

ROOF MOUNTED PHOTOVOLTAIC SYSTEM AT

Jinal Patel

806 Serenity Walk Pkwy Fuquay-Varina, NC 27526

8M SOLAR

ADVANCING ENERGY INDEPENDENCE

5112 Departure Drive,
Raleigh, NC 27616

CUSTOMER INFORMATION			
JOB NUMBER	NAME	Jinal Patel	
	ADDRESS	806 Serenity Walk Pkwy Fuquay-Varina, NC 27526	
	APPROVAL		

NABCEP

CERTIFIED

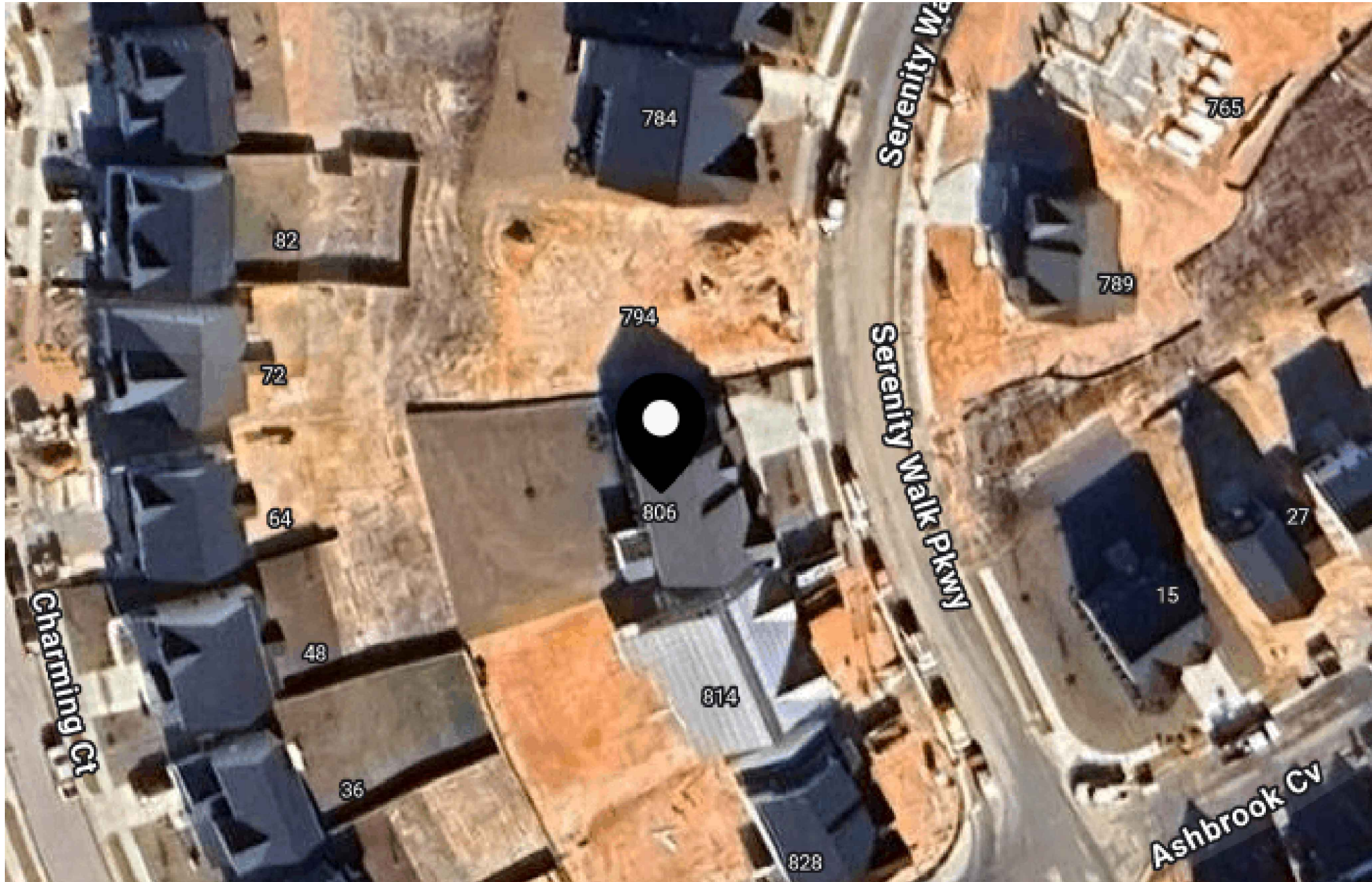
PV Installation
Professional

Ali Buttar
PVIP #031310-32

REV	DATE	DESCRIPTION
A	8/01/2025	



FRONT VIEW OF THE BUILDING



AERIAL VIEW OF THE BUILDING

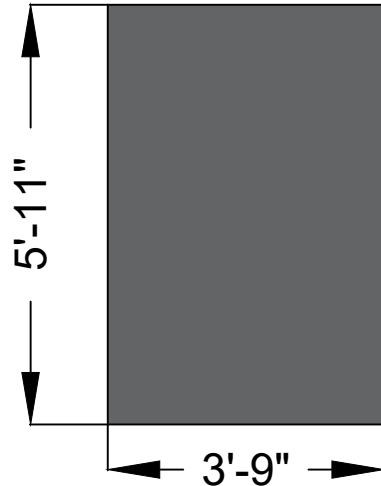
SYSTEM DETAILS	
7.28KW ROOF MOUNTED SOLAR SYSTEM WITH MAX. 10.0 KVAC OUTPUT CAPACITY	
SOLAR PANELS MODEL	Canadian Solar CS6.1-54TM-455H
NO. OF SOLAR PANELS	16
INVERTER + BATTERY	01 X TESLA POWER WALL 3
NO. OF INVERTER	1
RAPID SHUT DOWN DEVICE (RSD)	MCI - 2 (High Current)
NO.OF RSD	06
RACKING	PEGASUS (PSR-B84 RAILS)
MOUNTING DETAILS	INSTAFLASH2

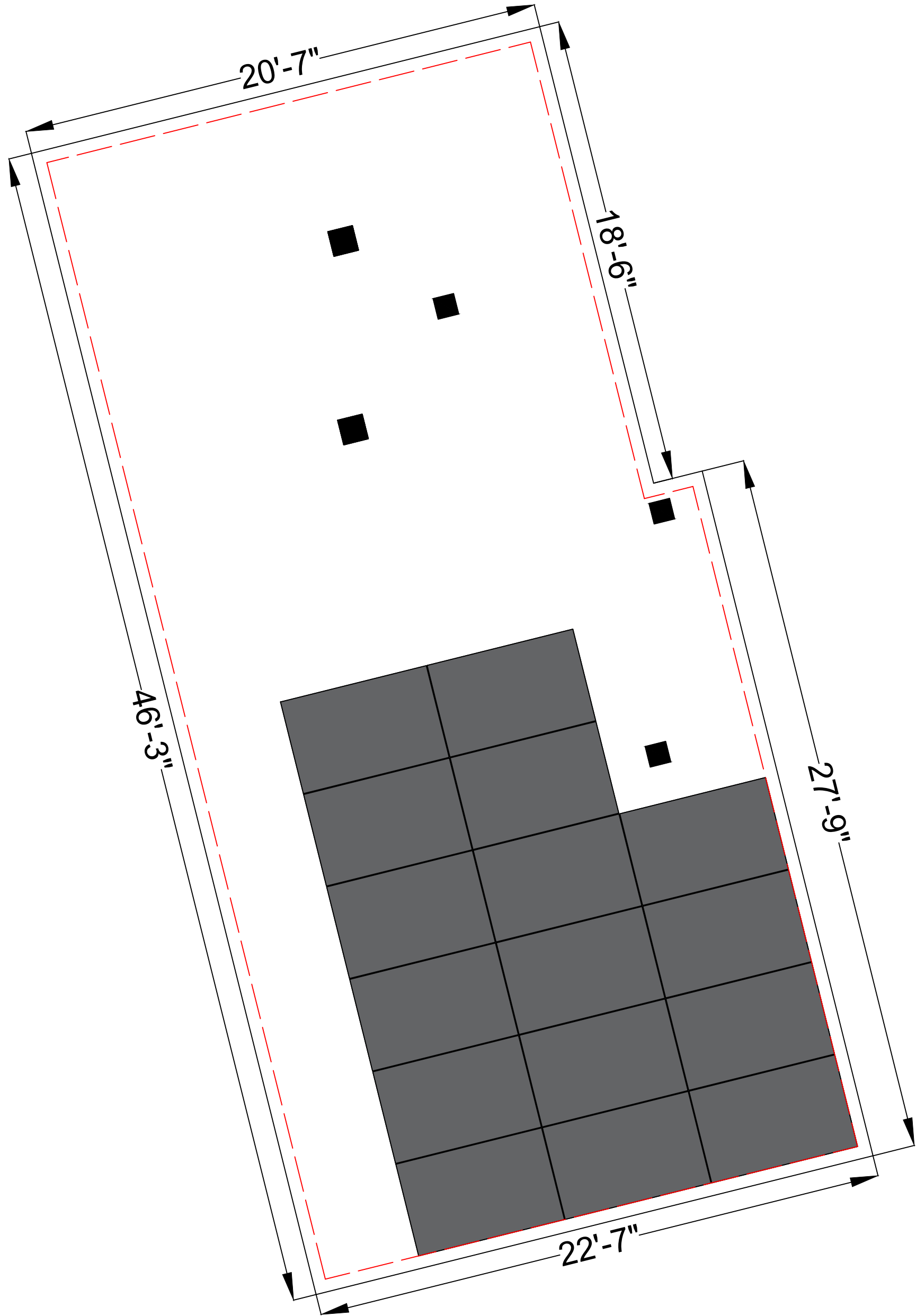
SHEET INDEX	
G01	COVER SHEET
E01	ELECTRICAL NOTES
PV01	SITE LAYOUT
PV02	STRING MAPPING
PV03	ELECTRICAL ONE LINE DIAGRAM
PV04	ELECTRICAL DETAILED WIRING DIAGRAM
PV05	GROUNDING PLAN
PV06	WARNING LABELS AND LOCATION
PV07	RACKING DETAILS
PV08	BILL OF MATERIALS
SS01	PRODUCT SPEC. SHEETS

