

SCOPE OF WORK

TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM AT THE OWNER RESIDENCE LOCATED AT 301 YOUNG RD, ANGIER, NC 27501, USA. THE POWER GENERATED BY THE PV SYSTEM WILL BE INTERCONNECTED WITH THE UTILITY GRID THROUGH THE EXISTING ELECTRICAL SERVICE EQUIPMENT. THE PV SYSTEM DOES NOT INCLUDE STORAGE BATTERIES.

EQUIPMENT SUMMARY

- 25 HYPERION SOLAR HY-DH108P8 (400W) MODULES
- 1 SOLAREEDGE SE7600H-US [240V] INVERTER
- 25 SOLAREEDGE POWER OPTIMIZER S440

GENERAL NOTES

- THESE CONSTRUCTION DOCUMENTS HAVE BEEN BASED ON FIELD INSPECTIONS AND OTHER INFORMATION AVAILABLE AT THE TIME. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS IN CONSTRUCTION DETAILS.
- ARCHITECT HAS NOT BEEN RETAINED TO SUPERVISE ANY CONSTRUCTION OR INSTALLATION OF ANY EQUIPMENT AT SITE.
- CONTRACTOR SHALL FURNISH ALL LABOR, MATERIAL, EQUIPMENT, TOOLS, OBTAINS ALL PERMITS, LICENSES AND PAY ALL REQUIRED FEES AND COMPLETE INSTALLATION.
- CONTRACTOR HAS THE FULL RESPONSIBILITY TO CHECK AND VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK. ANY WORK STARTED BEFORE CONSULTATION AND ACCEPTANCE BY THE ENGINEER SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CORRECTION BY THEM WITHOUT ADDITIONAL COMPENSATION.
- DAMAGE CAUSED TO THE EXISTING STRUCTURE, PIPES, DUCTS, WINDOWS, WALL, FLOORS, ETC. SHALL BE REPAIRED TO THE ORIGINAL CONDITION OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST.
- THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROPER INSTALLATION AND COMPLETION OF THE WORK WITH APPROVED MATERIALS.
- NO CHANGES ARE TO BE MADE WITHOUT THE CONSULTATION AND APPROVAL OF THE ARCHITECT.
- CONTRACTOR SHALL OBTAIN BULDING PERMIT. NO WORK TO START UNLESS BUILDING PERMIT IS PROPERLY DISPLAYED.
- ALL WORKMANSHIP AND MATERIALS SHALL BE OF FIRST QUALITY AND IN COMPLIANCE WITH THE REQUIREMENTS OF THE NATIONAL BUILDING CODE, THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ALL PERTINENT AGENCIES.
- IT IS ESSENTIAL THAT ALL WORK PROCEED WITH THE MAXIMUM COOPERATION OF ALL PARTIES AND WITH MINIMUM INTERFERENCE TO THE OCCUPANTS WITHIN THE BUILDING. THE OWNER'S DIRECTIONS IN THIS REGARD SHALL BE FULLY COMPLIED WITH.
- THE CONTRACTOR SHALL PERFORM THE WORK IN STRICT CONFORMANCE WITH THE LOCAL LAWS, REGULATIONS AND THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL OBTAIN ALL PERMITS, APPROVALS, AFFIDAVITS, CERTIFICATIONS, ETC. AND PAY ALL FEES AS REQUIRED BY THE LOCAL AUTHORITIES.
- CONTRACTORS SHALL OBTAIN FIRE CERTIF. UPON COMPLETION OF WORK.

ELECTRICAL NOTES

- ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
- WIRING, CONDUIT, AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP, OR VALLEY.
- WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURERS INSTRUCTION.
- MODULE SUPPORT RAIL SHALL BE BONDED TO THE MODULE

GOVERNING CODES

- 2018 NORTH CAROLINA FIRE CODE
- 2018 NORTH CAROLINA BUILDING CODE
- 2018 NORTH CAROLINA RESIDENTIAL CODE
- 2018 NORTH CAROLINA ENERGY CONSERVATION CODE
- 2018 NORTH CAROLINA EXISTING BUILDING CODE
- 2018 NORTH CAROLINA SWIMMING POOL AND SPA CODE
- 2020 NORTH CAROLINA ELECTRICAL CODE

AHJ NAME : HARNETT COUNTY

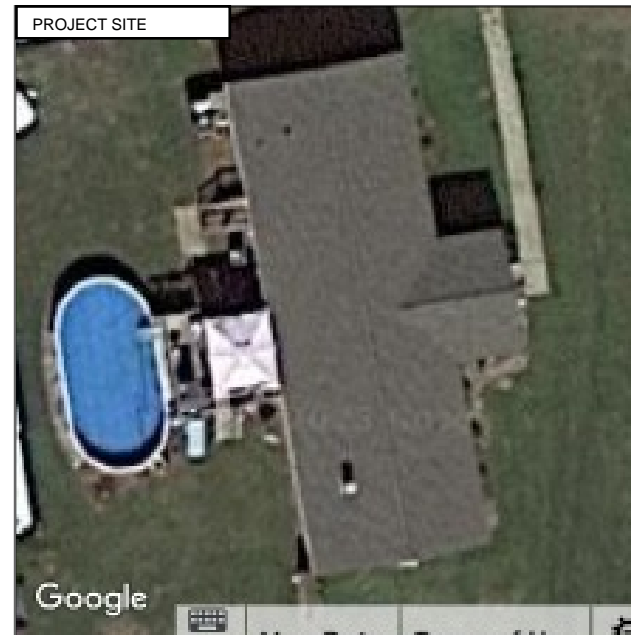
WIRING AND CONDUIT NOTES

- ALL CONDUIT SIZES AND TYPES SHALL BE LISTED FOR ITS PURPOSE AND APPROVAL FOR THE SITE APPLICATIONS
- ALL PV CABLES AND HOMERUN WIRES BE #10AWG *USE-2, PV WIRE, OR PROPRIETARY SOLAR CABLING SPECIFIED BY MFR, OR EQUIVALENT; ROUTED TO SOURCE CIRCUIT COMBINER BOXES AS REQUIRED
- ALL PV DC CONDUCTORS IN CONDUIT EXPOSED TO SUNLIGHT SHALL BE DERATED ACCORDING TO AS PER LATEST NEC CODE.
- EXPOSED ROOF PV DC CONDUCTORS SHALL BE USE-2, 90°C RATED, WET AND UV RESISTANT, AND UL LISTED RATED FOR 600V, UV RATED SPIRAL WRAP SHALL BE USED TO PROTECT WIRE FROM SHARP EDGES
- PHASE AND NEUTRAL CONDUCTORS SHALL BE DUAL RATED THHN/THWN-2 INSULATED, 90°C RATED, WET AND UV RESISTANT, RATED FOR 1000V AS PER APPLICABLE NEC
- 4-WIRE DELTA CONNECTED SYSTEMS HAVE THE PHASE WITH THE HIGHER VOLTAGE TO GROUND MARKED ORANGE OR IDENTIFIED BY OTHER EFFECTIVE MEANS
- ALL SOURCE CIRCUITS SHALL HAVE INDIVIDUAL SOURCE CIRCUIT PROTECTION
- VOLTAGE DROP LIMITED TO 2%
- AC CONDUCTORS >4AWG COLOR CODED OR MARKED: PHASE A OR L1- BLACK, PHASE B OR L2- RED, PHASE C OR L3- BLUE, NEUTRAL- WHITE/GRAY

SYSTEM RATING
10.000 kWDC
7.600 kWAC

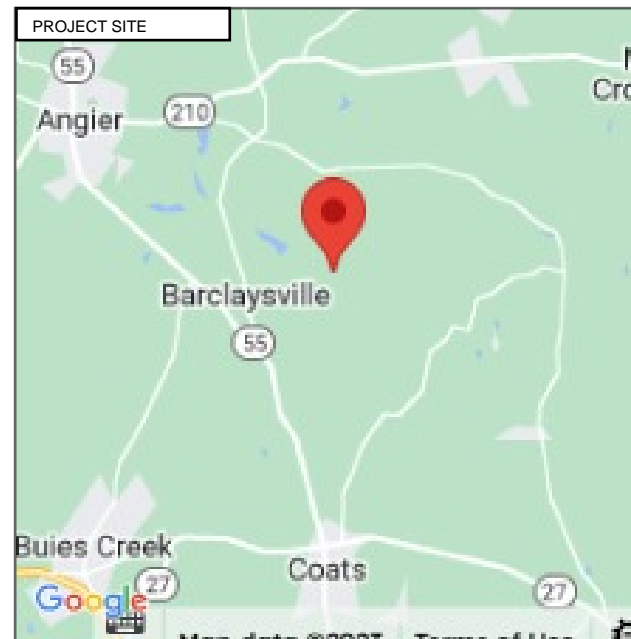
PHOTOVOLTAIC SYSTEM FIRE CLASSIFICATION LISTING IN ACCORDANCE WITH UL 1703 STANDARD.

SHEET INDEX	
PV1	COVER PAGE
PV2	SITE PLAN
PV3	ROOF PLAN
PV4	STRING LAYOUT & BOM
PV5-PV6	ATTACHMENT DETAILS
PV7-PV8	ELECTRICAL LINE & CALCS.
PV9	SPECIFICATIONS & NOTES
PV10-PV11	SIGNAGE
PV12	JOB SAFETY PLAN
PV13-PV19	EQUIPMENT SPECIFICATIONS



HOUSE PHOTO

SCALE: NTS



VICINITY MAP

SCALE: NTS



Wyssling Consulting, PLLC
76 N Meadowbrook Drive Alpine UT 84004
North Carolina COA # P-2308
Signed 5/03/2023

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



TITAN SOLAR POWER
160 N MCQUEEN RD,
GILBERT, AZ 85233, USA
PH# : (808) 371-5338
Electrical LIC# : U.33714

SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREEDGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

RONALD MCDUGAL
RESIDENCE
301 YOUNG RD, ANGIER, NC 27501, USA
EMAIL ID: RONALDSLMCDUGAL@GMAIL.COM
PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
COVER PAGE

