ProTrust
Installed by an REC Certified Solar Professional	No	Yes
System Size	All	<25 kW 25-500 kW
Product Warranty (yrs)	20	25
Power Warranty (yrs)	25	25
Labor Warranty (yrs)	0	10
Power in Year 1	98%	98%
Annual Degradation	0.25%	0.25%
Power in Year 25	92%	92%

See warranty documents for details. Conditions apply

CERTIFICATIONS

IEC 61215:2016, IEC 61730:2016, UL 61730
IEC 62804 PID
IEC 61701 Salt Mist
IEC 62716 Ammonia Resistance
ISO 11925-2 Ignitability (Class E)
IEC 62782 Dynamic Mechanical Load
IEC 61215-2:2016 Hailstone (35mm)
IEC 62321 Lead-free acc. to RoHS EU 863/2015
ISO 14001, ISO 9001, IEC 45001, IEC 62941



TEMPERATURE RATINGS*

Nominal Module Operating Temperature:	44°C (±2°C)
Temperature coefficient of P _{MAX} :	-0.26 %/°C
Temperature coefficient of V _{OC} :	-0.24 %/°C
Temperature coefficient of I _{SC} :	0.04 %/°C

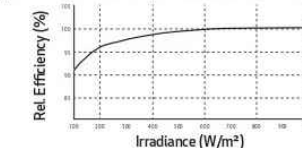
* The temperature coefficients stated are linear values

DELIVERY INFORMATION

Panels per pallet:	33
Panels per 40 ft GP/high cube container:	792 (24 pallets)
Panels per 13.6 m truck:	924 (28 pallets)
Panels per 53 ft truck:	891 (27 pallets)

LOW LIGHT BEHAVIOUR

Typical low irradiance performance of module at STC.



Specifications subject to change without notice.

Ref: PM-DS-12-06-Rev-E 11.21



www.recgroup.com

SIGORA HOME

SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS

CHAD REID
RESIDENCE
58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME
MODULE
SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-8

Founded in 1996, REC Group is an international pioneering solar energy company dedicated to empowering consumers with clean, affordable solar power. As Solar's Most Trusted, REC is committed to high quality, innovation, and a low carbon footprint in the solar materials and solar panels it manufactures. Headquartered in Norway with operational headquarters in Singapore, REC also has regional hubs in North America, Europe, and Asia-Pacific.



IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

* Only when installed with IQ System Controller 2, meets UL 1741.
 ** IQ8 and IQ8Plus supports split phase, 240V installations only.

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings ¹	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current ² [module Isc]	A		15
Overtoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range ³	V		240 / 211 – 264
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz		60
Extended frequency range	Hz		50 – 68
AC short circuit fault current over 3 cycles	Arms		2
Max units per 20 A (L-L) branch circuit ⁴		16	13
Total harmonic distortion			<5%
Overtoltage class AC port			III
AC port backfeed current	mA		30
Power factor setting			1.0
Grid-tied power factor (adjustable)			0.85 leading – 0.85 lagging
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW		60
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 1071-01	
		This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility>
 (2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS

CHAD REID
 RESIDENCE

58 RAINMAKER STREET,
 LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME
 INVERTER
 SPECIFICATION

SHEET SIZE

ANSI B
 11" X 17"

SHEET NUMBER

PV-9

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C



X-IQ-AM1-240-4C

X-IQ-AM1-240-4



To learn more about Enphase offerings, visit enphase.com

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed



Enphase IQ Combiner 4/4C

MODEL NUMBER

IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.

ACCESSORIES AND REPLACEMENT PARTS (not included, order separately)

Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.