UTILITY COMPANY		PERMIT ISSUER (AHJ)		SCOPE OF WORK		DESIGN CRITERIA							
DUKE ENERGY		Harnett County		INSTALLATION OF UTILITY INTERACTIVE PHOTOVOLTAIC SOLAR SYSTEM		WIND SPEED = 120MPH		GROUND SNOW LOAD = 15PSF		WIND EXPOSURE FACTOR = B			
1	2	3	4	5	6	7	8	9	10	11	12	13	14

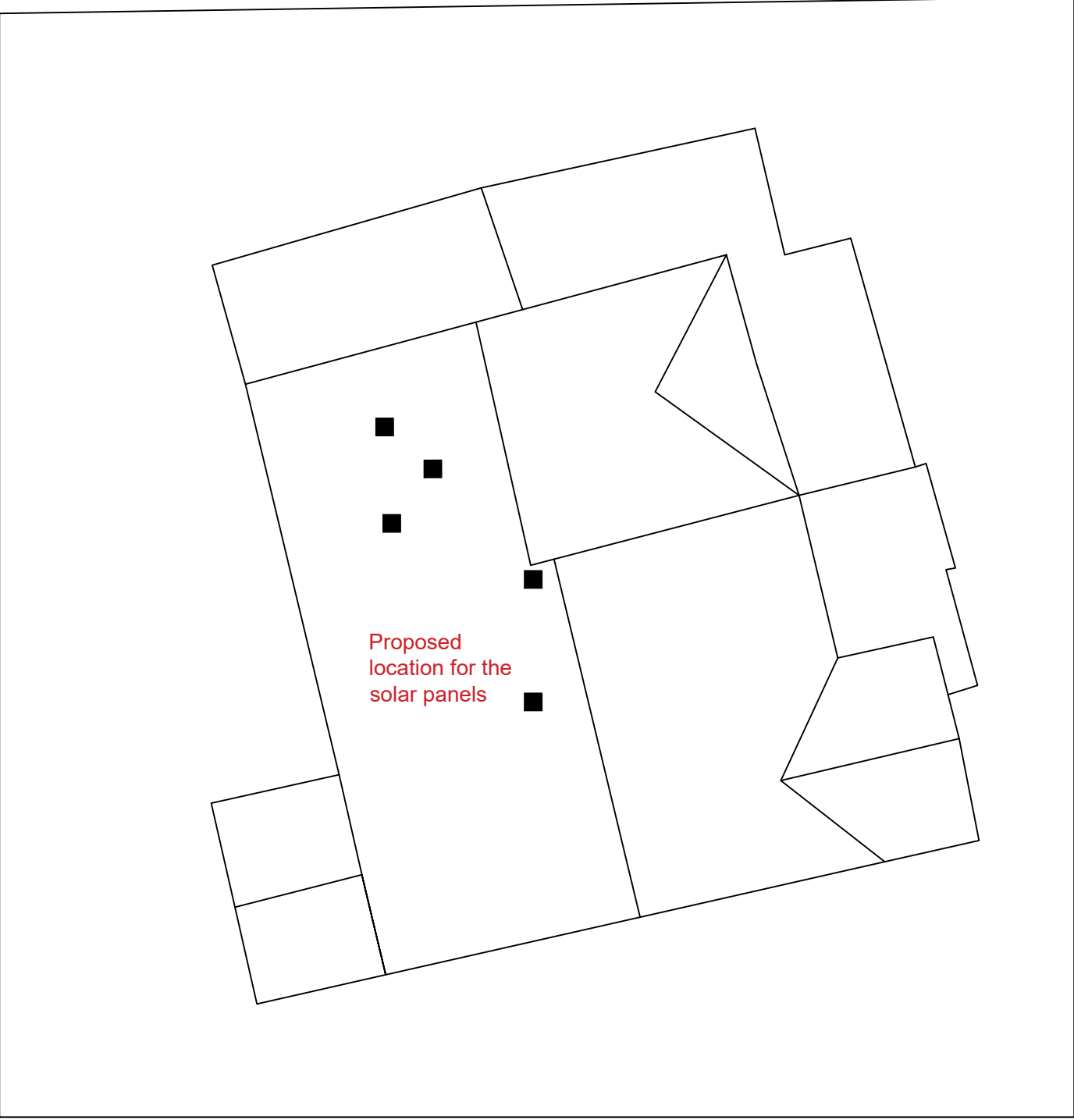
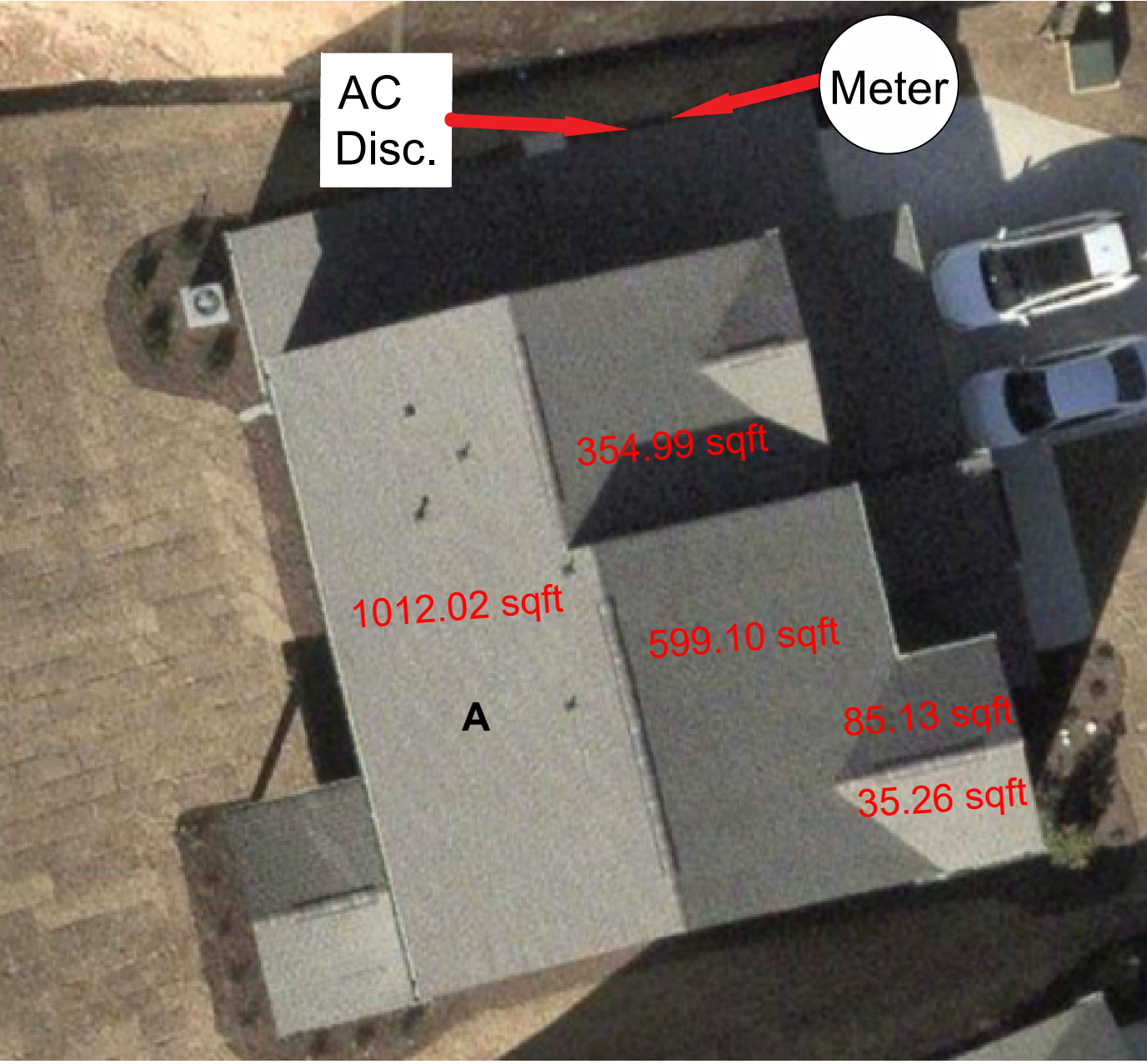
DRAWING #
G01