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

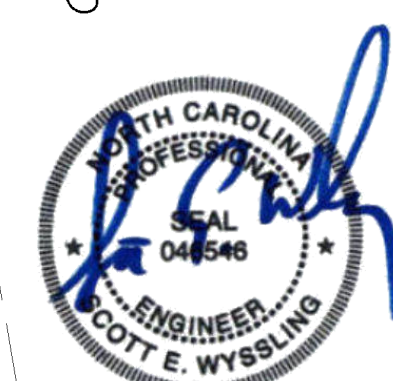
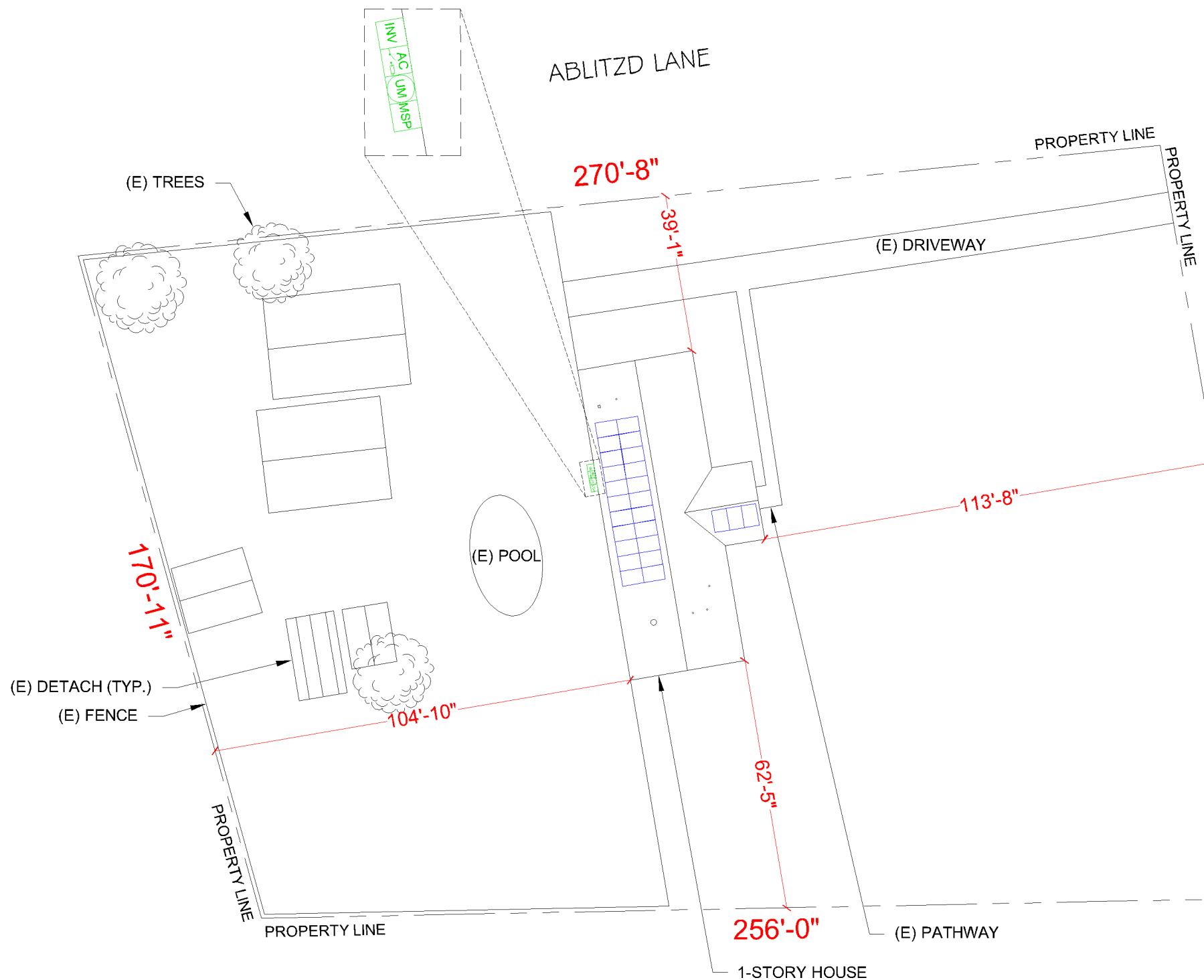
SHEET NUMBER
PV-1

SITE NOTES

- A LADDER SHALL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.
- THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS AN UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.
- THE SOLAR PV INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.
- PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION [NEC 110.26]

LEGEND

- JB (N) JUNCTION BOX
- UM (E) UTILITY METER
- MSP (E) MAIN SERVICE PANEL
- AC (N) FUSED AC DISCONNECT
- VENT, ATTIC FAN (ROOF OBSTRUCTION)
- ROOF ATTACHMENT
- CONDUIT
- S440 OPTIMIZER
- INV SOLAREEDGE SE7600H-US [240V] INVERTER
- HYPERION SOLAR HY-DH108P8 (400W) MODULES
- K2 CROSSRAIL 44-X
- TRENCH



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 PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
SITE PLAN

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

SHEET NUMBER
PV-2



SCALE: 1/32" = 1'-0"

METER NO#: 325 154 044

DESIGN SPECIFICATION	
RISK CATEGORY:	II
CONSTRUCTION:	SFD
ZONING:	RESIDENTIAL
SNOW LOAD (ASCE7-10):	15 PSF
EXPOSURE CATEGORY:	C
WIND SPEED (ASCE7-10):	119 MPH

MODULE TYPE, DIMENSIONS & WEIGHT	
NUMBER OF MODULES:	25 MODULES
MODULE TYPE:	HYPERION SOLAR HY-DH108P8 (400W)
MODULE WEIGHT:	55.5 LBS
MODULE DIMENSIONS:	67.08" X 44.65" = 20.80 SF
UNIT WEIGHT OF AREA:	2.67 PSF

ROOF DESCRIPTION					
ROOF	ROOF TILT	AZIMUTH	RAFTER SIZE	RAFTER SPACING	ROOF MATERIAL
#1	16°	170°	2" x 6"	24" o.c.	COMP SHINGLE
#2	18°	260°	2" x 6"	24" o.c.	COMP SHINGLE

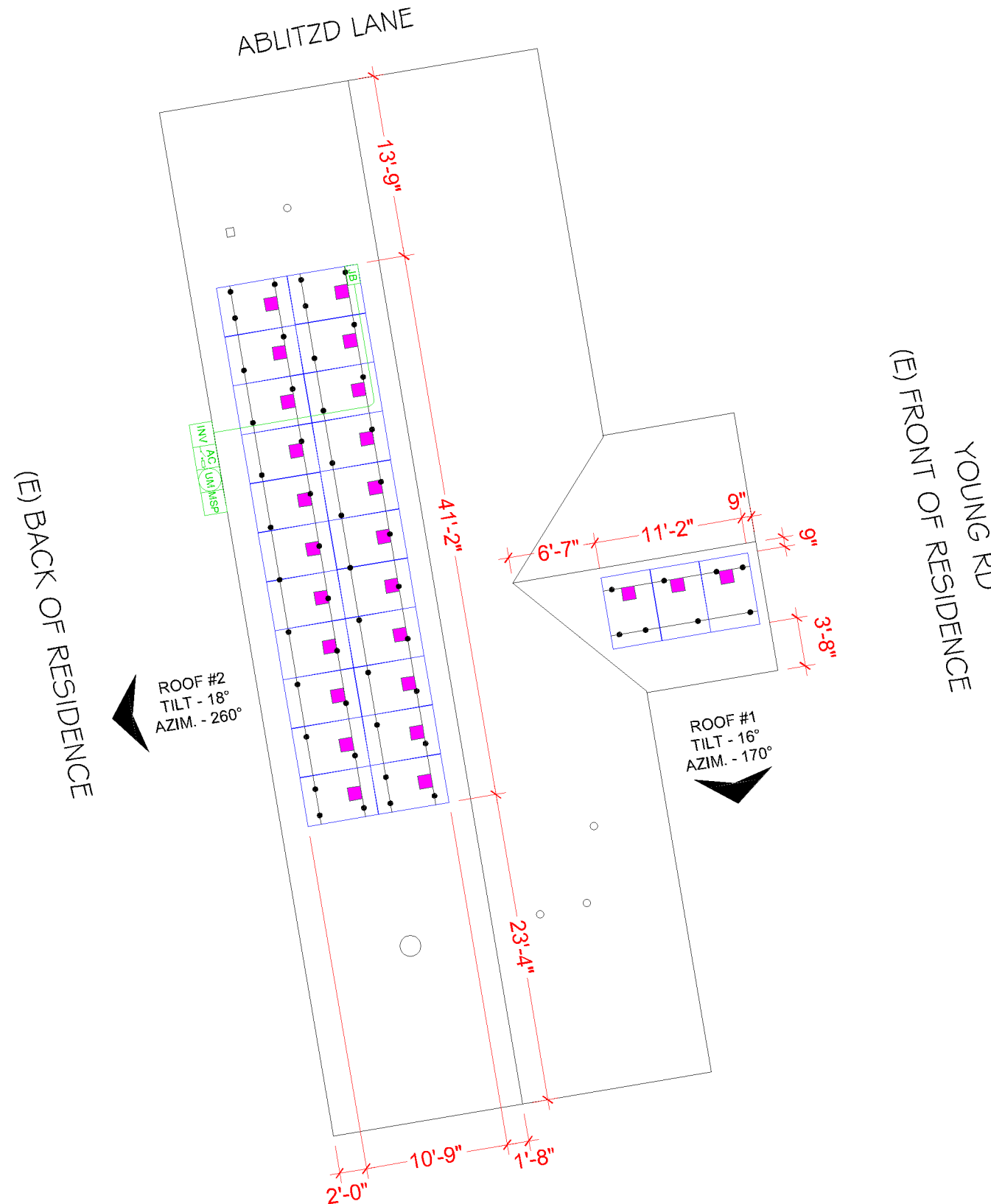
ARRAY AREA & ROOF AREA CALC'S		
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)
#1	3	62.4
#2	22	457.59
(TOTAL ARRAY AREA/TOTAL ROOF AREA) X 100%		
= (519.99/2455) X 100% = 21.19%		



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PH# : (808) 371-5338
Electrical LIC# : U.33714

LEGEND	
	(N) JUNCTION BOX
	(E) UTILITY METER
	(E) MAIN SERVICE PANEL
	(N) FUSED AC DISCONNECT
	VENT. ATTIC FAN (ROOF OBSTRUCTION)
	ROOF ATTACHMENT
	CONDUIT
	S440 OPTIMIZER
	SOLAREEDGE SE7600H-US [240V] INVERTER
	HYPERION SOLAR HY-DH108P8 (400W) MODULES
	K2 CROSSRAIL 44-X
	TRENCH
PANEL HEIGHT OFF ROOF	8"

DEAD LOAD CALCULATION			
EQUIPMENT'S DESCRIPTIONS	QTY	LBS/UNIT	TOTAL WEIGHT
MODULES	25	55.5	1387.5
MID CLAMP	44	0.3	13.2
END CLAMP	12	0.31	3.72
K2 CROSSRAIL 44-X	14	10	140.00
SPLICE BAR	8	0.65	5.2
SPLICE FOOT X	54	0.9	48.60
K2 SOLAR SEAL BUTYL PAD	54	0.42	22.68
M5 X 60 LAG SCREWS	108	0.08	8.64
T BOLT AND HEX NUT SET	54	0.05	2.70
TOTAL WEIGHT OF THE SYSTEM (LBS)			1632.25
TOTAL ARRAY AREA ON THE ROOF (SQ. FT.)			519.99
WEIGHT PER SQ. FT. (LBS)			3.14
WEIGHT PER PENETRATION (LBS)			6.05



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(1) SOLAREEDGE SE7600H-US [240V]	
DC SYSTEM SIZE: 10.000 kWDC	
AC SYSTEM SIZE: 7.600 KWAC	
METER: 325 154 044	

REVISIONS		
DESCRIPTION	DATE	REV

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PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
ROOF PLAN

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-3



SCALE: 3/32" = 1'-0"