ELECTRICAL SPECIFICATIONS

Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers

MECHANICAL DATA

Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)

INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)

COMPLIANCE

Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit enphase.com

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REVISIONS

DESCRIPTION	DATE	REV
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PROJECT NAME & ADDRESS

**CHAD REID
RESIDENCE**
**58 RAINMAKER STREET,
LINDEN, NC 28356**

DRAWN BY

ESR

SHEET NAME
**COMBINER
SPECIFICATION**

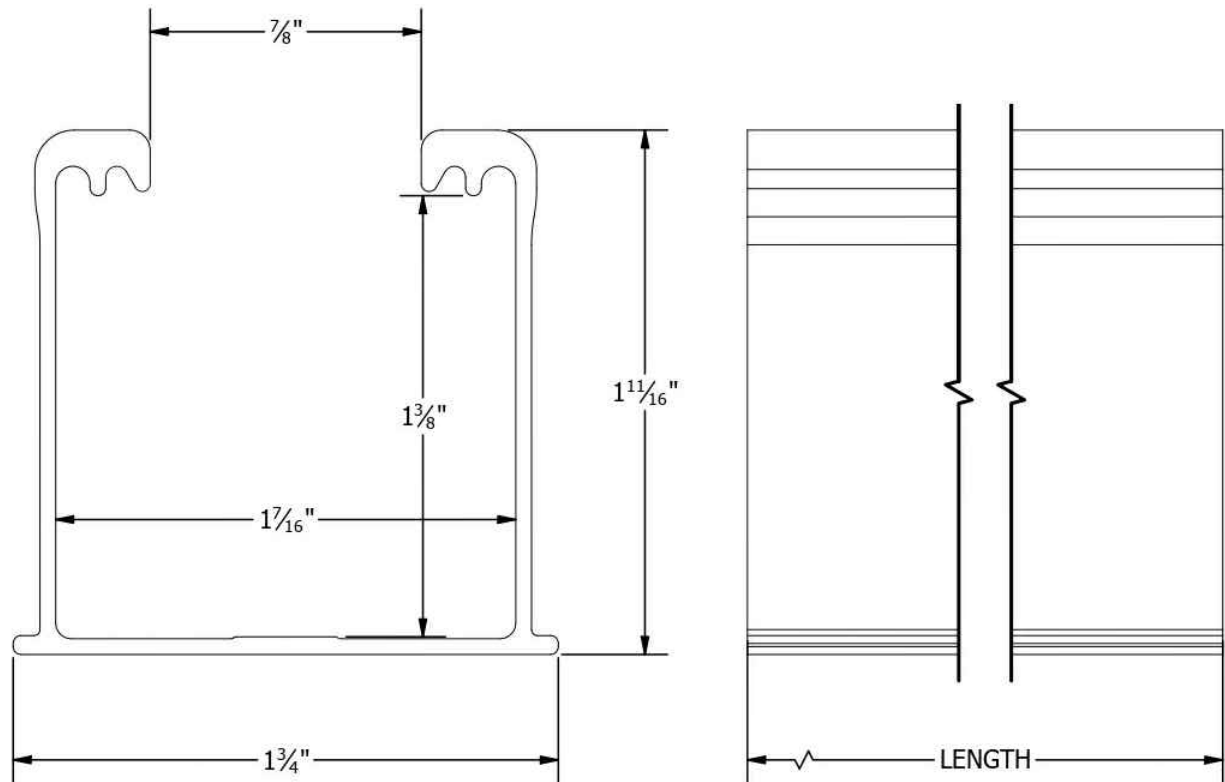
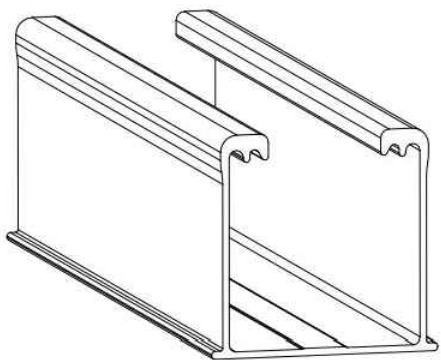
SHEET SIZE