A	CODE AND STANDARDS THE INSTALLATION OF SOLAR ARRAYS AND PHOTOVOLTAIC POWER SYSTEMS SHALL COMPLY WITH THE FOLLOWING CODES: 2017 NATIONAL ELECTRICAL CODE 2018 NORTH CAROLINA RESIDENTIAL CODE 2018 NORTH CAROLINA BUILDING CODE - ALL OTHER ORDINANCE ADOPTED BY THE LOCAL GOVERNING AGENCIES					LEGEND - GENERAL DARK LINE INDICATES NEW OR WITHIN THE SCOPE OF PROJECT LIGHT LINE INDICATES EXISTING OR BEYOND THE SCOPE OF PROJECT ----- DASHED LINE INDICATES EQUIPMENT AT A DIFFERENT LOCATION					ABBREVIATION A AMPERES AF AMPERE FRAME AFDI ARC FAULT DETECTION & INTERRUPTER AIC AMPS INTERRUPTING CAPACITY AT AMPERE TRIP ATS AUTOMATIC TRANSFER SWITCH AWG AMERICAN WIRE GAUGE BKR CIRCUIT BREAKER C CONDUIT CB COMBINER BOX CKT CIRCUIT CP CONTROL PANEL CU COPPER DISC DISCONNECT EGC EQUIPMENT GROUNDING CONDUCTOR ELEC ELECTRIC, ELECTRICAL EMERG EMERGENCY EMT ELECTRICAL METALLIC TUBING EQUIP EQUIPMENT G, GND GROUND GEC GROUNDING ELECTRODE CONDUCTOR GFCI GROUND-FAULT CIRCUIT INTERRUPTER GFPE GROUND-FAULT PROTECTION OF EQUIPMENT HID HIGH - INTENSITY DISCHARGE (LIGHTING) HZ HERTZ IMC INTERMEDIATE METALLIC CONDUIT KAIC 1000 AMPS INTERRUPT CAPACITY KCMIL 1000 CIRCULAR MILLS KVA KILO - VOLT AMPERE KW KILOWATT LA LIGHTNING & SURGE ARRESTOR LED LIGHT - EMITTING DIODE LSIG LONG, SHORT, INSTANTANEOUS, & GROUND FAULT LTG LIGHTING MAX MAXIMUM MFG MANUFACTURER MLO MAIN LUGS ONLY MPPT MAXIMUM POWER POINT TRACKING NEMA NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION NTS NOT TO SCALE P POLE PF POWER FACTOR PLC PROGRAMMABLE LOGIC CONTROLLER PWR POWER POI POINT OF INTERCONNECTION PRI PRIMARY PVC POLYVINYL CHLORIDE RCPT RECEPTACLE RGS RIGID GALVANIZED STEEL CONDUIT RMC RIGID METAL CONDUIT SA SURGE ARRESTOR SEC SECONDARY SPD SURGE PROTECTION DEVICE SSBJ SUPPLY SIDE BONDING JUMPER ST SHUNT TRIP SW SWITCH TBD TO BE DETERMINED TP TWISTED PAIR TYP TYPICAL V VOLT VA VOLT - AMPERE W WATT WP WEATHER PROOF XFMR TRANSFORMER
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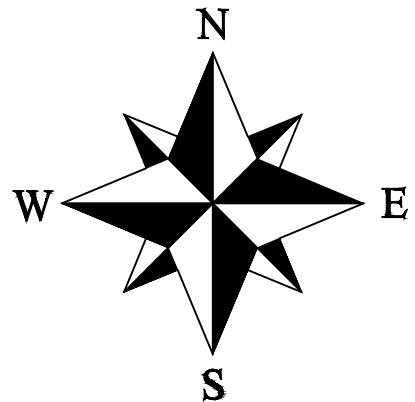
ROOF DESCRIPTION				MODULE DIMENSION	SYSTEM DETAILS				LAGENDS	
ROOF	PITCH	AZIMUTH	NO. OF MODULES		16 x Canadian Solar CS6.1-54TM-455H				Symbol	Description
A	36°	256°	16		01 x POWERWALL 3					6in setback from the sides of roof
					DC SIZE	7.28 KW	AC SIZE	10.0 KVAC		Solar Panels
					TOTAL ROOF AREA:	1012.02 Sqft	Covered Area	351.35 Sqft		Vents on roof



Roof A
16 Modules



SCALE: NTS



SITE LAYOUT

SCALE: 1/4" = 1'-0"



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PAGE SIZE	APPROVAL		
	24" x 36"		



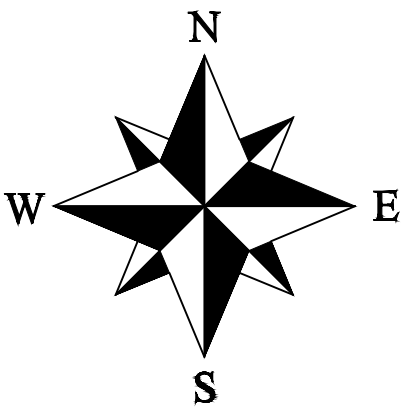
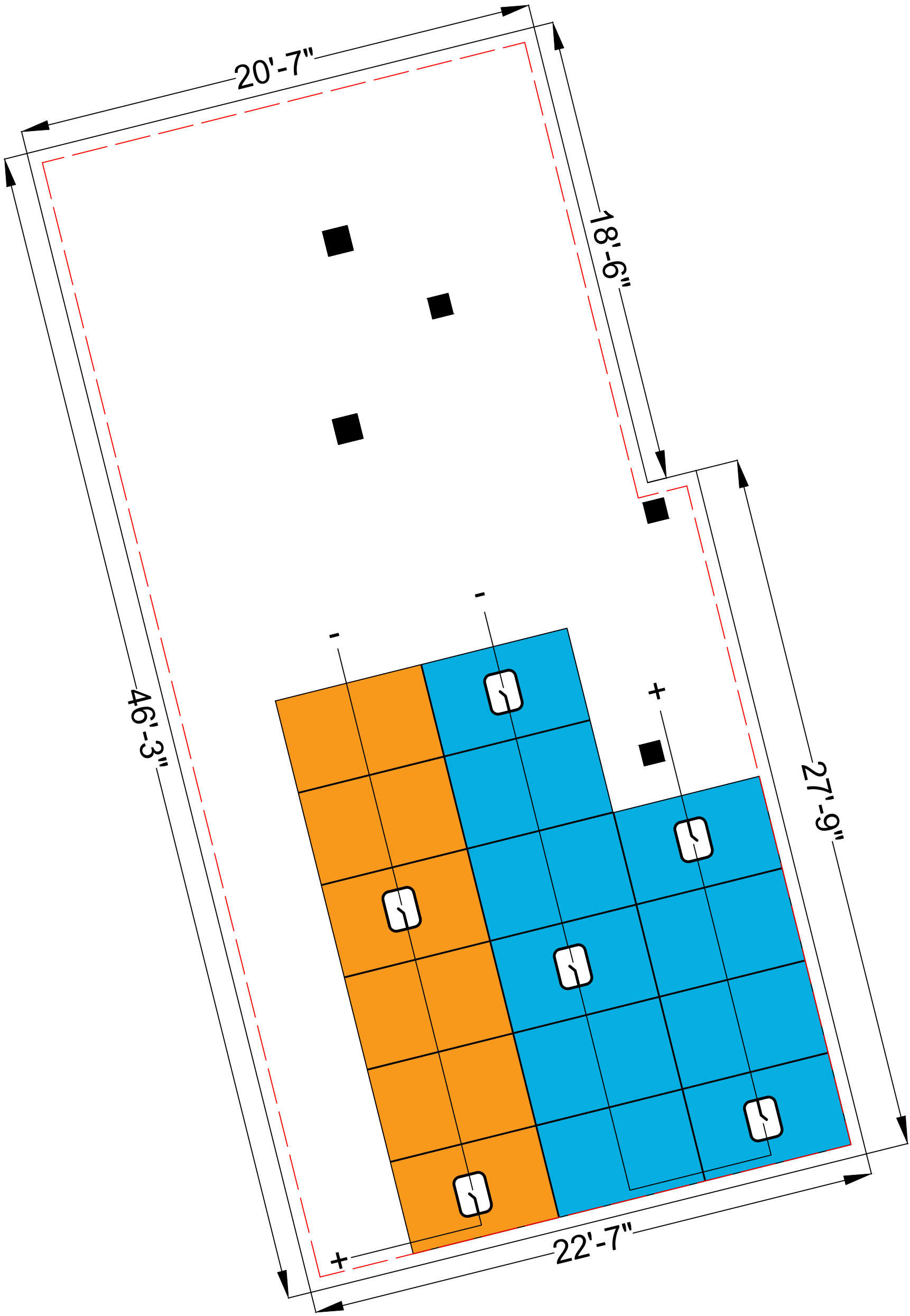
PV Installation
Professional

Ali Buttar
PVIP #031310-32

REV	DATE	DESCRIPTION
A	8/01/2025	

DRAWING #
PV01

A	STRING LAYOUT					
B	TESLA POWERWALL 3					
C	Strings #	No. of Modules	Color	Strings #	No. of Modules	Color
D	1	10				
E	2	6				
F	3					
G						
H						
I						
J						
K						
	1	2	3	4	5	6



STRING MAPPING
SCALE: 1/4" = 1'-0"

 8M SOLAR ADVANCING ENERGY INDEPENDENCE	5112 Departure Drive, Raleigh, NC 27616	
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APPROVAL		
JOB NUMBER	25-341-PP	
PAGE SIZE	24" x 36"	
 PV Installation Professional Ali Buttar PVIP #031310-32		
REV	DATE	DESCRIPTION
A	8/01/2025	
DRAWING # PV02		

A	PV MODULE		RAPID SHUT DOWN DEVICE		SOLAR INVERTER		Conductor Schedule										Grounding Instructions			
	MAKE	CANADIAN SOLAR	MAKE	Tesla	TAG	Tesla PowerWall 3	PHASE CONDUCTORS		GROUNDING CONDUCTORS		CONDUIT/RACEWAY		AMPACITIES				- Grounding will be done via Pegasus grounding lugs and mid-clamps to ensure the rail and panels are continuously grounded. - Rapid Shutdown is included in the Mid Circuit Interrupter , refer to Mid Circuit Interrupter and Inverter attached data sheets. - The load center/disconnect will be visible, lockable, accessible to utility linesmen, and properly labeled per NEC requirements. It will be located on the exterior wall next to the utility meter. - Prepare cable in usual manner. - Stretch tape and apply half-lapped to form void-free joint. Degree of stretch is not critical and may vary in different sections of joint to accomplish void-free application. - Protect the joint with two half-lapped layers of any scotch vinyl plastic electrical tape.			
	MODEL	CS6.1-54TM-455H	MODEL	MCI-2 High Current	MAKE	Tesla	QTY X SIZE	INSULATION / MATERIAL	QTY X SIZE	INSULATION / MATERIAL	QTY X SIZE	MATERIAL	MAX. VOLTAGE	MAX. CONT. AMPS (x 1.25)	CONDUCTOR AMPACITY					
	P _{NOM}	455W	DC RATINGS		MODEL	PowerWall 3	1	2 x #10	PV Cu	1 x #10	Bare Cu		2000	21.31	35					
	V _{MPP}	33.20	MAX. SYS. VOLTAGE	600	DC RATINGS		2	4 x #10	THHN Cu	1 x #10	Green Cu	1 x 3/4 in	EMT	600	21.31	35				
	V _{OC}	39.10	MAX. SYS. DISCO. VOLTAGE	165	MAX. POWER	11.5 KW		3 x #6	THHN Cu	1 x #6	Green Cu	1 x 1 in	EMT	600	60	65				
	I _{MP}	13.72	I _{MP}	15	MAX. VOLTAGE	550 V DC	3	1 x 16 AWG	2 conductor shielded (1 twisted pair)					600						
	I _{SC}	14.61	I _{SC}	19	OPERATING VOLTAGE	60 - 480 V DC	4	3 x #6	THHN Cu	1 x #6	Green Cu	1 x 1in	LFNC	600	60	65				
	TEMP. COFF. V _{OC}	-0.25	MAX. NO OF DEVICES PER STRING	5	I _{SC}	19	5	3 x 3/0	THHN Cu			1 x 2 in	PVC	600	200	200				
	MAX. SYS. VOLTAGE	1500	CONTROL	Power Line Excitation	I _{MP}	15	6	3 x 3/0	THHN Cu	1 x #4	Green Cu	1 x 2 in	PVC	600	200	200				
MAX. SERIES FUSE	25	PASSIVE STATE	Normally Open	NO. OF MPPTS/INPUT PER MPPT	6	7	1 x 16 AWG	4 conductor shielded (2 twisted pair)					600							
AC DISCONNECT		BACKUP GATEWAY 3		AC RATINGS		8	1 x 16 AWG	2 conductor shielded (1 twisted pair)			1 x 1/2 in	LFNC	600							
MAKE	Eaton	MAKE	Tesla	RATED POWER	11.5 KW	String Calculation														
MODEL	DG222URB	MODEL	1841000-01-C	V _{NOM}	120 / 240 VAC	TAG	String #	No of Modules	Estimated Power	I _{max}	I _{mpp}	V _{OC}	V _{mpp}							
RATINGS	60 A	BUS BAR RATING	200	I _{MAX}	48	1	1	10	4,550 W	21.40 Adc	13.72 Adc	391.0 Vdc	550 Vdc							
FUSE RATIND	Non Fusible	MAIN BREAKER RATINGS	200	RAPID SHUT DOWN COMPLIANCE	NEC Article 690.12 (B)	2	2	06	2,730 W	21.40 Adc	13.72 Adc	234.6 Vdc	550 Vdc							
ENCLOSURE RATING	NEMA 3R	ENCLOSURE RATINGS	NEMA 3R	PROTECTION RATING	60															