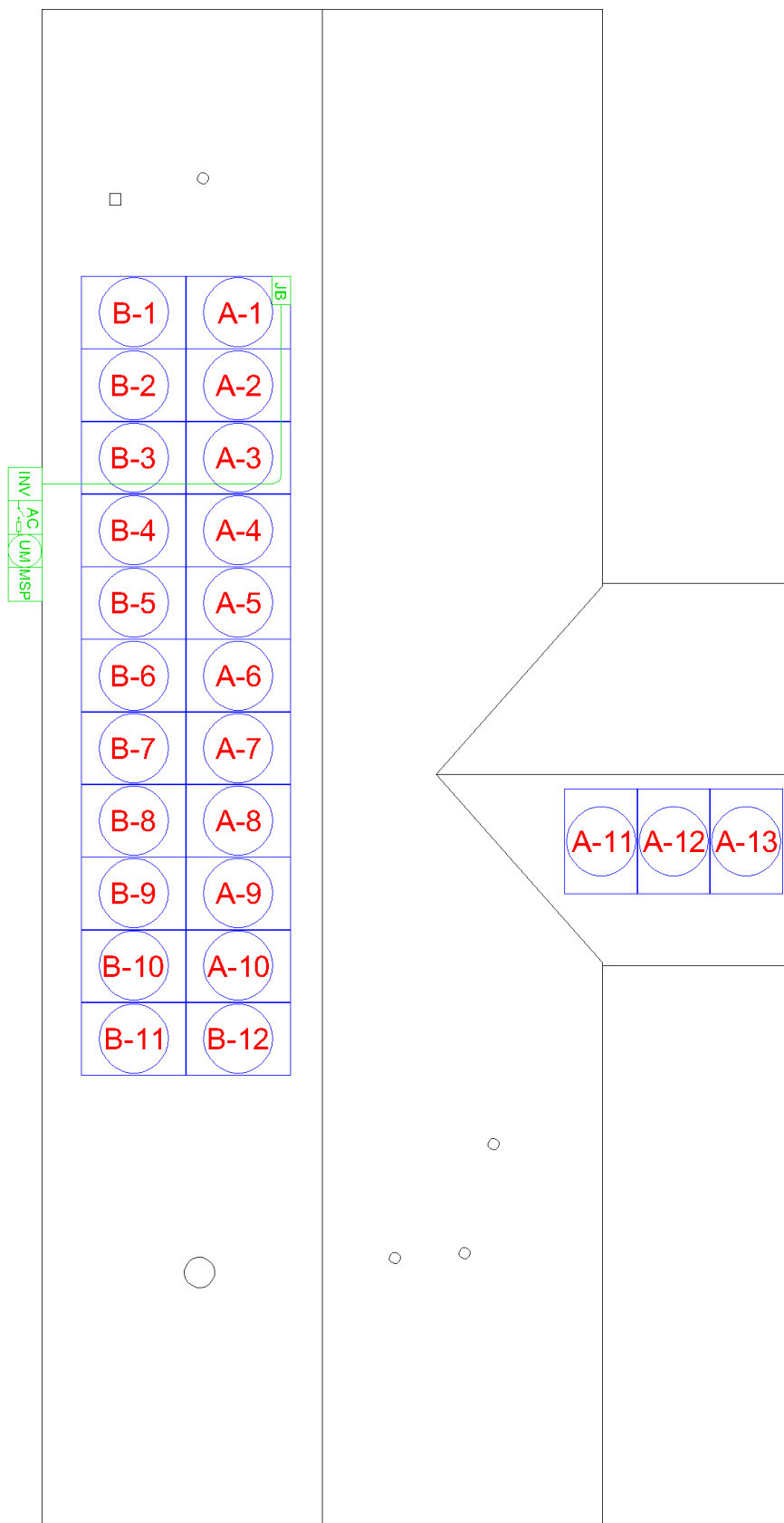
METER NO#: 325 154 044

BILL OF MATERIALS

EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	25	HYPERION SOLAR HY-DH108P8 (400W)
INVERTER	1	SOLAREEDGE SE7600H-US [240V]
OPTIMIZER	25	SOLAREEDGE POWER OPTIMIZER S440
JUNCTION BOX	1	JB-1.XL, JUNCTION BOX, NEMA 3R, UL LISTED
FUSED AC DISCONNECT	1	EATON DG222NRB PV SYSTEM AC DISCONNECT SWITCH FUSED, 60A W/X FUSES, 120/240V 2P NEMA 3R
ATTACHMENT	54	SPLICE FOOT X
ATTACHMENT	54	K2 SOLAR SEAL BUTYL PAD
ATTACHMENT	108	M5 X 60 LAG SCREWS
ATTACHMENT	54	T BOLT AND HEX NUT SET
RAILS	14	K2 CROSSRAIL 44-X
BONDED SPLICE	8	SPLICE KIT
MID CLAMP	44	MID CLAMPS
END CLAMP	12	END CLAMPS
GROUNDING LUG	3	GROUNDING LUG

ABLITZD LANE

(E) BACK OF RESIDENCE



(E) FRONT OF RESIDENCE

YOUNG RD



TITAN SOLAR POWER
160 N MCQUEEN RD,
GILBERT, AZ 85233, USA
PH# : (808) 371-5338
Electrical LIC# : U.33714

SYSTEM INFO

(25) HYPERION SOLAR
HY-DH108P8 (400W)

(1) SOLAREEDGE
SE7600H-US [240V]

DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC

METER: 325 154 044

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
**STRING LAYOUT
& BOM**

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

SHEET NUMBER
PV-4



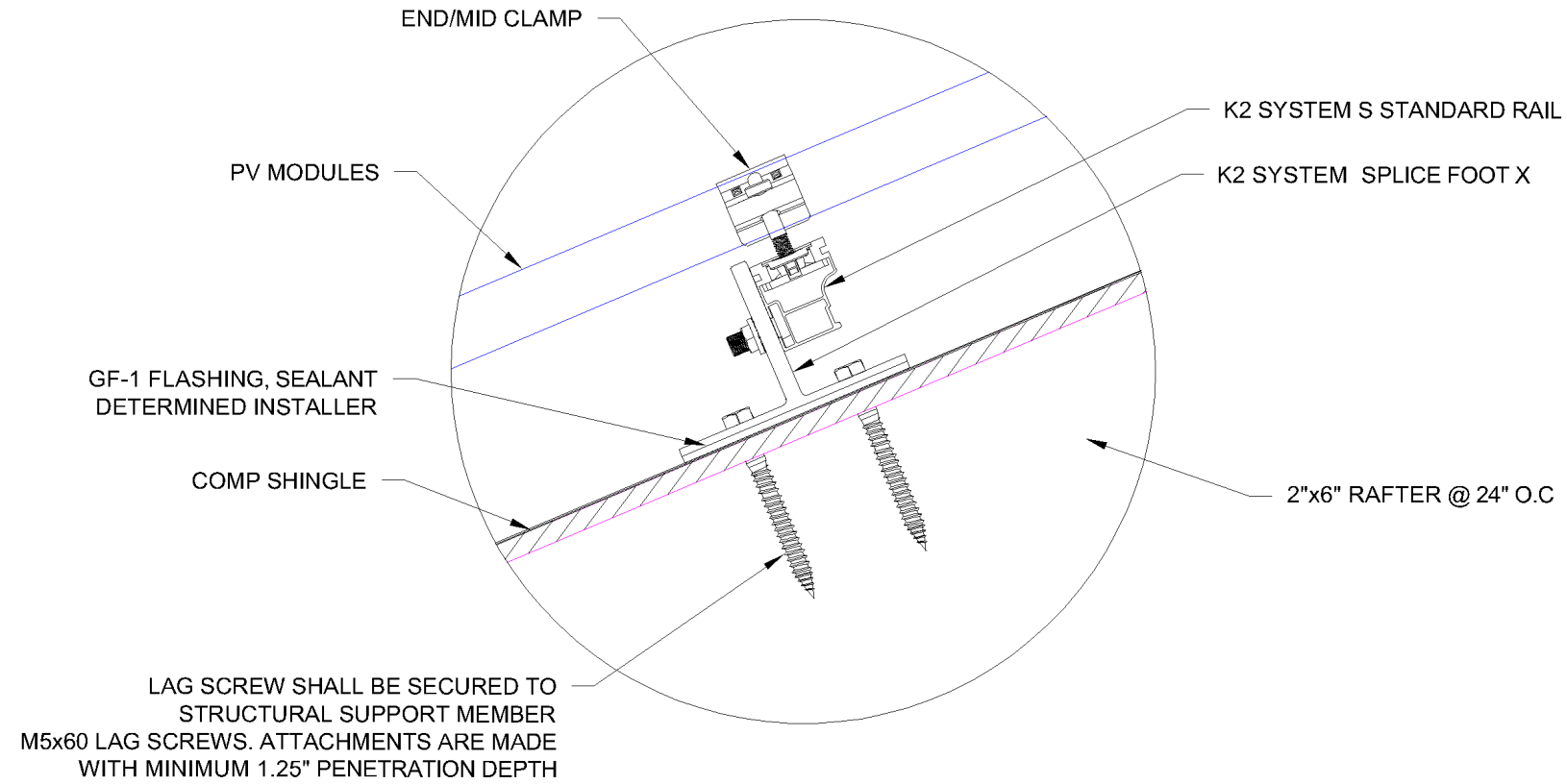
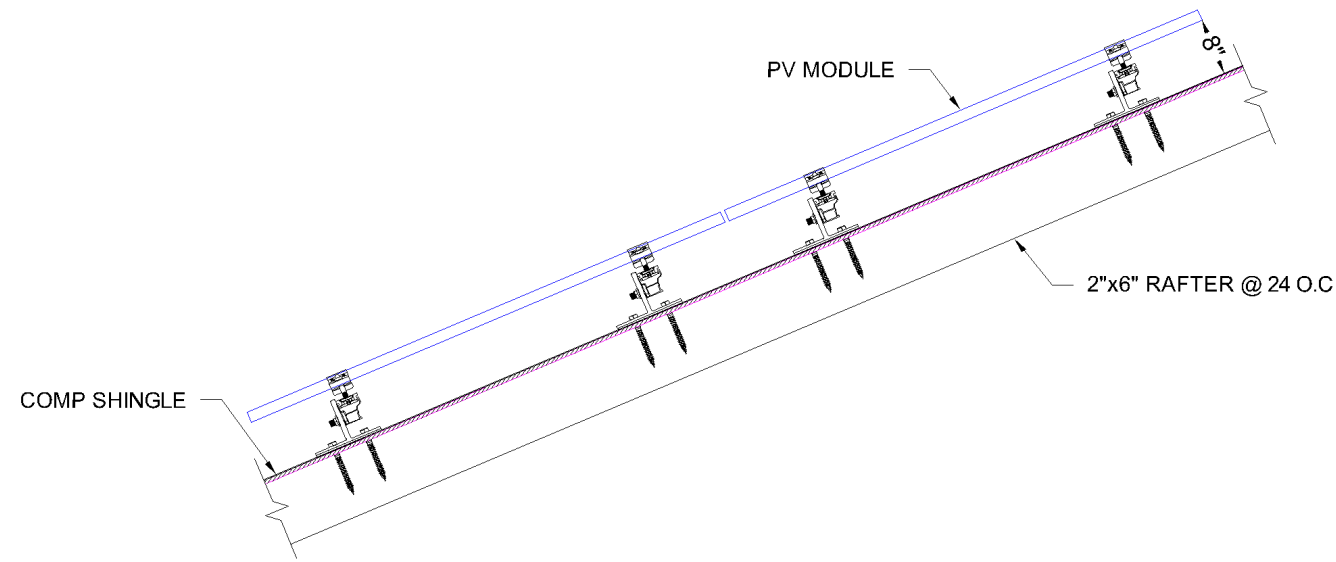
SCALE: 3/32" = 1'-0"