**ANSI B
11" X 17"**

SHEET NUMBER

PV-10

PART # TABLE		
P/N	DESCRIPTION	LENGTH
084RLM1	NXT HORIZON RAIL 84" MILL	84"
084RLD1	NXT HORIZON RAIL 84" DARK	84"
168RLM1	NXT HORIZON RAIL 168" MILL	168"
168RLD1	NXT HORIZON RAIL 168" DARK	168"
208RLM1	NXT HORIZON RAIL 208" MILL	208"
208RLD1	NXT HORIZON RAIL 208" DARK	208"
246RLM1	NXT HORIZON RAIL 246" MILL	246"
246RLD1	NXT HORIZON RAIL 246" DARK	246"



UNIRAC
 1411 BROADWAY BLVD. NE
 ALBUQUERQUE, NM 87102 USA
 PHONE: 505.242.6411
 WWW.UNIRAC.COM

PRODUCT LINE:	NXT HORIZON
DRAWING TYPE:	PART DETAIL
DESCRIPTION:	RAIL
REVISION DATE:	9/13/2021

DRAWING NOT TO SCALE
 ALL DIMENSIONS ARE
 NOMINAL

PRODUCT PROTECTED BY
 ONE OR MORE US PATENTS

LEGAL NOTICE

NH-P01
 SHEET

SIGORA HOME

SIGORA HOME LLC
 490 WESTFIELD RD STE A
 CHARLOTTESVILLE, VA 22901

REVISIONS		
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PROJECT NAME & ADDRESS

CHAD REID
 RESIDENCE

58 RAINMAKER STREET,
 LINDEN, NC 28356

DRAWN BY
 ESR

SHEET NAME
 RAIL
 SPECIFICATION

SHEET SIZE
 ANSI B
 11" X 17"

SHEET NUMBER
 PV-11

NXT HORIZON[®]

UNIRAC[®]
BETTER SOLAR STARTS HERE

UNIRAC[®]
25
YEAR
FULL-SYSTEM WARRANTY

DISCOVER YOUR NXT HORIZON[®]

The culmination of over two decades of experience. Thoughtful design, rigorous engineering, world-class support, and a reliable supply chain are the foundation of what makes us confident that NXT HORIZON[®] is the NXT Level of DESIGN, SIMPLICITY, and VALUE.



NXT HORIZON[®] COMBO CLAMP

DARK: CCLAMPD1
MILL: CCLAMP1

Clicks into rail anywhere (even where there are cables!)
Self-standing clamp with spring combines as both mid and end clamp.
Clamps 30-40 mm modules



STRONGHOLD[™] RAIL CLAMP

DARK: SHCLMPD1
MILL: SHCLMP1

Adaptable rail connection to attachments allows click-in feature compatibility with almost all of Unirac's attachments.



1/2 inch module spacing for efficiency.

Unirac-quality bonding that works both as mid and end clamps.

NXT HORIZON[®] CAP KIT

ENDCAPD1

Make the install look clean with the end cap kit designed to complement the module end clamp and rail ends.



NXT HORIZON[®] RAIL

DARK: 168RLD1
MILL: 168RLM1

Strong, lightweight open channel rail with invisible, easy, unfailling and integrated wire management system.

WIRE MANAGEMENT OPTIONS



NXT HORIZON[®] RAIL SPLICE

RLSPLCM1

Structural internal splice that does not interfere with roof connection nor module connection.
Pre-assembled thread cutting bolts.

NXT HORIZON[®] MLPE & LUG CLAMP

LUGMLPE1

Works as either MLPE Mount or Grounding Lug connection to the rail. Why source two parts when one can do the job?

NXT HORIZON[®] WIRE MANAGEMENT CLIP

WRMCLPD1

Aesthetic, yet functional accessory that works to help installers keep wires inside the rail.
No zip-ties required. Optional zip tie loop for extra wire management capabilities!

NXT HORIZON[®] NORTH/SOUTH WIRE MANAGEMENT CLIP

WRMCNSD1

An elegant solution to help installers get to the home run. The same hardware works to provide both easy entry to rail and adjustability for cable thickness.