ST-1
(10) PV MODULES

ST-2
(06) PV MODULES

DC+
DC-

DC+
DC-

1

1

SOLA DECK

DC +
DC -

2

GND

TESLA POWERWALL3

DC IN

AC OUT

BATTERY SECTION

GND

SYSTEM SHUTDOWN SWITCH (E-STOP)

8

DISC-I

60 A

N

GND

60A NON-FUSIBLE AC DISCONNECT

Backup Gateway 3

60A / 2P

200A / 2P

UTILITY METER

5

MAIN LOAD PANEL

B.B RATING: 200A

M.B RATING: 200A

REV

DATE

DESCRIPTION

A

8/01/2025

DRAWING #

PV03

8MSOLAR

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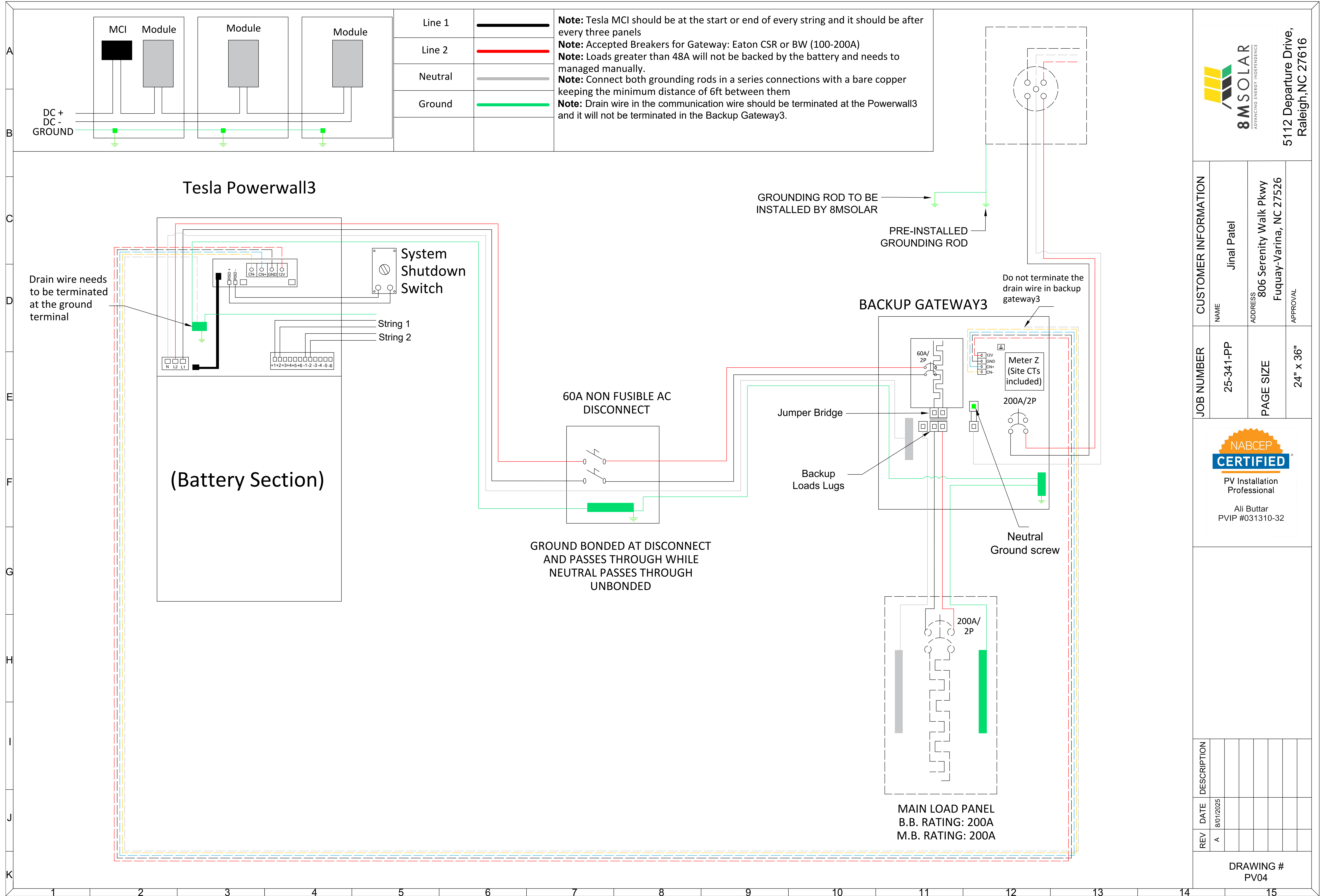
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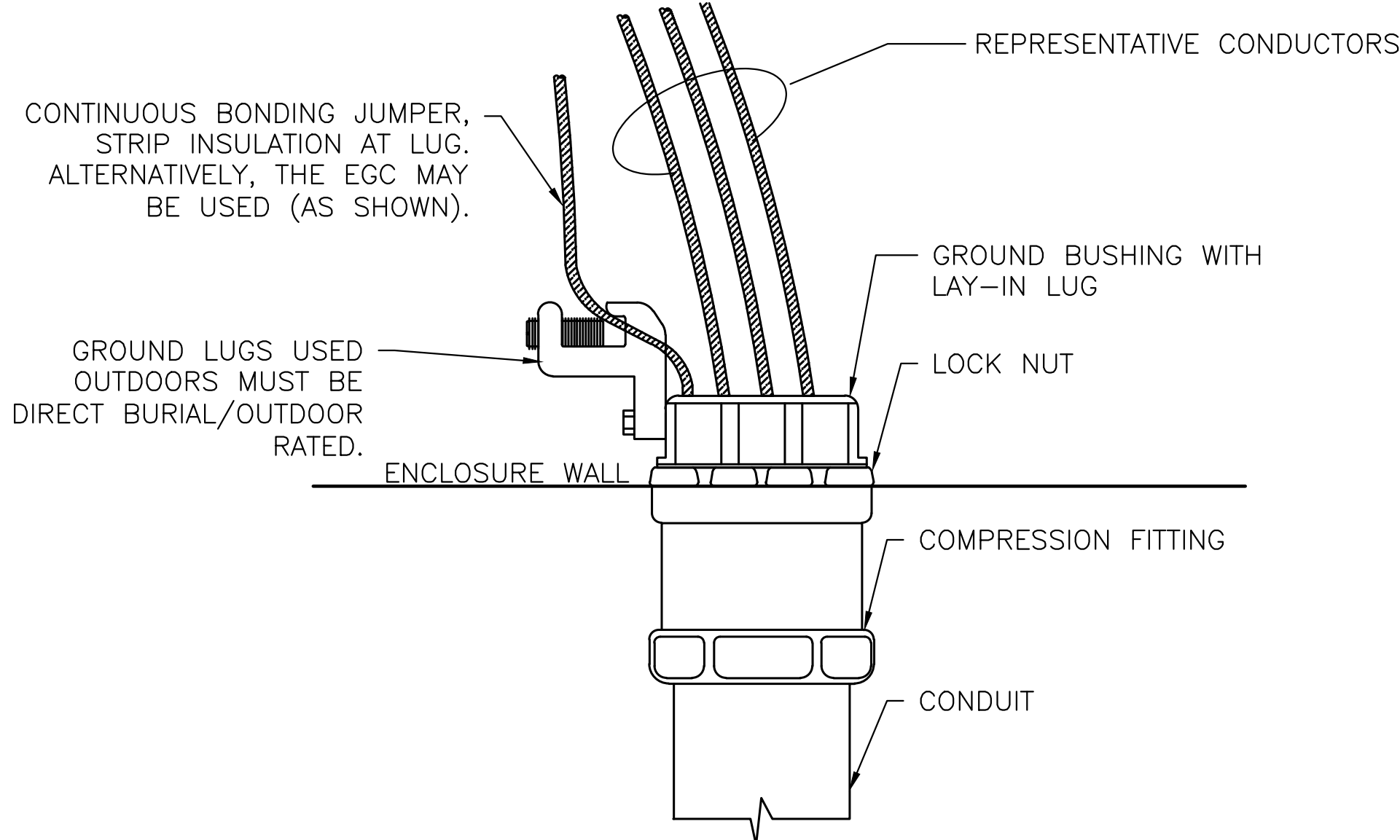
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PV Installation Professional