- MODULE STRINGING



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SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREEDGE SE7600H-US (240V)
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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 RESIDENCE
 301 YOUNG RD, ANGIER, NC 27501, USA
 EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
 PHONE NO. (919) 228-0667

DATE: 5/1/2023
SHEET NAME ATTACHMENT DETAILS
SHEET SIZE ANSI B 11" X 17"
SHEET NUMBER PV-5



TITAN SOLAR POWER
160 N MCQUEEN RD,
GILBERT, AZ 85233, USA
PH# : (808) 371-5338
Electrical LIC# : U.33714

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(1) SOLAREGE SE7600H-US (240V)
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

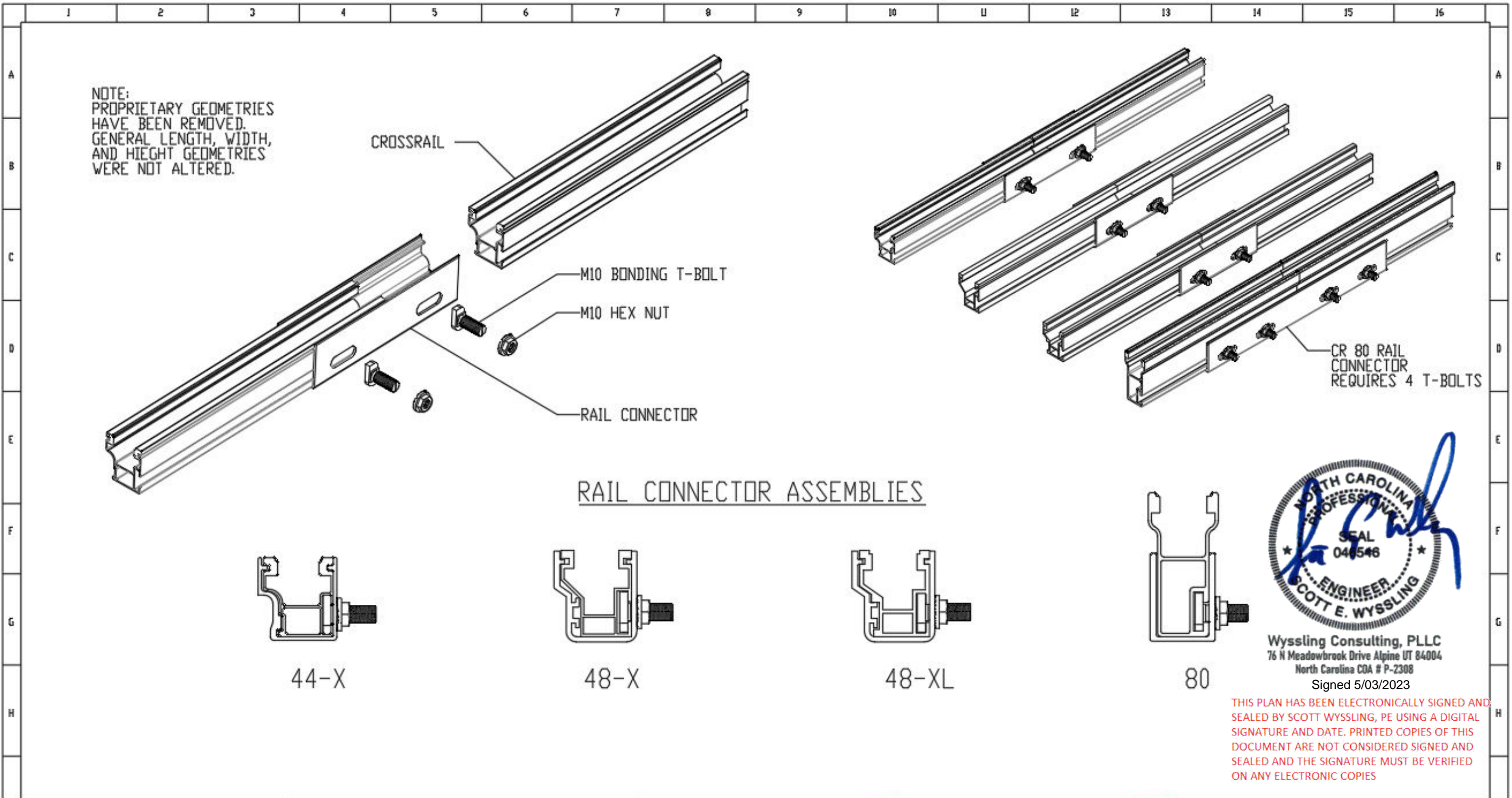
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SHEET NAME
**ATTACHMENT
DETAILS**

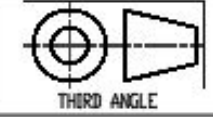
SHEET SIZE
**ANSI B
11" X 17"**

SHEET NUMBER
PV-6



REVISION HISTORY		
Revision	Date	Description
01		
02		
03		
04		
05		

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Vista, CA 92081
phone 760.301.5300



	Name	Date
Drawn	I. VIGGINS	07/29/2020
Checked	R. HAGEN	08/07/2020
Approved	I. VIGGINS	08/07/2020
Last Revision		

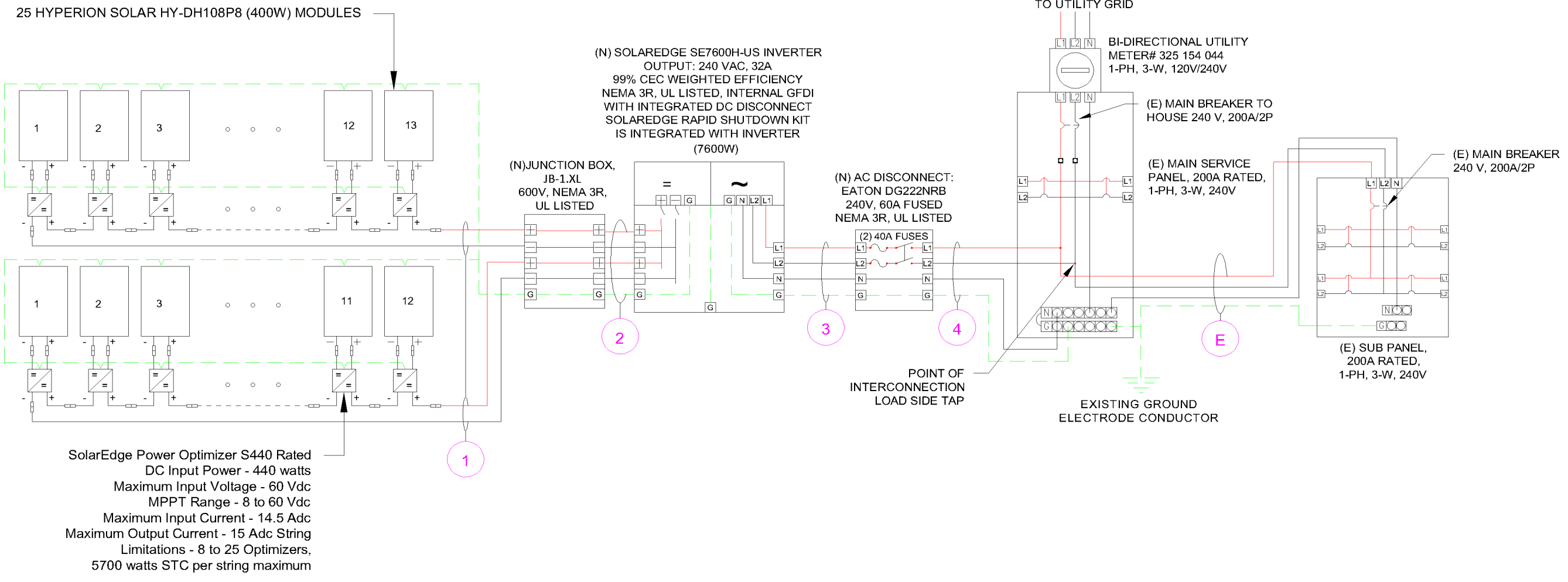
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Title CROSSRAIL RAIL CONNECTOR ASSEMBLIES		
Size B	# of Dimensions are in	
Scale 1:1	Revision 00	Sheet 2 of 2

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	# OF PARALLEL CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CIRCUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	LENGTH	VOTAGE DROP
				6 AWG	BARE COPPER	(56°C)						(56°C)											
1	2	ARRAY	JUNCTION BOX	10 AWG	PV WIRE	COPPER	OPEN AIR	1	2	N/A	N/A	6 AWG	BARE COPPER	0.71	(56°C)	N/A	15.00A	18.75A	N/A	N/A	75°C	61FT	0.47%
2	1	JUNCTION BOX	INVERTER	10 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	2	4	21.76%	N/A	8 AWG	THWN-2 COPPER	0.96	(34°C)	0.8	15.00A	18.75A	40A	30.72A	75°C	32FT	0.25%
3	1	INVERTER	FUSED AC DISCONNECT	8 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	1	3	29.27%	40A	8 AWG	THWN-2 COPPER	0.96	(34°C)	1	32.00A	40A	55A	52.80A	75°C	5FT	0.10%
4	1	FUSED AC DISCONNECT	MSP	6 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	1	3	34.90%	N/A	8 AWG	THWN-2 COPPER	0.96	(34°C)	1	32.00A	40A	75A	72.00A	75°C	5FT	0.07%



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(1) SOLAREGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

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SYSTEM RATING
10.000 kWDC
7.600 kWAC

SERVICE INFO	
UTILITY PROVIDER:	DUKE ENERGY
AHJ NAME:	HARNETT COUNTY
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	GENERAL ELECTRIC
MAIN SERVICE PANEL:	200 A
MAIN BREAKER RATING:	200 A
MAIN SERVICE LOCATION:	WEST
SERVICE FEED SOURCE:	UNDERGROUND