STRONGHOLD[™] ATTACHMENT KIT

DARK: SHCPKTD1
MILL: SHCPKTM1

Rail clicks into the clamps attached to the Stronghold[™] base. Open slot in L-foot allows drop-in rail clamp.



Alternative attachment options:



ALL NXT HORIZON[®] SYSTEMS INCLUDE A FREE PERMITTING PLANSET DESIGN - FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR EMAIL NXTPERMITS@UNIRAC.COM

SIGORA HOME
SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE: 11/03/2022

PROJECT NAME & ADDRESS
CHAD REID RESIDENCE
58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY
ESR

SHEET NAME
ATTACHMENT SPECIFICATION

SHEET SIZE
ANSI B 11" X 17"

SHEET NUMBER
PV-12

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.

SIGORA
HOME

SIGORA HOME LLC
490 WESTFIELD RD STE A
CHARLOTTEVILLE, VA 22901

REVISIONS

DESCRIPTION	DATE	REV
INITIAL	11/03/2022	

DATE:11/03/2022

PROJECT NAME & ADDRESS

CHAD REID
RESIDENCE

58 RAINMAKER STREET,
LINDEN, NC 28356

DRAWN BY

ESR

SHEET NAME

SOLADECK
SPECIFICATION

SHEET SIZE

ANSI B
11" X 17"