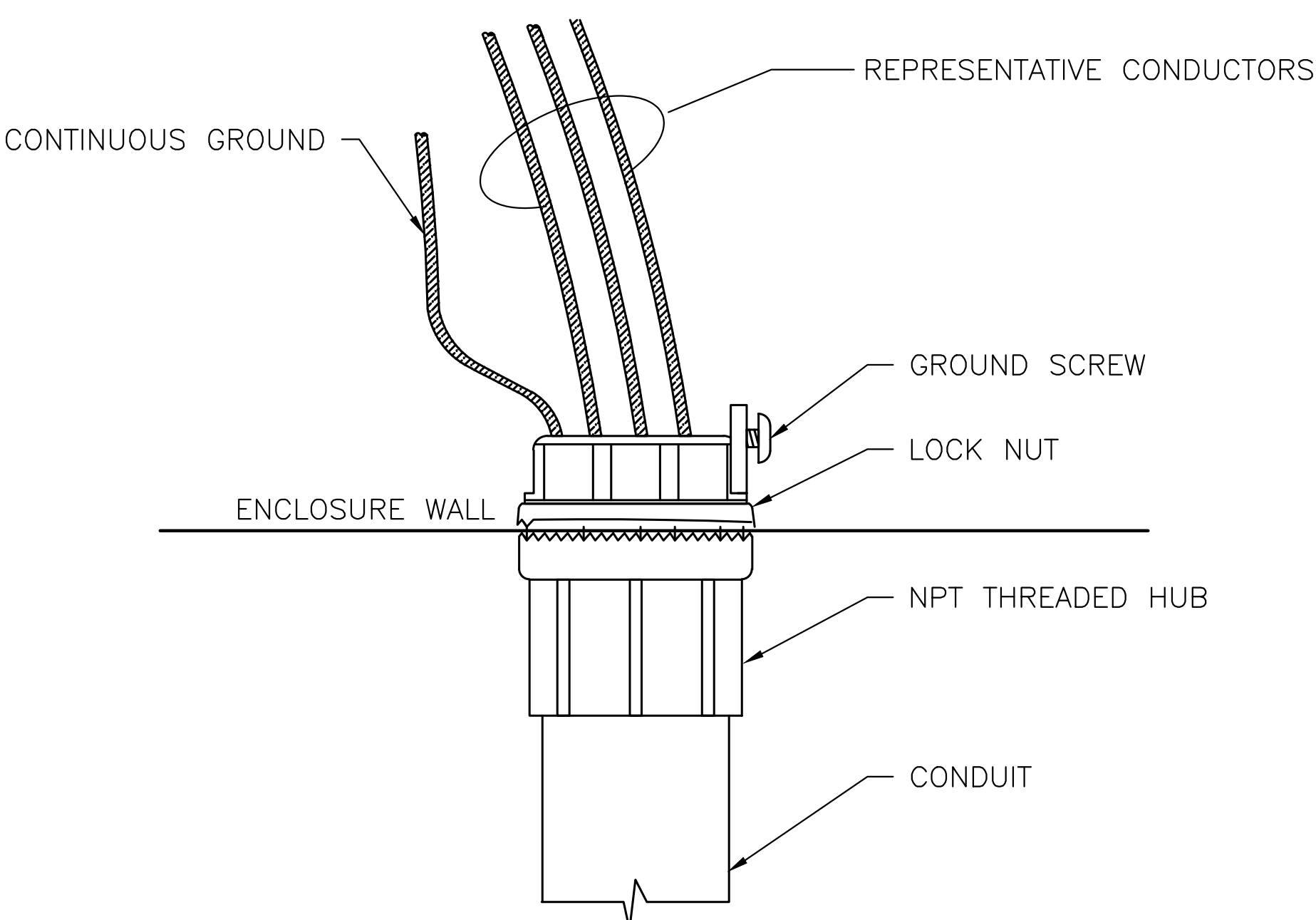
Ali Buttar
PVIP #031310-32



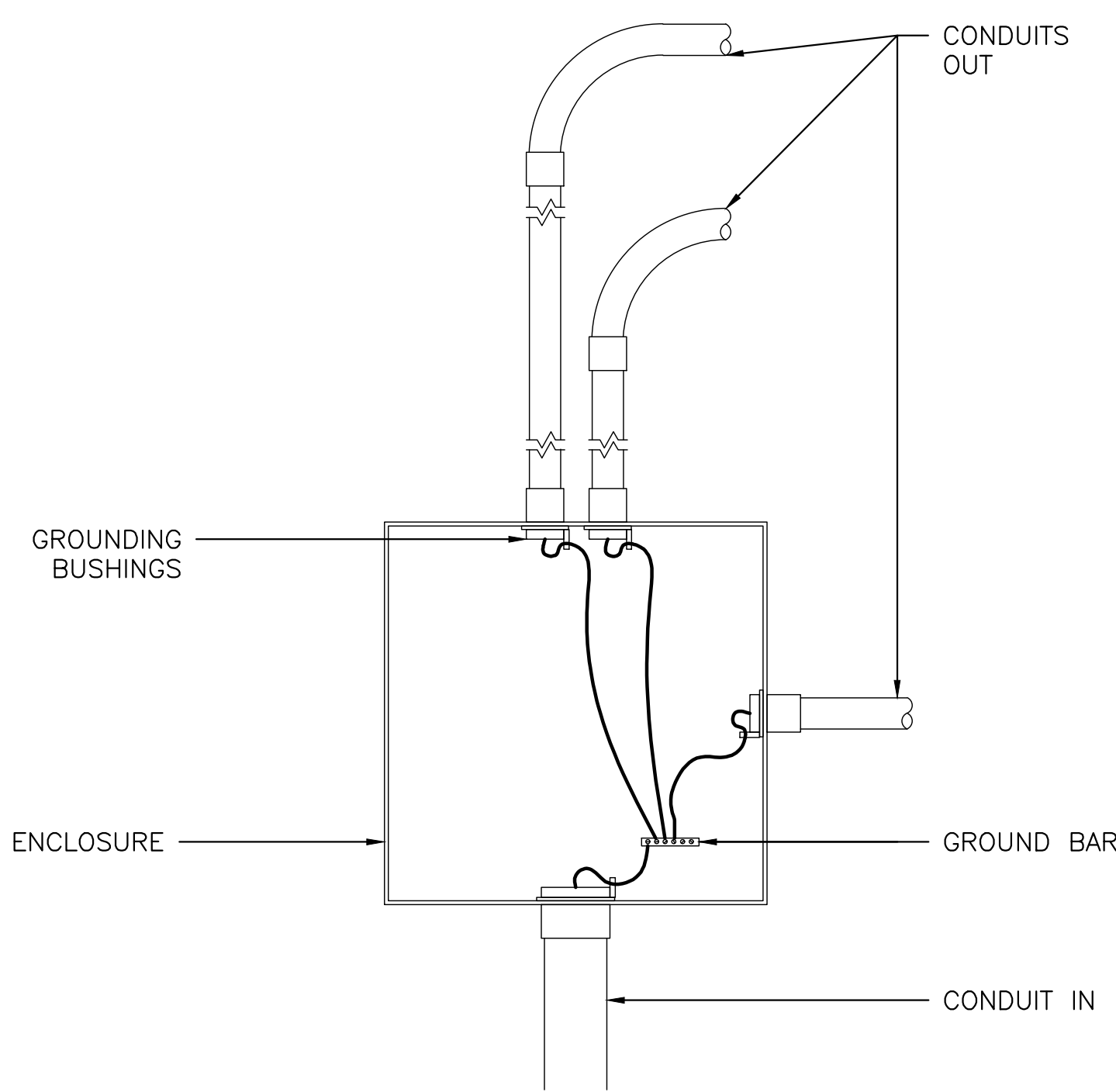
GROUNDING PLAN



1 CONDUIT BUSHING GROUNDING
SCALE: NONE



2 MYERS HUB GROUNDING
SCALE: NONE



3 PULL BOX/TROUGH GROUNDING
SCALE: NONE

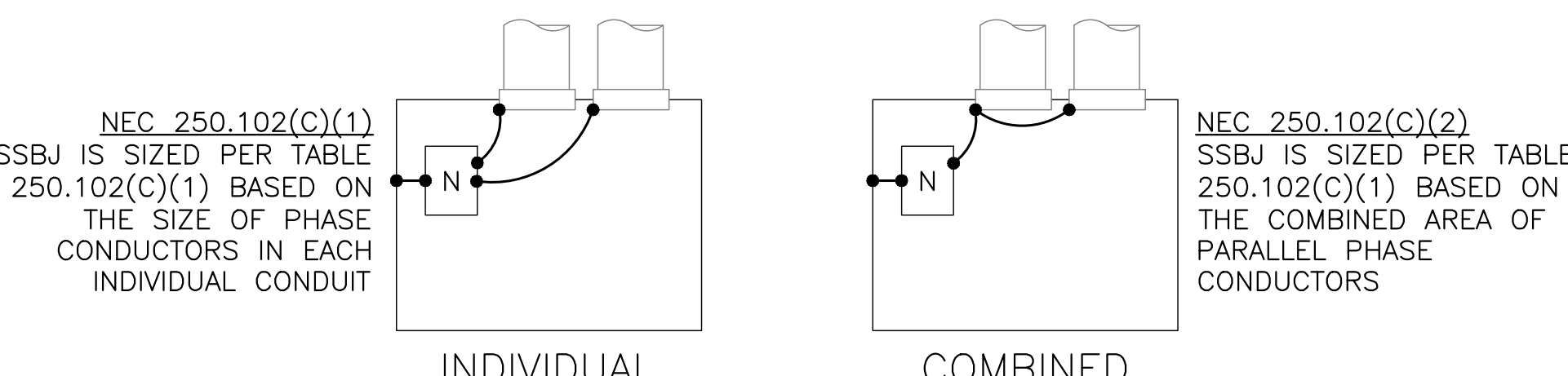


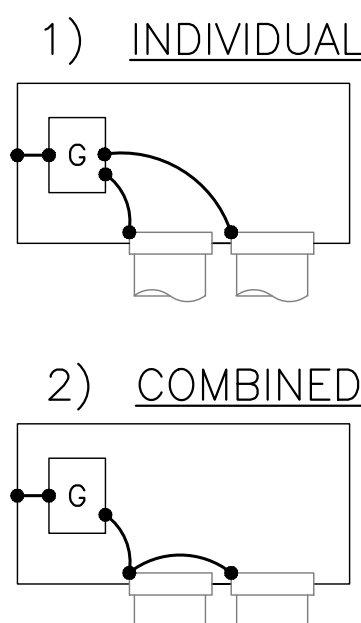
TABLE 250.102(C)(1)			
SIZE OF LARGEST UNGROUNDED CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)		SIZE OF GROUNDED CONDUCTOR OR BONDING JUMPER (AWG/KCMIL)	
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM
2 OR SMALLER	1/0 OR SMALLER	8	6
1 OR 1/0	2/0 OR 3/0	6	4
2 OR 2/0	4/0 OR 250	4	2
OVER 3/0 THROUGH 350	OVER 250 THROUGH 500	2	1/0
OVER 350 THROUGH 600	OVER 500 THROUGH 900	1/0	3/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	2/0	4/0
OVER 1100	OVER 1750	REFER TO NOTES IN NEC TABLE 250.102(C)(1)	