METER NO#: 325 154 044

SCALE: NTS

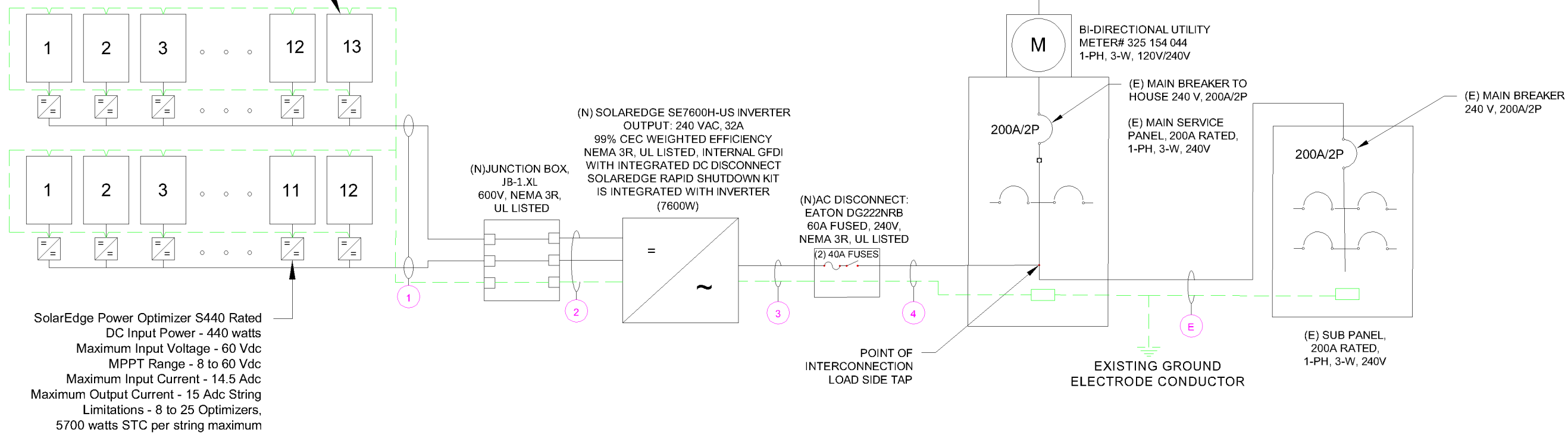
DATE: 5/1/2023
SHEET NAME ELECTRICAL LINE & CALCS.
SHEET SIZE ANSI B 11" X 17"
SHEET NUMBER PV-7

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	# OF PARALLEL CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CIRCUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR		CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	TERM. TEMP. RATING	LENGTH	VOTAGE DROP
				6 AWG	BARE COPPER	0.71						(56°C)											
1	2	ARRAY	JUNCTION BOX	10 AWG	PV WIRE	COPPER	OPEN AIR	1	2	N/A	N/A	6 AWG	BARE COPPER	0.71	(56°C)	N/A	15.00A	18.75A	N/A	N/A	75°C	61FT	0.47%
2	1	JUNCTION BOX	INVERTER	10 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	2	4	21.76%	N/A	8 AWG	THWN-2 COPPER	0.96	(34°C)	0.8	15.00A	18.75A	40A	30.72A	75°C	32FT	0.25%
3	1	INVERTER	FUSED AC DISCONNECT	8 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	1	3	29.27%	40A	8 AWG	THWN-2 COPPER	0.96	(34°C)	1	32.00A	40A	55A	52.80A	75°C	5FT	0.10%
4	1	FUSED AC DISCONNECT	MSP	6 AWG	THWN 2	COPPER	MIN 0.75" DIA EMT	1	3	34.90%	N/A	8 AWG	THWN-2 COPPER	0.96	(34°C)	1	32.00A	40A	75A	72.00A	75°C	5FT	0.07%



TITAN SOLAR POWER
160 N MCQUEEN RD,
GILBERT, AZ 85233, USA
PH# : (808) 371-5338
Electrical LIC# : U.33714

25 HYPERION SOLAR HY-DH108P8 (400W) MODULES



SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

RONALD MCDUGAL
RESIDENCE
301 YOUNG RD, ANGIER, NC 27501, USA
EMAIL ID: RONALDMLMCDUGAL@GMAIL.COM
PHONE NO. (919) 228-0667

SYSTEM RATING
10.000 kWDC
7.600 kWAC

SERVICE INFO	
UTILITY PROVIDER:	DUKE ENERGY
AHJ NAME:	HARNETT COUNTY
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	GENERAL ELECTRIC
MAIN SERVICE PANEL:	200 A
MAIN BREAKER RATING:	200 A
MAIN SERVICE LOCATION:	WEST
SERVICE FEED SOURCE:	UNDERGROUND

METER NO#: 325 154 044

DATE: 5/1/2023
SHEET NAME ELECTRICAL LINE & CALCS.
SHEET SIZE ANSI B 11" X 17"
SHEET NUMBER PV-8

SCALE: NTS

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL	Hyperion Solar HY-DH108P8 (400W)
VMP	31.01 V
IMP	12.9 A
VOC	37.07 V
ISC	13.79 A
TEMP. COEFF. VOC	-0.27%/K
PTC RATING	302.5 W
MODULE DIMENSION	67.08"(L) x 44.65"(W)
PANEL WATTAGE	400 W

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL	SOLAREEDGE SE7600H-US [240V]
NOMINAL AC POWER	7600 W
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	32 A

POWER OPTIMIZER (SOLAREEDGE S440)	
MAXIMUM INPUT POWER	440 W
MAXIMUM INPUT VOLTAGE	60 VDC
MAXIMUM INPUT ISC	14.5 ADC
MAXIMUM OUTPUT CURRENT	15 ADC
WEIGHTED EFFICIENCY	98.6%

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	0
AMBIENT TEMP (HIGH TEMP 2%)	34°C
CONDUIT HEIGHT	7/8"
ROOF TOP TEMP	90°C
CONDUCTOR TEMPERATURE RATE	56°C
MODULE TEMPERATURE COEFFICIENT OF VOC	-0.27%/K

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



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(1) SOLAREEDGE SE7600H-US [240V]
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REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
SPECIFICATIONS & NOTES

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

SHEET NUMBER
PV-9

1

! WARNING

ELECTRIC SHOCK HAZARD

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

LABEL LOCATION:
 POINT OF INTERCONNECTION, MAIN SERVICE DISCONNECT, AC DISCONNECT, AC COMBINER, INVERTER
 PER CODE: NCEC 690.13(B)

2

! CAUTION

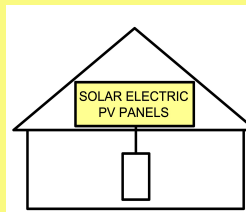
**DUAL POWER SOURCE
 SECOND SOURCE IS PHOTOVOLTAIC**

LABEL LOCATION:
 MAIN SERVICE DISCONNECT/ AC DISCONNECT/ MAIN SERVICE PANEL/ REVENUE METER/ AC COMBINER
 PER CODE: NCEC 705.12(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:
 MAIN SERVICE DISCONNECT IF MSD IS OUTSIDE PLACE IT THERE / IF MSD IS INSIDE PLACE ON THE AC DISCONNECT
 PER CODE: 2020 NCEC 690.56(C)

4

**PHOTOVOLTAIC SYSTEM
 UTILITY DISCONNECT SWITCH**

LABEL LOCATION:
 AC DISCONNECT
 PER CODE: NCEC 690.56(C)(2)

5

MAXIMUM VOLTAGE: 480 VDC
 MAXIMUM CIRCUIT CURRENT: 20 ADC
 MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER OR DC-TO-DC-CONVERTER(IF INSTALLED) 30 ADC

LABEL LOCATION:
 DIRECT-CURRENT PHOTOVOLTAIC POWER SOURCE
 PER CODE: NFPA 70, NCEC 690.53

6

PHOTOVOLTAIC AC DISCONNECT

RATED AC OUTPUT CURRENT 32 AMPS
 NOMINAL OPERATING AC VOLTAGE 240 VOLTS

LABEL LOCATION:
 INTERACTIVE SYSTEM POINT OF INTERCONNECTION
 PER CODE: NFPA 70, NCEC 690.54

7

**WARNING:
 PHOTOVOLTAIC POWER SOURCE**

LABEL LOCATION:
 CONDUIT
 PER CODE: NCEC 690.31(D)(2)

8

! WARNING !

ELECTRIC SHOCK HAZARD

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

LABEL LOCATION:
 PLACE THIS LABEL AT EACH JUNCTION BOX, COMBINER BOX, DISCONNECT AND DEVICE WHERE ENERGIZED, UNGROUNDED BE EXPOSED DURING SERVICE:
 PER CODE: NCEC 690.35 (F)

9

CAUTION : SOLAR CIRCUIT

LABEL LOCATION:
 MARKINGS PLACED ON ALL INTERIOR AND EXTERIOR CONDUIT, RACEWAYS, ENCLOSURES, AND CABLE ASSEMBLIES AT LEAST EVERY 10 FT, AT TURNS AND ABOVE/BELOW PENETRATIONS AND ALL COMBINER/JUNCTION BOXES
 PER CODE: NCFC 606.11.1.4

10

WARNING - Electric Shock Hazard

No user serviceable parts inside

Contact authorized service provider for assistance

LABEL LOCATION:
 INVERTER & JUNCTION BOXES (ROOF)
 PER CODE: NCEC 690.13 (G)(3) & 690.13 (G)(4)

11

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

LABEL LOCATION:
 INVERTER AT OR WITHIN 3' OF THE DC COMBINER SWITCH
 PER CODE: NCEC 690.56(C)(2)

12

SERVICE EQUIPMENTS

EQUIPEMENT DE SERVICE

EQUIPO DE SERVICIO

LABEL LOCATION:
 AC DISCONNECT
 PER CODE: NCEC 230.66



TITAN SOLAR POWER
 160 N MCQUEEN RD,
 GILBERT, AZ 85233, USA
 PH# : (808) 371-5338
 Electrical LIC# : U.33714

SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREEDGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

RONALD MCDUGAL
 RESIDENCE
 301 YOUNG RD, ANGIER, NC 27501, USA
 EMAIL ID: RONALDMLMCDUGAL@GMAIL.COM
 PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
SIGNAGE