SHEET NUMBER

PV-13









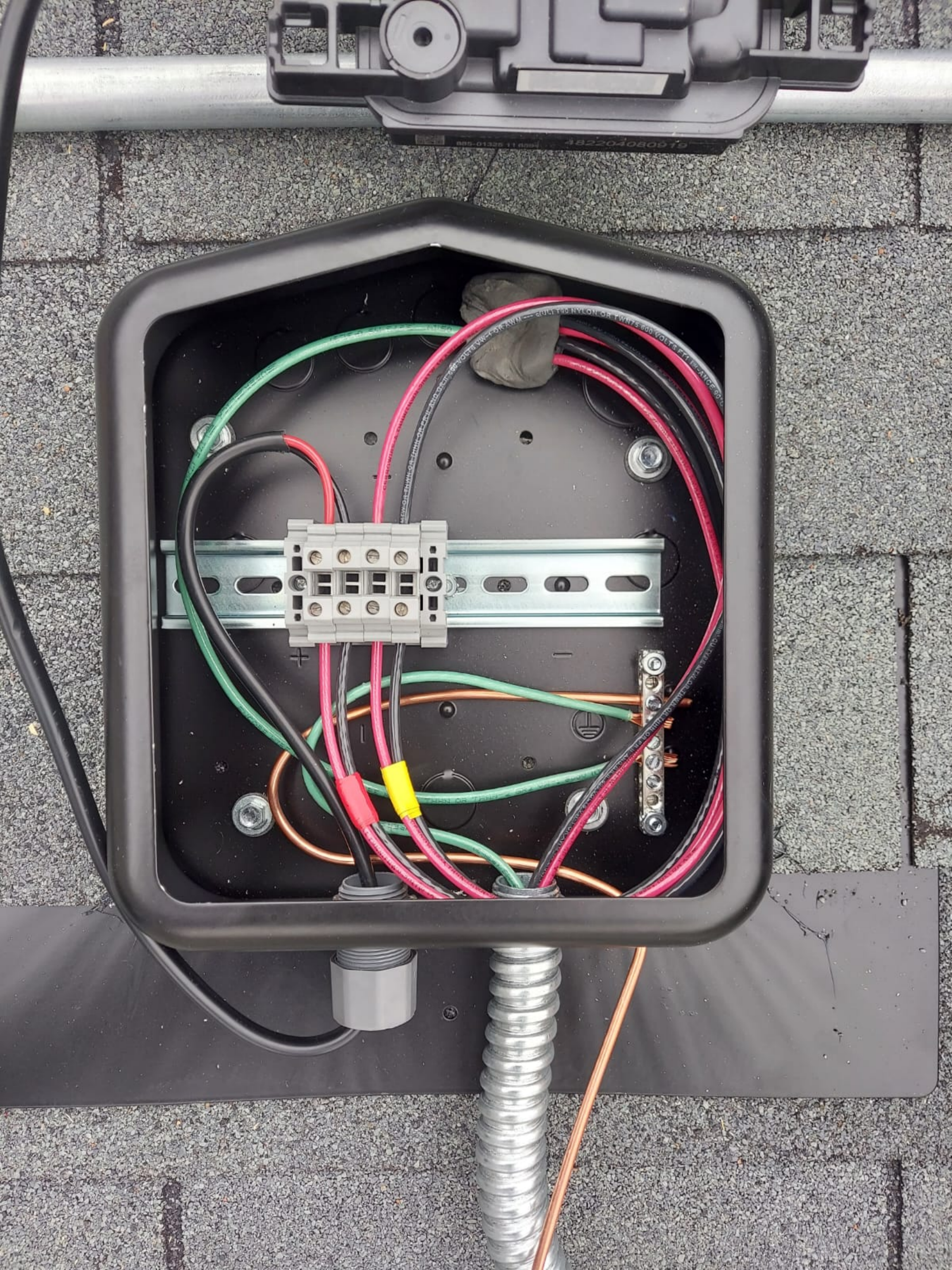








SOLADECK
DC-DC
WARNING
AVERTISSEMENT





**WARNING: PHOTOVOLTAIC
POWER SOURCE**



WARNING: PHOTOVOLTAIC