4 SUPPLY SIDE BONDING JUMPERS (SSBJ)
SCALE: NONE

A) FOR CONCENTRIC KNOCKOUTS, USE BONDING JUMPERS AS FOLLOWS:

OVER CURRENT DEVICE CIRCUIT NOT EXCEEDING (AMPERES)	TABLE 250.122 SIZE (AWG OR KCMIL)	
	COPPER	ALUMINUM
15	14	12
20	12	10
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250
1600	4/0	350
2000	250	400
2500	350	600
3000	400	600
4000	500	750

FOR PARALLEL FEEDERS — NEC 250.102(D) EQUIPMENT BONDING JUMPER IS SIZED PER TABLE 250.122, REGARDLESS IF COMBINED OR INDIVIDUAL BONDING JUMPERS ARE USED

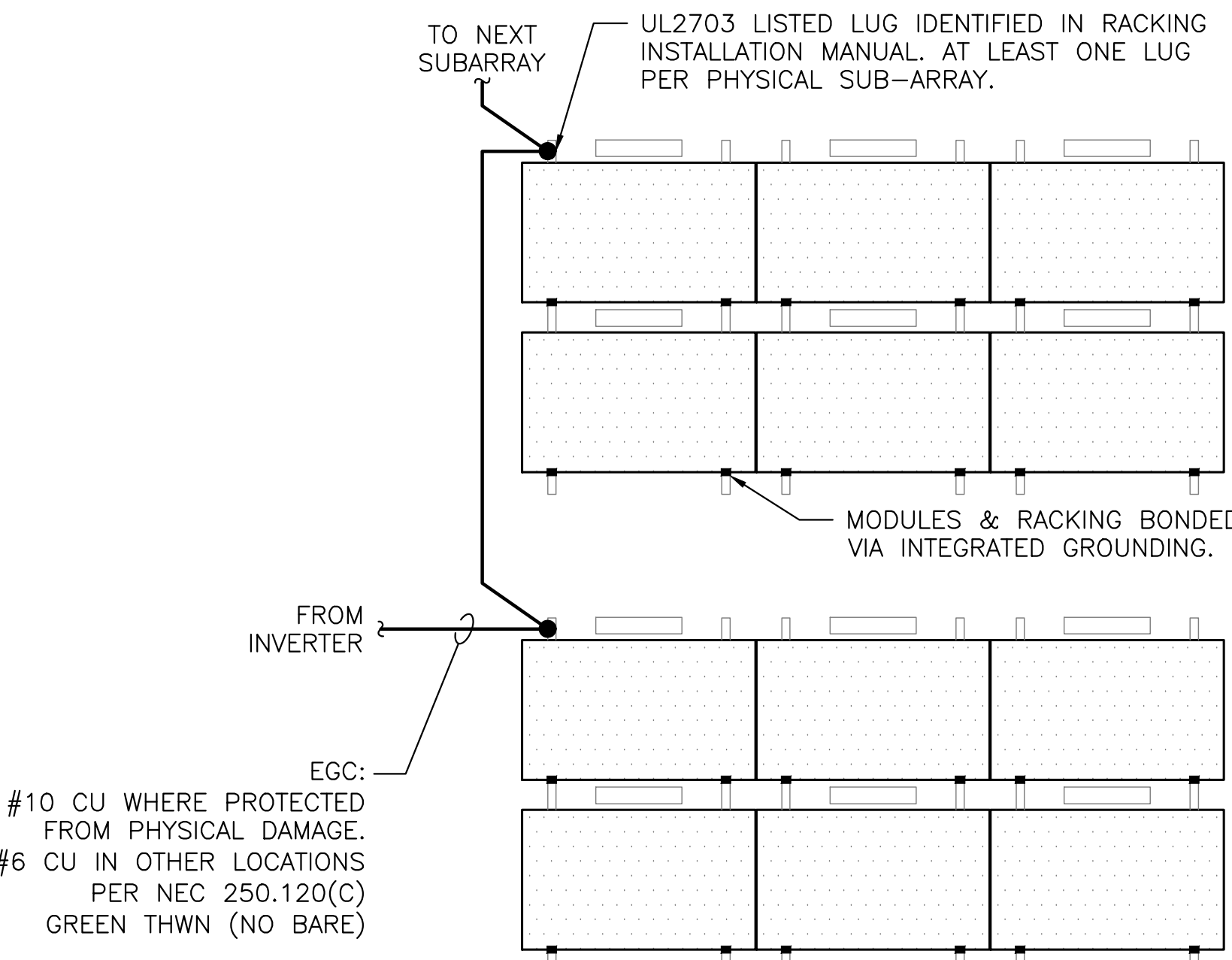


B) FOR NON-CONCENTRIC KNOCKOUTS, THE FOLLOWING METHODS SHALL BE PERMITTED (PER NEC 250.97)

- 1) THREADLESS COUPLINGS AND CONNECTORS FOR CABLES WITH METAL SHEATHS
- 2) TWO LOCKNUTS, ON RIGID METAL CONDUIT OR INTERMEDIATE METAL CONDUIT, ONE INSIDE AND ONE OUTSIDE OF BOXES AND CABINETS
- 3) FITTINGS WITH SHOULDERS THAT SEAT FIRMLY AGAINST THE BOX OR CABINET, SUCH AS ELECTRICAL METALLIC TUBING CONNECTORS, FLEXIBLE METAL CONDUIT CONNECTORS, AND CABLE CONNECTORS, WITH ON LOCKNUT ON THE INSIDE OF BOXES AND CABINETS
- 4) LISTED FITTINGS (SUCH AS MYERS HUB)

5 LOAD SIDE EQUIPMENT BONDING JUMPER
SCALE: NONE

- NOTES:
1. EACH SUBARRAY CONNECTED TO AN INVERTER SHALL HAVE AN EGC RUN TO THAT INVERTER
 2. PV MODULES AND RAILS GROUNDED PER NEC 690.43



6 ARRAY GROUNDING
SCALE: NONE



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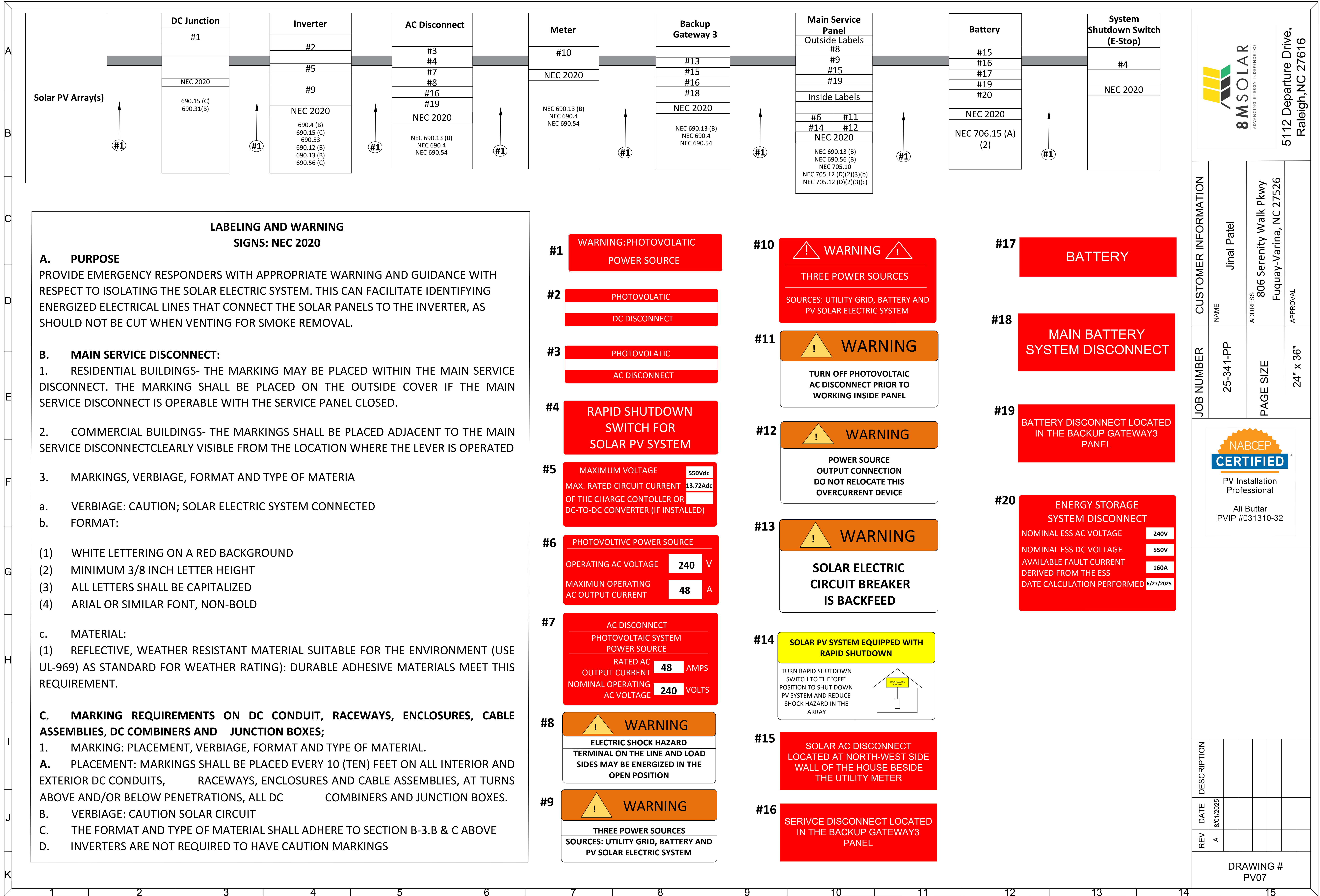