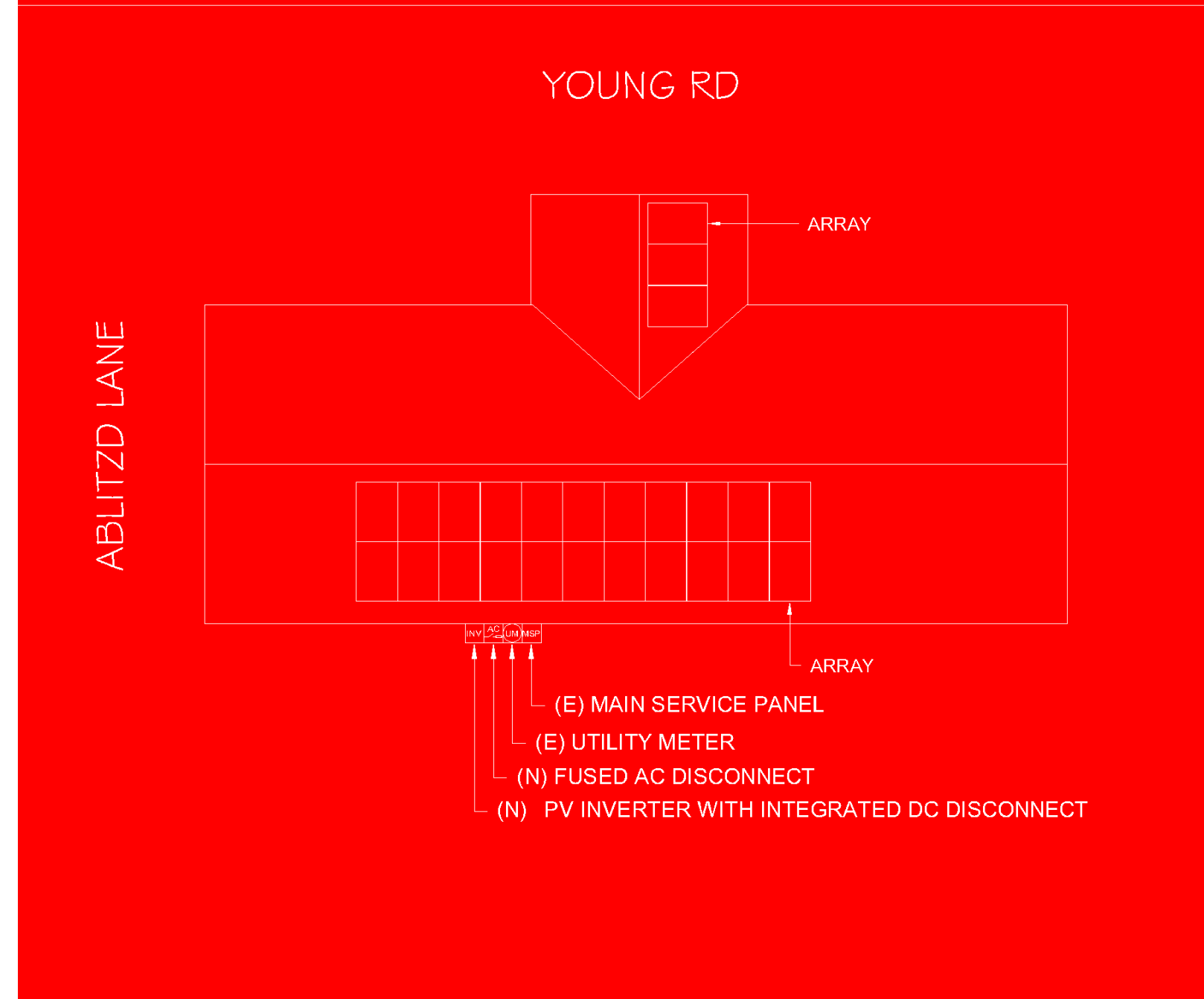
SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-10

- ADHESIVE FASTENED SIGNS**
- THE LABEL SHALL BE SUITABLE FOR THE ENVIRONMENT WHERE IT IS INSTALLED.
 - WHERE REQUIRED ELSEWHERE IN THIS CODE, ALL FIELD APPLIED LABELS, WARNING AND MARKINGS SHOULD COMPLY WITH ANSI 2535.4 [NCEC 110.21(B) FIELD MARKING].
 - ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT [NCFC 605.11.1.3]



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



LABEL LOCATION:
 EACH SERVICE EQUIPMENT LOCATION AND AT THE LOCATION(S) OF THE SYSTEM DISCONNECT(S)
 FOR ALL ELECTRIC POWER PRODUCTION SOURCES CAPABLE OF BEING INTERCONNECTED
 (PER CODE: NCEC 705.10)



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DESCRIPTION	DATE	REV

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 EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
 PHONE NO. (919) 228-0667

DATE: 5/1/2023
SHEET NAME SIGNAGE
SHEET SIZE ANSI B 11" X 17"
SHEET NUMBER PV-11



BLACK DH108P8

HY-DH108P8-390/410B

TITAN SOLAR POWER
 525 W BASELINE RD
 MESA, AZ 85210
 TEL 855 SAY-SOLAR
 INFO@TITANSOLARPOWER
 TITANSOLARPOWER.COM

390-410W

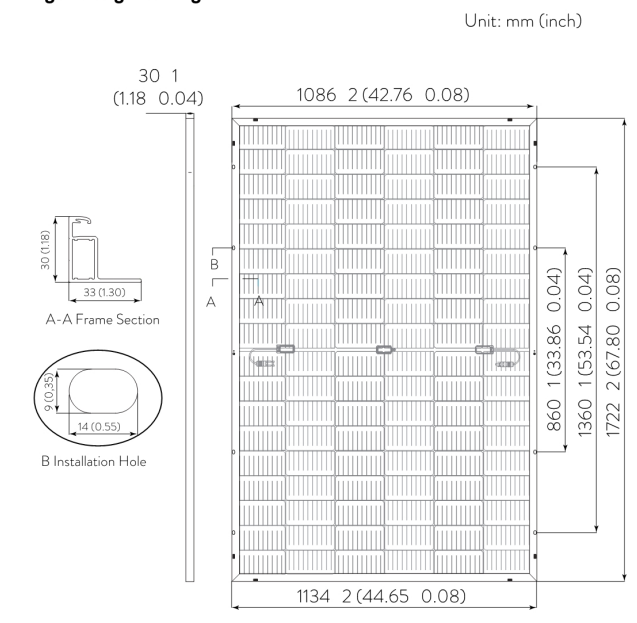
Mechanical Parameters

Solar Cell	Mono PERC 182mm
No. of Cells	108 (6 × 18)
Dimensions	1722 × 1134 × 30mm (67.08 × 44.65 × 1.18in.)
Weight	25.2kg (55.55lbs)
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4mm ² (IEC), 12 AWG (UL) (-/+)1200mm (47.24in.) or customized
Connector	EVO2 or customized
Front Cover	2.0mm (0.079in.) semi-tempered AR glass
Back Cover	2.0mm (0.079in.) semi-tempered glass
Container	36 pcs/Pallet, 792 pcs/40' HC

Operating Parameters

Max. System Voltage	DC 1500V (IEC/UL)
Operating Temperature	-40°C ~ +85°C (-40°F ~ +185°F)
Max. Fuse Rating	30A
Frontside Max. Loading	5400Pa (112lb/ft ²)
Backside Max. Loading	2400Pa (50lb/ft ²)
Bifaciality	70% 10%
Fire Resistance	IEC Class A, UL Type 29

Engineering Drawing



Electrical Characteristics - STC

Irradiance 1000 W/m², ambient temperature 25 °C, AM1.5.

Maximum Power at STC (Pmax/W)	410	405	400	395	390
Power Tolerance (W)	0 ~ +5				
Optimum Operating Voltage (Vmp/V)	31.45	31.21	31.01	30.84	30.64
Optimum Operating Current (Imp/A)	13.04	12.98	12.90	12.81	12.73
Open Circuit Voltage (Voc/V)	37.32	37.23	37.07	36.98	36.85
Short Circuit Current (Isc/A)	13.95	13.87	13.79	13.70	13.61
Module Efficiency	21.0%	20.7%	20.5%	20.2%	20.0%

Electrical Characteristics - NMOT

Irradiance 800 W/m², ambient temperature 20 °C, AM1.5, wind speed 1 m/s.

Maximum Power at NMOT (Pmax/W)	310.2	306.4	302.5	298.8	295.0
Optimum Operating Voltage (Vmp/V)	29.82	29.60	29.41	29.25	29.15
Optimum Operating Current (Imp/A)	10.40	10.35	10.29	10.22	10.15
Open Circuit Voltage (Voc/V)	35.39	35.31	35.15	35.07	34.95
Short Circuit Current (Isc/A)	11.25	11.19	11.13	11.05	10.98

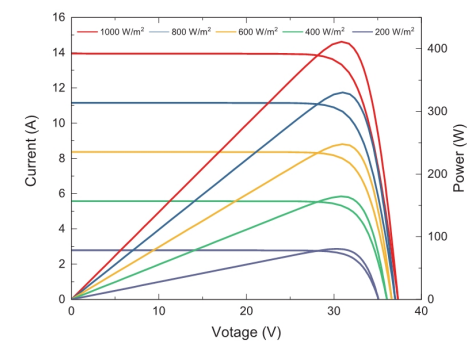
Rearside Power Gain (Reference to 410W Front)

Rearside Power Gain	5%	15%	25%
Maximum Power (Pmax/W)	431.4	472.3	514.8
Optimum Operating Voltage (Vmp/V)	31.57	31.57	31.65
Optimum Operating Current (Imp/A)	13.66	14.96	16.27
Open Circuit Voltage (Voc/V)	37.46	37.46	37.46
Short Circuit Current (Isc/A)	14.57	15.96	17.35
Module Efficiency	22.1%	24.2%	26.4%

Temperature Characteristics

Nominal Module Operating Temperature	42 °C
Nominal Cell Operating Temperature	45 °C
Temperature Coefficient of Pmax	-0.35%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Isc	0.05%/°C

Current-Voltage & Power-Voltage Curve (410W)



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 HY-DH108P8-EN-V1.4 US
 www.hyperion-usa.com



TITAN SOLAR POWER
 160 N MCQUEEN RD,
 GILBERT, AZ 85233, USA
 PH# : (808) 371-5338
 Electrical LIC# : U.33714

SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREEDGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

RONALD MCDUGAL
 RESIDENCE
 301 YOUNG RD, ANGIER, NC 27501, USA
 EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
 PHONE NO. (919) 228-0667

DATE: 5/1/2023

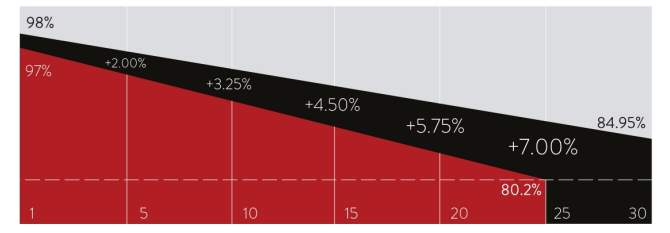
SHEET NAME
EQUIPMENT SPECIFICATIONS

SHEET SIZE
ANSI B 11" X 17"

SHEET NUMBER
PV-13

- HIGH CONVERSION EFFICIENCY**
 Module efficiency up to 21.0% through advanced cell technology and manufacturing process
- EXCELLENT WEAK LIGHT PERFORMANCE**
 More power output in weak light condition, such as cloudy days, morning and sunset
- EXTENDED MECHANICAL PERFORMANCE**
 Module certified to withstand extreme wind (2400 Pa) and snow loading (5400 Pa)
- QUALITY GUARANTEE**
 High module quality ensures long-term reliability

HY-DH108P8 108 HALF-CELL BIFACIAL MODULE



- 25 Years warranty for materials and workmanship
- 30 Years warranty for extra linear power output



IEC61215 / IEC61730 / UL61730
 IEC61701 / IEC62716
 ISO9001: Quality Management System

INFO@HYPERION-USA.COM
 7/559 MOO.6, MAPYANGPHON SUBDISTRICT,
 PLUAK DAENG DISTRICT, RAYONG PROVINCE,
 21140, THAILAND

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

/ 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-XXXXBXX4								
OUTPUT									
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 [Ⓜ]							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	1, Adjustable - 0.85 to 0.85								
GFDI Threshold	1							A	
Utility Monitoring, Islanding Protection, Country Configurable Thresholds	Yes								
INPUT									
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							400	Vdc
Maximum Input Current @240V [Ⓜ]	8.5	10.5	13.5	16.5	20	27	30.5	Adc	
Maximum Input Current @208V [Ⓜ]	-	9	-	13.5	-	-	27	Adc	
Max. Input Short Circuit Current	45							Adc	
Reverse-Polarity Protection	Yes								
Ground-Fault Isolation Detection	600k Ω Sensitivity								
Maximum Inverter Efficiency	99	99.2						%	
CEC Weighted Efficiency	99						99 @ 240V 98.5 @ 208V	%	
Nighttime Power Consumption	< 2.5							W	