POWER SOURCE

WARNING: PHOTOVOLTAIC
POWER SOURCE

TEC
TEST

PS 2-11
RUD-000
EXPOSURE
TIMING

EXPOSURE
TIMING
1/16 IN
25 IN



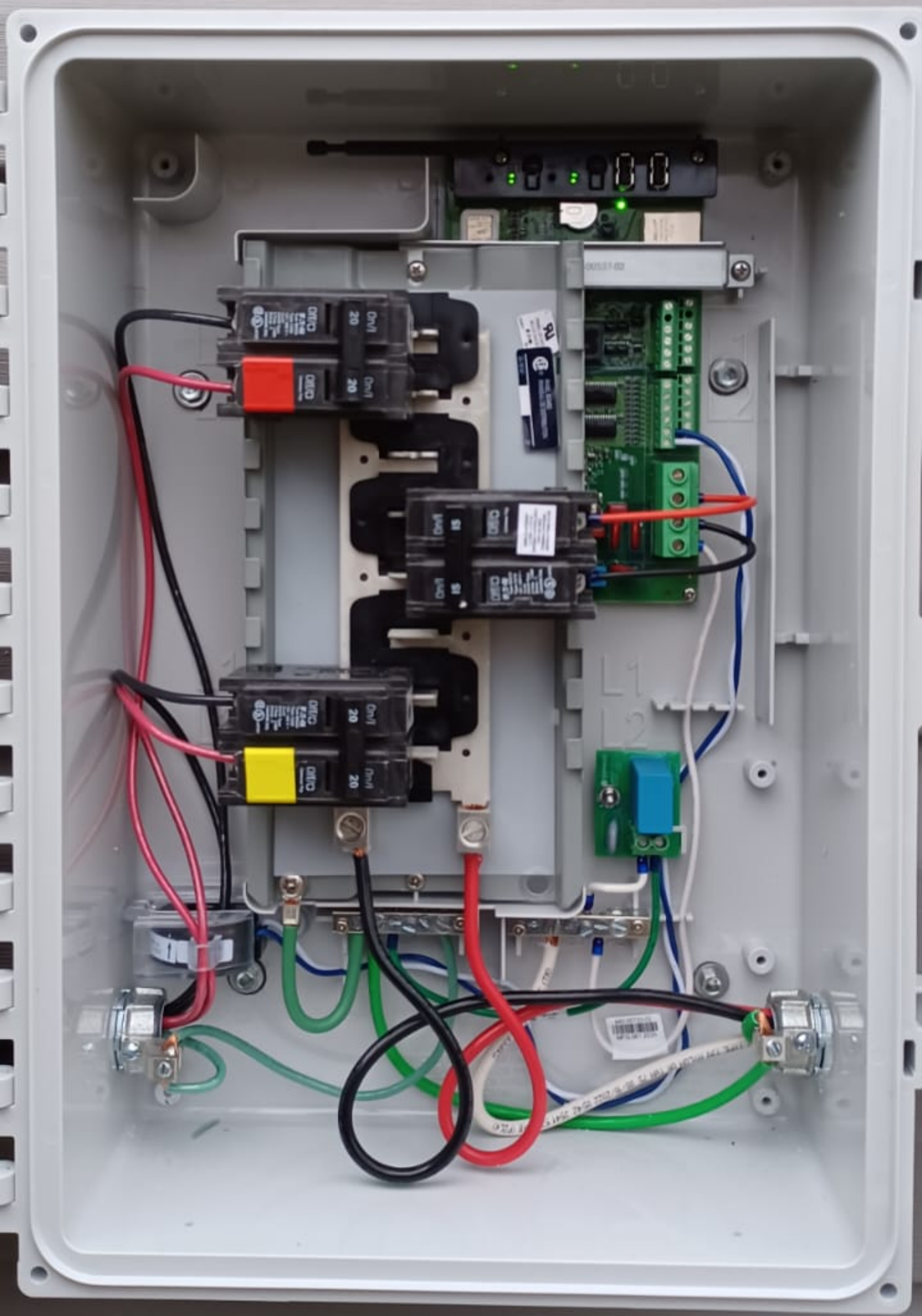