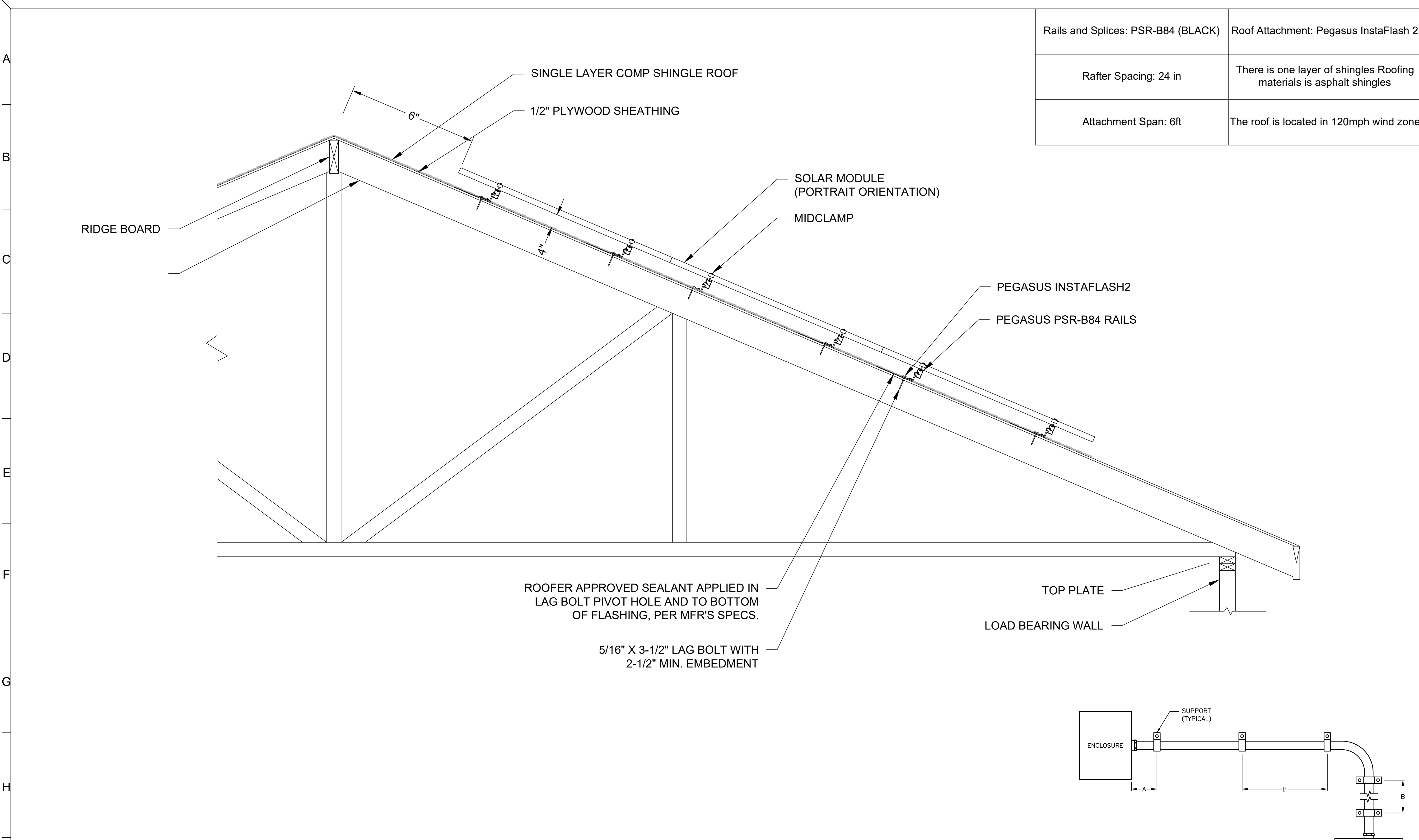
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REV	DATE	DESCRIPTION
A	8/01/2025	

DRAWING #
PV05





Rails and Splices: PSR-B84 (BLACK)	Roof Attachment: Pegasus InstaFlash 2
Rafter Spacing: 24 in	There is one layer of shingles Roofing materials is asphalt shingles
Attachment Span: 6ft	The roof is located in 120mph wind zone



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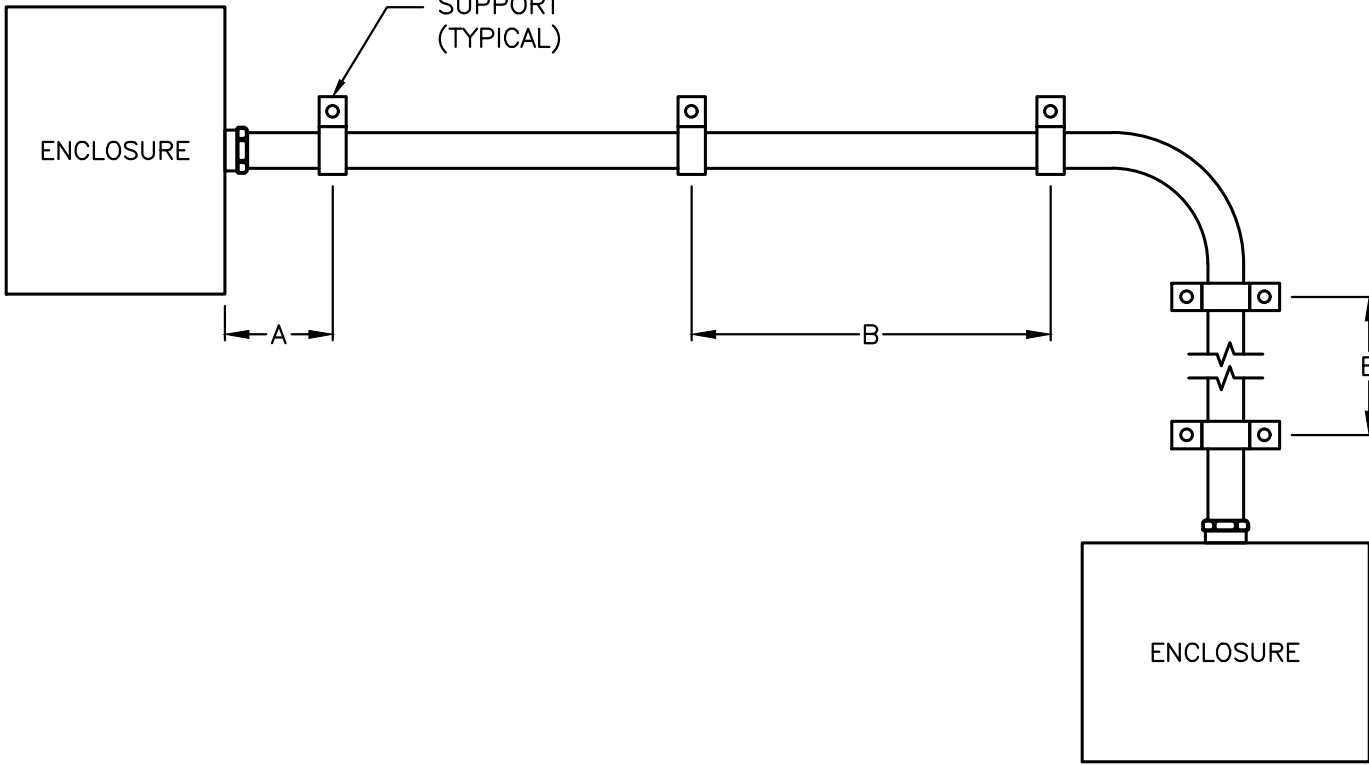
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LOAD INFORMATION OF ROOF A				PV System Dead Load (Panel + Racking weight) / PV System Area (No. of panels x Weight of panel(lbs.) +Length of racking(ft.) x 1.15 lb.ft) / (No. of panels x Height x Width) = Total psf			
	QUANTITY	WEIGHT / UNIT	TOTAL WEIGHT	ROOF	A		
MODULES	16	50.7LBS	811.2 LBS	DEAD LOAD (PSF)	2.67		
WEIGHT OF RACKING			52.56 LBS	LAG BOLT SCHEDULE			
WEIGHT OF ARRAY			919.1 LBS	LOCATION	INFIELD	3' SIDE ZONES	3' CORNER ZONES
COVERED AREA			351.35 SQFT	BOLT SIZE	5/16" x 3-1/2"	5/16" x 3-1/2"	5/16" x 3-1/2"
WEIGHT PER AREA			2.61 LBS / SQFT	MIN EMBED	2-1/2"	2-1/2"	2-1/2"



MAXIMUM CONDUIT HARDWARE SPACING			
CONDUIT TYPE	ENCLOSURE TO SUPPORT (A)	SUPPORT TO SUPPORT (B)	NEC ARTICLE
ELECTRICAL METALLIC TUBING (EMT)	3'	10'	358
INTERMEDIATE METAL CONDUIT (IMC)	3'	10'	342
RIGID METAL CONDUIT (RMC)	3'	10'	344
LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)	1'	4.5'	350
PVC (SCH40 & 80) [0.5" - 1"]	3'	3'	352
PVC (SCH40 & 80) [1.25" - 2"]	3'	5'	352
PVC (SCH40 & 80) [2.5" - 3"]	3'	6'	352
PVC (SCH40 & 80) [3.5" - 5"]	3'	7'	352
PVC (SCH40 & 80) [6"]	3'	8'	352

CONDUIT SUPPORT SPACING
SCALE: NONE

RAILS AND MOUNTING SYSTEM			
MAKE			Pegasus
SR. NO	QTY	PRODUCT NUMBER	DESCRIPTION
1	22	PSR-B84	Pegasus Rail, Black, 84" (7 Feet)
2	16	PSR-SPLS	Pegasus - Bonded, Structural Splice
3	26	PSR-MCB	Pegasus - Multiclamp, Mid/End, 30 to 40 mm, Black
4	12	PSR-HEC	Pegasus - Hidden End Clamp
5	4	PSR-LUG	Pegasus - Grounding Lug
6	40	PSR-WMC	Pegasus - Wire Management Clip
7	3	PSR-CBG	Pegasus - Cable Grip
8	12	PSR-CAP	Pegasus - End Cap
9	33	PIF2-BDT	INSTAFLASH2 - DECK OR RAFTER ATTACH - WITH DOVETAIL T-BOLT
10	100	PF-DRW85	PEGASUS FASTENER - DECK-RAFTER 85MM
11	32	S6405	Heyco Wire Clips
12	2	GEOC GC66100	SEALANT 2300 10.3OZ CLEAR (20) GEOCEL 230 TRIPOLY CLEAR
13	10	MULTI 32.0017P0001-UR	PV MC4 MALE (10) [1000]
14	10	MULTI 32.0016P0001-UR	PV MC4 FEMALE (10) [1000]