[Ⓜ] For other regional settings please contact SolarEdge support
[Ⓜ] A higher current source may be used; the inverter will limit its input current to the values stated

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 and 2017, 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



TITAN SOLAR POWER
160 N MCQUEEN RD,
GILBERT, AZ 85233, USA
PH# : (808) 371-5338
Electrical LIC# : U.33714

SYSTEM INFO

(25) HYPERION SOLAR
HY-DH108P8 (400W)

(1) SOLAREGE
SE7600H-US [240V]

DC SYSTEM SIZE: 10.000 kWDC

AC SYSTEM SIZE: 7.600 kWAC

METER: 325 154 044

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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PHONE NO. (919) 228-0667

DATE: 5/1/2023

SHEET NAME
EQUIPMENT
SPECIFICATIONS

SHEET SIZE
ANSI B
11" X 17"

SHEET NUMBER
PV-14

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

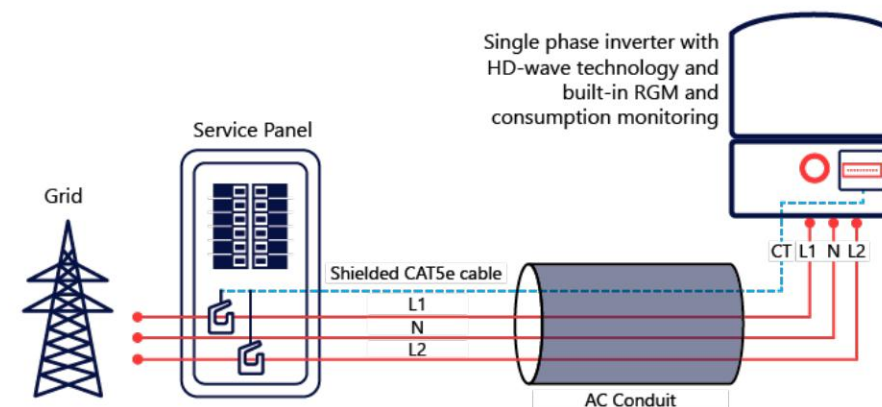
SE3000H-US / SE3800H-US / SE5000H-US / SE6000H-US/
SE7600H-US / SE10000H-US / SE11400H-US

MODEL NUMBER	SE3000H-US	SE3800H-US	SE5000H-US	SE6000H-US	SE7600H-US	SE10000H-US	SE11400H-US
ADDITIONAL FEATURES							
Supported Communication Interfaces	RS485, Ethernet, ZigBee (optional), Cellular (optional)						
Revenue Grade Metering, ANSI C12.20	Optional ⁽⁹⁾						
Consumption metering							
Inverter Commissioning	With the SetApp mobile application using Built-in Wi-Fi Access Point for Local Connection						
Rapid Shutdown - NEC 2014 and 2017 690.12	Automatic Rapid Shutdown upon AC Grid Disconnect						
STANDARD COMPLIANCE							
Safety	UL1741, UL1741 SA, UL1699B, CSA C22.2, Canadian AFCl according to T.I.L. M-07						
Grid Connection Standards	IEEE1547, Rule 21, Rule 14 (HI)						
Emissions	FCC Part 15 Class B						
INSTALLATION SPECIFICATIONS							
AC Output Conduit Size / AWG Range	1" Maximum / 14-6 AWG			1" Maximum /14-4 AWG			
DC Input Conduit Size / # of Strings / AWG Range	1" Maximum / 1-2 strings / 14-6 AWG			1" Maximum / 1-3 strings / 14-6 AWG			
Dimensions with Safety Switch (HxWxD)	17.7 x 14.6 x 6.8 / 450 x 370 x 174			21.3 x 14.6 x 7.3 / 540 x 370 x 185			in / mm
Weight with Safety Switch	22 / 10	25.1 / 11.4	26.2 / 11.9	38.8 / 17.6		lb / kg	
Noise	< 25			<50			
Cooling	Natural Convection						
Operating Temperature Range	-40 to +140 / -40 to +60 ⁽⁹⁾						
Protection Rating	NEMA 4X (Inverter with Safety Switch)						

⁽⁹⁾ Inverter with Revenue Grade Meter P/N: SExxxxH-US000BNC4; Inverter with Revenue Grade Production and Consumption Meter P/N: SExxxxH-US000BNI4. For consumption metering, current transformers should be ordered separately: SEACT0750-200NA-20 or SEACT0750-400NA-20. 20 units per box
⁽⁹⁾ Full power up to at least 50°C / 122°F; for power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note-na.pdf>

How to Enable Consumption Monitoring

By simply wiring current transformers through the inverter's existing AC conduits and connecting them to the service panel, homeowners will gain full insight into their household energy usage helping them to avoid high electricity bills



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DATE: 5/1/2023

SHEET NAME
EQUIPMENT SPECIFICATIONS

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

SHEET NUMBER
PV-15

Power Optimizer

S440, S500



POWER OPTIMIZER

PV power optimization at the module level

- Specifically designed to work with SolarEdge residential inverters
- Superior efficiency (99.5%)
- Mitigates all types of module mismatch loss, from manufacturing tolerance to partial shading
- Faster installations with simplified cable management and easy assembly using a single bolt
- Detects abnormal PV connector behavior, preventing potential safety issues*
- Module-level voltage shutdown for installer and firefighter safety
- Flexible system design for maximum space utilization
- Compatible with bifacial PV modules

* Functionality subject to inverter model and firmware version

solaredge.com



Power Optimizer

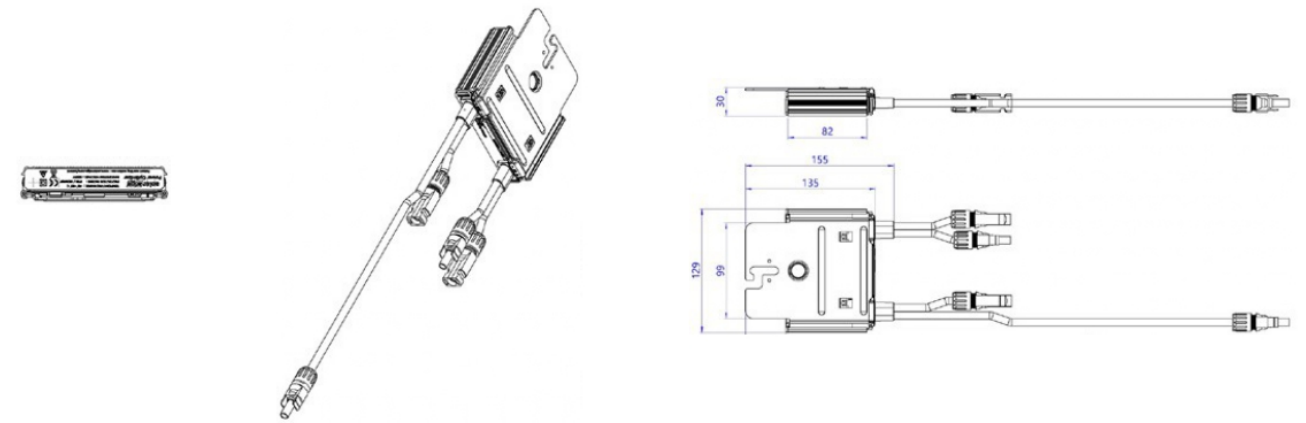
S440, S500

	S440	S500	UNIT
INPUT			
Rated Input DC Power ⁽¹⁾	440	500	W
Absolute Maximum Input Voltage (Voc)		60	Vdc
MPPT Operating Range		8 - 60	Vdc
Maximum Short Circuit Current (Isc) of Connected PV Module		14.5	Adc
Maximum Efficiency		99.5	%
Weighted Efficiency		98.6	%
Overtoltage Category		II	
OUTPUT DURING OPERATION			
Maximum Output Current		15	Adc
Maximum Output Voltage		60	Vdc
OUTPUT DURING STANDBY (POWER OPTIMIZER DISCONNECTED FROM INVERTER OR INVERTER OFF)			
Safety Output Voltage per Power Optimizer		1	Vdc
STANDARD COMPLIANCE			
EMC	FCC Part 15 Class B, IEC61000-6-2, IEC61000-6-3, CISPR11, EN-55011		
Safety	IEC62109-1 (class II safety), UL1741		
Material	UL94 V-0, UV Resistant		
RoHS	Yes		
Fire Safety	VDE-AR-E 2100-712:2013-05		
INSTALLATION SPECIFICATIONS			
Maximum Allowed System Voltage		1000	Vdc
Dimensions (W x L x H)		129 x 153 x 30	mm
Weight (including cables)		655 / 1.5	gr / lb
Input Connector		MC4 ⁽²⁾	
Input Wire Length		0.1	m
Output Connector		MC4	
Output Wire Length		(+) 2.3, (-) 0.10	m
Operating Temperature Range ⁽³⁾		-40 to +85	°C
Protection Rating		IP68 / NEMA6P	
Relative Humidity		0 - 100	%

(1) Rated power of the module at STC will not exceed the power optimizer Rated Input DC Power. Modules with up to +5% power tolerance are allowed
 (2) For other connector types please contact SolarEdge
 (3) For ambient temperature above +70°C / +158°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	Single Phase HD-Wave	Single Phase	Three Phase	Three Phase for 277/480V grid	
Minimum String Length (Power Optimizers)	S440, S500	8	16	18	
Maximum String Length (Power Optimizers)		25		50	
Maximum Nominal Power per String ⁽⁴⁾		5700	5250	11250 ⁽⁵⁾	12750 ⁽⁶⁾
Parallel Strings of Different Lengths or Orientations			Yes		W

(4) 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>
 (5) For the 230/400V grid, it is allowed to install up to 13,500W per string when the maximum power difference between each string is 2,000W
 (6) For the 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
 (7) It is not allowed to mix S-series and P-series power optimizers in new installations



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TITAN SOLAR POWER
 160 N MCQUEEN RD,
 GILBERT, AZ 85233, USA
 PH# : (808) 371-5338
 Electrical LIC# : U.33714

SYSTEM INFO
(25) HYPERION SOLAR HY-DH108P8 (400W)
(1) SOLAREEDGE SE7600H-US [240V]
DC SYSTEM SIZE: 10.000 kWDC
AC SYSTEM SIZE: 7.600 kWAC
METER: 325 154 044