POWER SURGE

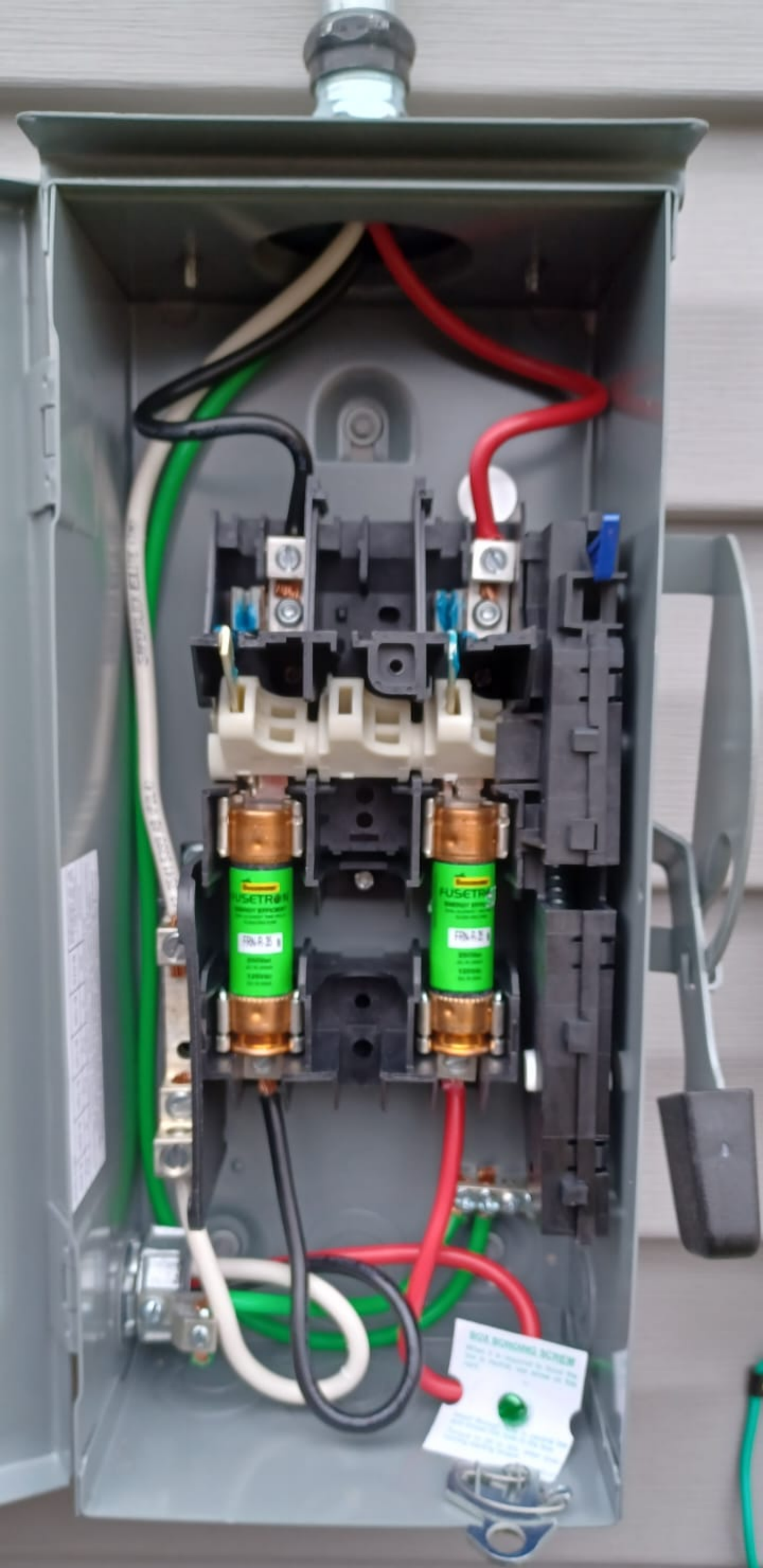
SPB No. 2

26615

19392







NOA BURNING SCREEN
When it is removed to show the
meter, it should be placed in the
box.