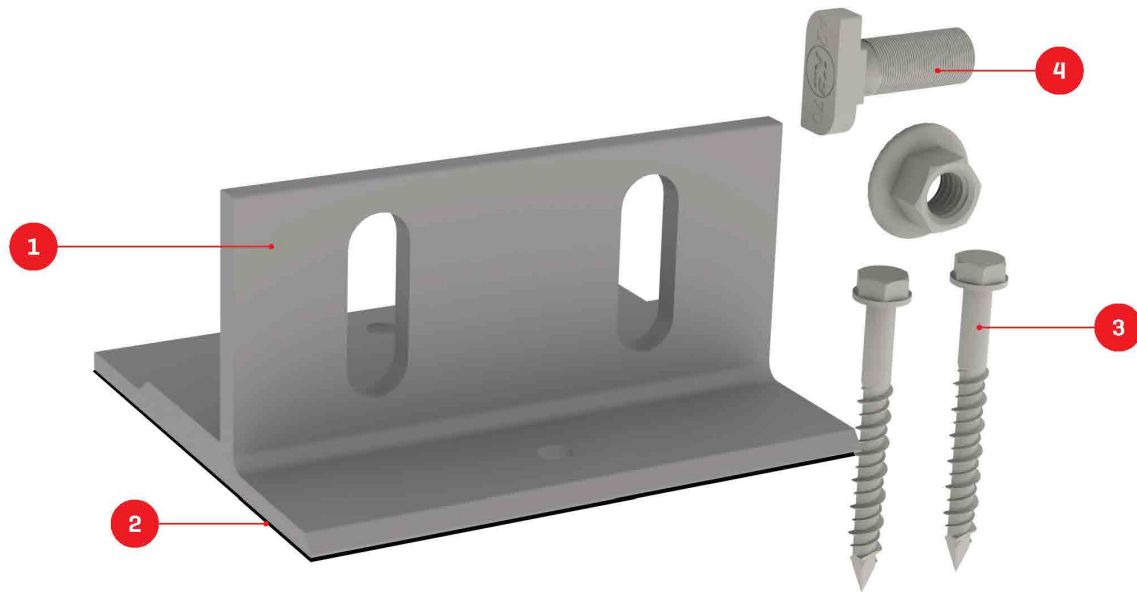
REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

RONALD MCDUGAL
 RESIDENCE
 301 YOUNG RD, ANGIER, NC 27501, USA
 EMAIL ID: RONALDSLIMMCDUGAL@GMAIL.COM
 PHONE NO. (919) 228-0667

DATE: 5/1/2023
SHEET NAME EQUIPMENT SPECIFICATIONS
SHEET SIZE ANSI B 11" X 17"
SHEET NUMBER PV-16

We support PV systems
Formerly Everest Solar Systems



Splice Foot X

TECHNICAL SHEET

Item Number	Description	Part Number
1	Splice Foot X	4000113 Splice Foot X Kit, Mill
2	K2 Solar Seal Butyl Pad	
3	M5 x 60 lag screws	
4	T-Bolt & Hex Nut Set	

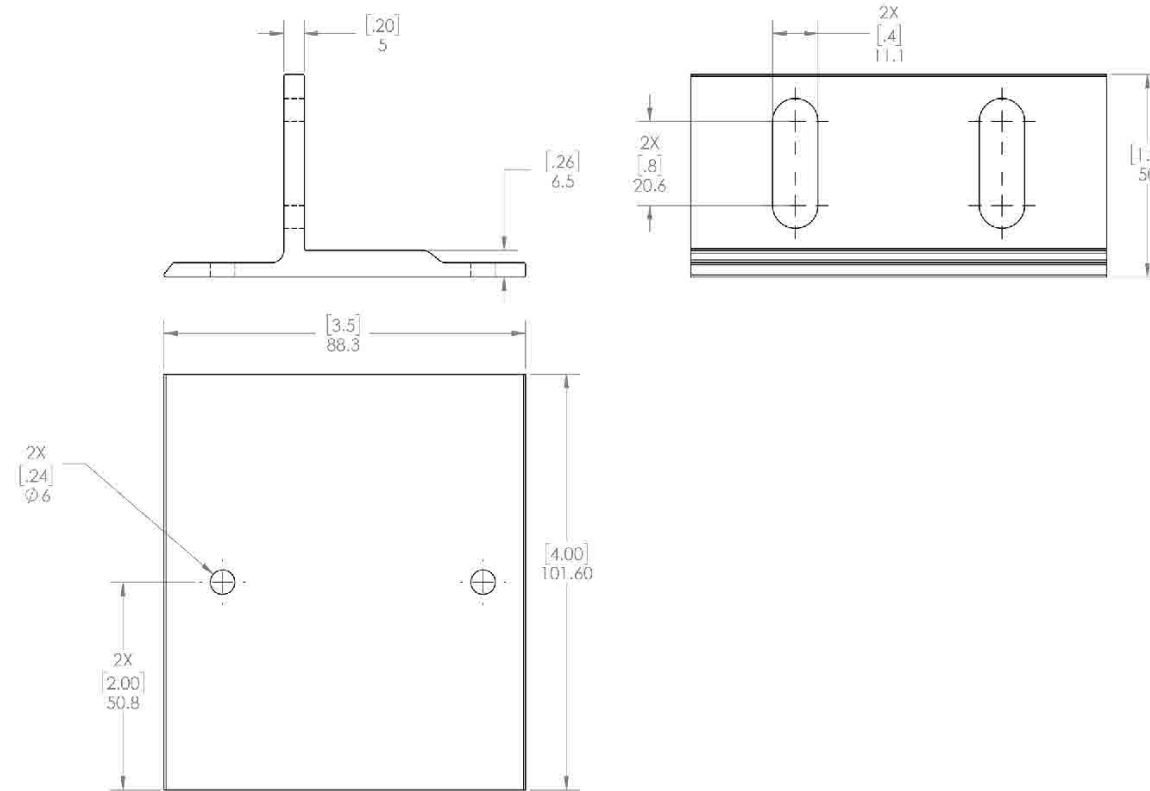
Technical Data

	Splice Foot X
Roof Type	Composition shingle
Material	Aluminum with stainless steel hardware
Finish	Mill
Roof Connection	M5 x 60 lag screws
Code Compliance	UL 2703
Compatibility	CrossRail 44-X, 48-X, 48-XL, 80

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Units: [in] mm



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(1) SOLAREEDGE
SE7600H-US [240V]

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AC SYSTEM SIZE: 7.600 kWAC

METER: 325 154 044

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DATE: 5/1/2023

SHEET NAME

EQUIPMENT
SPECIFICATIONS

SHEET SIZE

ANSI B
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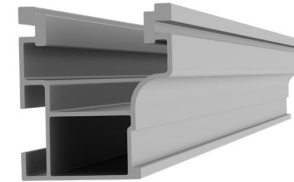
SHEET NUMBER

PV-17

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Formerly Everest Solar Systems



CROSSRAIL 44-X



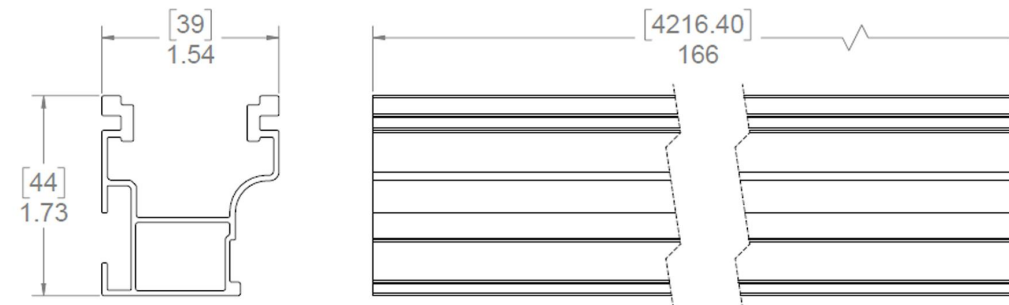
Mechanical Properties

CrossRail 44-X	
Material	6000 Series Aluminum
Ultimate Tensile Strength	37.7 ksi [260 MPa]
Yield Strength	34.8 ksi [240 MPa]
Weight	0.47 lbs/ft [0.699 kg/m]
Finish	Mill or Dark Anodized

Sectional Properties

CrossRail 44-X	
Sx	0.1490 in ³ [0.3785 cm ³]
Sy	0.1450 in ³ [0.3683 cm ³]
A [X-Section]	0.4050 in ² [1.0287 cm ²]

Units: [mm] in



Notes:

- ▶ Structural values and span charts determined in accordance with Aluminum Design Manual and ASCE 7-16
- ▶ UL2703 Listed System for Fire and Bonding



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(1) SOLAREEDGE
SE7600H-US [240V]

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AC SYSTEM SIZE: 7.600 kWAC

METER: 325 154 044

REVISIONS

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SHEET NAME

**EQUIPMENT
SPECIFICATIONS**

SHEET SIZE

**ANSI B
11" X 17"**

SHEET NUMBER

PV-18

A. System Specifications and Ratings

- Maximum Voltage: 1,000 Volts
- Maximum Current: 120 Amps
- Allowable Wire: 14 AWG – 6 AWG
- Spacing: Please maintain a spacing of at least ½” between uninsulated live parts and fittings for conduit, armored cable, and uninsulated live parts of opposite polarity.
- Enclosure Rating: Type 3R
- Roof Slope Range: 2.5 – 12:12
- Max Side Wall Fitting Size: 1”
- Max Floor Pass-Through Fitting Size: 1”
- Ambient Operating Conditions: (-35°C) - (+75°C)
- Compliance:
 - JB-1.XL: UL1741
 - Approved wire connectors: must conform to UL1741
- System Marking: **Interek Symbol and File #5019942**
- Periodic Re-inspections: If re-inspections yield loose components, loose fasteners, or any corrosion between components, components that are found to be affected are to be replaced immediately.

Table 1: Typical Wire Size, Torque Loads and Ratings

	1 Conductor	2 Conductor	Torque				
			Type	NM	Inch Lbs	Voltage	Current
ABB ZS6 terminal block	10-24 awg	16-24 awg	Sol/Str	0.5-0.7	6.2-8.85	600V	30 amp
ABB ZS10 terminal block	6-24 awg	12-20 awg	Sol/Str	1.0-1.6	8.85-14.16	600V	40 amp
ABB ZS16 terminal block	4-24 awg	10-20 awg	Sol/Str	1.6-2.4	14.6-21.24	600V	60 amp
ABB M6/8 terminal block	8-22 awg		Sol/Str	.08-1	8.85	600V	50 amp
Ideal 452 Red WING-NUT Wire Connector	8-18 awg		Sol/Str			600V	
Ideal 451 Yellow WING-NUT Wire Connector	10-18 awg		Sol/Str			600V	
Ideal, In-Sure Push-In Connector Part #39	10-14 awg		Sol/Str			600V	
WAGO, 221-612	10-14 awg		Sol/Str			600V	
International Hydraulics 2S2/0	10-14 awg		Sol/Str	4	35		
	8 awg		Sol/Str	4.5	40		
Brumall 4-5,3	4-6 awg		Sol/Str		45	2000V	
	10-14 awg		Sol/Str		35		
Blackburn LL414	4-14 awg		Sol/Str				

Table 2: Minimum wire-bending space for conductors through a wall opposite terminals in mm (inches)

Wire size, AWG or kcmil (mm2)	Wires per terminal (pole)			
	1 mm (inch)	2 mm (inch)	3 mm (inch)	4 or More mm (inch)
14-10 (2.1-5.3)	Not specified	-	-	-
8 (8.4)	38.1 (1-1/2)	-	-	-
6 (13.3)	50.8 (2)	-	-	-



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SHEET NUMBER

PV-19