WARNING: DUAL POWER SOURCE
BEFORE SERVICE & MAINTENANCE SYSTEM

Label	Terminal	Device	Terminal	Device	Label
120V	1	CB-114	1	CB-114	120V
120V	2	CB-114	2	CB-114	120V
120V	3	CB-114	3	CB-114	120V
120V	4	CB-114	4	CB-114	120V
120V	5	CB-114	5	CB-114	120V
120V	6	CB-114	6	CB-114	120V
120V	7	CB-114	7	CB-114	120V
120V	8	CB-114	8	CB-114	120V
120V	9	CB-114	9	CB-114	120V
120V	10	CB-114	10	CB-114	120V
120V	11	CB-114	11	CB-114	120V
120V	12	CB-114	12	CB-114	120V
120V	13	CB-114	13	CB-114	120V
120V	14	CB-114	14	CB-114	120V
120V	15	CB-114	15	CB-114	120V
120V	16	CB-114	16	CB-114	120V
120V	17	CB-114	17	CB-114	120V
120V	18	CB-114	18	CB-114	120V
120V	19	CB-114	19	CB-114	120V
120V	20	CB-114	20	CB-114	120V
120V	21	CB-114	21	CB-114	120V
120V	22	CB-114	22	CB-114	120V
120V	23	CB-114	23	CB-114	120V
120V	24	CB-114	24	CB-114	120V
120V	25	CB-114	25	CB-114	120V
120V	26	CB-114	26	CB-114	120V
120V	27	CB-114	27	CB-114	120V
120V	28	CB-114	28	CB-114	120V
120V	29	CB-114	29	CB-114	120V
120V	30	CB-114	30	CB-114	120V
120V	31	CB-114	31	CB-114	120V
120V	32	CB-114	32	CB-114	120V
120V	33	CB-114	33	CB-114	120V
120V	34	CB-114	34	CB-114	120V
120V	35	CB-114	35	CB-114	120V
120V	36	CB-114	36	CB-114	120V
120V	37	CB-114	37	CB-114	120V
120V	38	CB-114	38	CB-114	120V
120V	39	CB-114	39	CB-114	120V
120V	40	CB-114	40	CB-114	120V
120V	41	CB-114	41	CB-114	120V
120V	42	CB-114	42	CB-114	120V
120V	43	CB-114	43	CB-114	120V
120V	44	CB-114	44	CB-114	120V
120V	45	CB-114	45	CB-114	120V
120V	46	CB-114	46	CB-114	120V
120V	47	CB-114	47	CB-114	120V
120V	48	CB-114	48	CB-114	120V
120V	49	CB-114	49	CB-114	120V
120V	50	CB-114	50	CB-114	120V
120V	51	CB-114	51	CB-114	120V
120V	52	CB-114	52	CB-114	120V
120V	53	CB-114	53	CB-114	120V
120V	54	CB-114	54	CB-114	120V
120V	55	CB-114	55	CB-114	120V
120V	56	CB-114	56	CB-114	120V
120V	57	CB-114	57	CB-114	120V
120V	58	CB-114	58	CB-114	120V
120V	59	CB-114	59	CB-114	120V
120V	60	CB-114	60	CB-114	120V
120V	61	CB-114	61	CB-114	120V
120V	62	CB-114	62	CB-114	120V
120V	63	CB-114	63	CB-114	120V
120V	64	CB-114	64	CB-114	120V
120V	65	CB-114	65	CB-114	120V
120V	66	CB-114	66	CB-114	120V
120V	67	CB-114	67	CB-114	120V
120V	68	CB-114	68	CB-114	120V
120V	69	CB-114	69	CB-114	120V
120V	70	CB-114	70	CB-114	120V
120V	71	CB-114	71	CB-114	120V
120V	72	CB-114	72	CB-114	120V
120V	73	CB-114	73	CB-114	120V
120V	74	CB-114	74	CB-114	120V
120V	75	CB-114	75	CB-114	120V
120V	76	CB-114	76	CB-114	120V
120V	77	CB-114	77	CB-114	120V
120V	78	CB-114	78	CB-114	120V
120V	79	CB-114	79	CB-114	120V
120V	80	CB-114	80	CB-114	120V
120V	81	CB-114	81	CB-114	120V
120V	82	CB-114	82	CB-114	120V
120V	83	CB-114	83	CB-114	120V
120V	84	CB-114	84	CB-114	120V
120V	85	CB-114	85	CB-114	120V
120V	86	CB-114	86	CB-114	120V
120V	87	CB-114	87	CB-114	120V
120V	88	CB-114	88	CB-114	120V
120V	89	CB-114	89	CB-114	120V
120V	90	CB-114	90	CB-114	120V
120V	91	CB-114	91	CB-114	120V
120V	92	CB-114	92	CB-114	120V
120V	93	CB-114	93	CB-114	120V
120V	94	CB-114	94	CB-114	120V
120V	95	CB-114	95	CB-114	120V
120V	96	CB-114	96	CB-114	120V
120V	97	CB-114	97	CB-114	120V
120V	98	CB-114	98	CB-114	120V
120V	99	CB-114	99	CB-114	120V
120V	100	CB-114	100	CB-114	120V



Blank sheet of paper with a grid pattern, possibly a wiring diagram or a checklist.

Small white label with a logo and some text, possibly a manufacturer's label.

Large technical drawing or wiring diagram with a grid and various annotations, including a title 'Wiring Diagram' and a date '10/1/18'.

GARAGE, MUD, H₂O
KIT LED PEND, SINK, KITCHEN
LAUNDRY

KIT

MICRO

KITCHEN

KIT

LAUNDRY

EVIC 250

100
120V
15A
CIRCUIT BREAKER
CIR 150

Label with red logo and illegible text

Label with illegible text