SOLAR MODULES		
QTY	MODEL	MAKE
16	CS6.1-54TM-455H	Canadian Solar
INVERTER AND SUPPORTING ITEMS		
1	1707000-00-J	Tesla Powerwall3
6	1879359-15-B	Tesla MCI-2 High Current
1	1841000-01-C	Backup Gateway 3
1	1549184-00X	2" Conduit Hub Kit
WIRE		
1	WIRPV 2KVPV10STRBLK500	#10 PV WIRE BLK (Cu) 500ft
ELECTRICAL ITEMS		
1	BW2200	Gateway Main Breaker-Eaton BW2200
1	BR260	Eaton BR 60/2
1	DG222URB	250volt/60amp/2pole non fusible disconnect (NEMA 3R)
1	EATON M22PVK01	22.5MM PB EMG STOP W/ CONTACTOR
1	Eaton M22I1PG	SFC MTG ENC Emergency Stop Enclosure
1	EZSLR JB-1.2	SolaDeck

LABELS AND SIGNAGE		
SR. NO	QTY	PRODUCT NUMBER
1	12	02-314
2	1	03-301
3	1	03-302
4	2	02-316
5	1	03-308
6	1	03-390
7	1	03-306
8	2	05-215
9	2	05-230
10	1	03-230
11	1	05-372
12	1	05-216
13	1	05-342
14	1	07-111
15	3	8M-001
16	3	8M-002
17	1	03-395
18	1	04-304
19	3	8M-004
20	1	03-511

[illegible]

ENGINEERING DRAWING (mm)

ELECTRICAL DATA (*) ETC.

CS6-545TM	455H	455H	455H	455H	455H	455H
Normal Mode Power (P _{max})	455 W	500 W	555 W	600 W	655 W	475 W
Opt. Operating Voltage (V _{max})	32.0 V	32.0 V	32.0 V	32.0 V	32.0 V	32.0 V
Opt. Operating Current (I _{max})	13.9 A	15.6 A	17.3 A	19.0 A	20.8 A	13.5 A
Open Circuit Voltage (V _{oc})	38.7 V	38.9 V	39.1 V	39.3 V	39.5 V	39.7 V
Short Circuit Current (I _{sc})	11.48 A	12.52 A	13.61 A	14.69 A	15.72 A	10.44 A
Module Efficiency	21.3%	22.0%	22.3%	22.5%	22.8%	23.0%
Operating Temperature	-40°C ~ +85°C					
Max. System Voltage	1500V (MCA/UL or 1000V (C/UL))					
Max. Power Performance	100 W, 1.6170 (100W) or 170 W, 1.6170 (100W) CLASS C/UL ETC (1.70 W)					
Max. Surge Power Rating	75 A					
Application Classification	Class A					
Power Temperature	0 ~ +10 W					

Application Note: For Confirmation (Etc.) of measures of (1) operating temperature, (2) power, (3) A and (4) voltage, refer to (2) (3).

ELECTRICAL DATA (*) NIMOT

CS6-545TM	455H	555H	655H	655H	655H	455H
Normal Mode Power (P _{max})	515 W	555 W	600 W	655 W	700 W	555 W
Opt. Operating Voltage (V _{max})	30.0 V	31.1 V	31.2 V	31.5 V	31.7 V	31.5 V
Opt. Operating Current (I _{max})	10.8 A	10.9 A	10.9 A	11.0 A	11.2 A	11.1 A
Open Circuit Voltage (V _{oc})	36.5 V	36.7 V	36.8 V	37.0 V	37.2 V	37.0 V
Short Circuit Current (I _{sc})	11.68 A	11.74 A	11.79 A	11.85 A	11.92 A	11.81 A

(*) Normal mode Mode: Operating temperature (P_{max}) (1) 100 W, (2) 100 W, (3) 100 W, (4) 100 W, (5) 100 W, (6) 100 W, (7) 100 W, (8) 100 W, (9) 100 W, (10) 100 W, (11) 100 W, (12) 100 W, (13) 100 W, (14) 100 W, (15) 100 W, (16) 100 W, (17) 100 W, (18) 100 W, (19) 100 W, (20) 100 W, (21) 100 W, (22) 100 W, (23) 100 W, (24) 100 W, (25) 100 W, (26) 100 W, (27) 100 W, (28) 100 W, (29) 100 W, (30) 100 W, (31) 100 W, (32) 100 W, (33) 100 W, (34) 100 W, (35) 100 W, (36) 100 W, (37) 100 W, (38) 100 W, (39) 100 W, (40) 100 W, (41) 100 W, (42) 100 W, (43) 100 W, (44) 100 W, (45) 100 W, (46) 100 W, (47) 100 W, (48) 100 W, (49) 100 W, (50) 100 W, (51) 100 W, (52) 100 W, (53) 100 W, (54) 100 W, (55) 100 W, (56) 100 W, (57) 100 W, (58) 100 W, (59) 100 W, (60) 100 W, (61) 100 W, (62) 100 W, (63) 100 W, (64) 100 W, (65) 100 W, (66) 100 W, (67) 100 W, (68) 100 W, (69) 100 W, (70) 100 W, (71) 100 W, (72) 100 W, (73) 100 W, (74) 100 W, (75) 100 W, (76) 100 W, (77) 100 W, (78) 100 W, (79) 100 W, (80) 100 W, (81) 100 W, (82) 100 W, (83) 100 W, (84) 100 W, (85) 100 W, (86) 100 W, (87) 100 W, (88) 100 W, (89) 100 W, (90) 100 W, (91) 100 W, (92) 100 W, (93) 100 W, (94) 100 W, (95) 100 W, (96) 100 W, (97) 100 W, (98) 100 W, (99) 100 W, (100) 100 W, (101) 100 W, (102) 100 W, (103) 100 W, (104) 100 W, (105) 100 W, (106) 100 W, (107) 100 W, (108) 100 W, (109) 100 W, (110) 100 W, (111) 100 W, (112) 100 W, (113) 100 W, (114) 100 W, (115) 100 W, (116) 100 W, (117) 100 W, (118) 100 W, (119) 100 W, (120) 100 W, (121) 100 W, (122) 100 W, (123) 100 W, (124) 100 W, (125) 100 W, (126) 100 W, (127) 100 W, (128) 100 W, (129) 100 W, (130) 100 W, (131) 100 W, (132) 100 W, (133) 100 W, (134) 100 W, (135) 100 W, (136) 100 W, (137) 100 W, (138) 100 W, (139) 100 W, (140) 100 W, (141) 100 W, (142) 100 W, (143) 100 W, (144) 100 W, (145) 100 W, (146) 100 W, (147) 100 W, (148) 100 W, (149) 100 W, (150) 100 W, (151) 100 W, (152) 100 W, (153) 100 W, (154) 100 W, (155) 100 W, (156) 100 W, (157) 100 W, (158) 100 W, (159) 100 W, (160) 100 W, (161) 100 W, (162) 100 W, (163) 100 W, (164) 100 W, (165) 100 W, (166) 100 W, (167) 100 W, (168) 100 W, (169) 100 W, (170) 100 W, (171) 100 W, (172) 100 W, (173) 100 W, (174) 100 W, (175) 100 W, (176) 100 W, (177) 100 W, (178) 100 W, (179) 100 W, (180) 100 W, (181) 100 W, (182) 100 W, (183) 100 W, (184) 100 W, (185) 100 W, (186) 100 W, (187) 100 W, (188) 100 W, (189) 100 W, (190) 100 W, (191) 100 W, (192) 100 W, (193) 100 W, (194) 100 W, (195) 100 W,

EZ²SOLAR

making solar simple

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ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	#1-12 BRED	POLYCARBONATE WITH UV INHIBITORS	1
2	#1-12 LID	POLYCARBONATE WITH UV INHIBITORS	1
3	#10 X 1/4" PHILLIPS PAN HEAD SCREW		6
4	#5 X 3/4" PHILLIPS PAN HEAD SCREW		6

SIZE	ENG NO.	REV
B	JB-12	
SCALE 1:1	MATERIAL VALUE	DRAWN 1:1
TYPICAL SPECIFICATION	15-20 LBS	
CERTIFICATION	UL STANDARD 1741, NEMA 3R	
WEIGHT	1.46 LBS	

Technical drawing of the EZ² SOLAR JB-12 solar panel. The drawing includes a front view and a side view.

Front View Dimensions:

- Overall Height: 279.68mm (11.01in)
- Overall Width: 274.30mm (10.8in)
- Mounting Hole Spacing (Top): 180.50mm (7.11in)
- Mounting Hole Spacing (Bottom): 265.18mm (10.44in)

Side View Dimensions:

- Mounting Flange Height: 73.3mm (2.89in)

PROPRIETARY AND CONFIDENTIAL: THE INFORMATION CONTAINED HEREIN IS THE SOLE PROPERTY OF EZ SOLAR. ANY REPRODUCTION OR TRANSMISSION OF THIS INFORMATION WITHOUT THE WRITTEN PERMISSION OF EZ SOLAR IS PROHIBITED.

CUSTOMER INFORMATION	Jinal Patel	806 Serenity Walk Pkwy Fuquay-Varina, NC 27526	8M SOLAR ADVANCING ENERGY INDEPENDENCE	5112 Departure Dr Raleigh, NC 27611
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Powerwall 3 Technical Specifications		
Solar Technical Specifications	Maximum Solar STC Input	20 kW
	Withstand Voltage	600V VDC
	PV DC Input Voltage Range	60~+850 VDC
	PV DC MPPT Voltage Range	60~+400 VDC
	MPPTs	6
	Maximum Current per MPPT (I _m)	15 A ¹
	Maximum Short Circuit Current per MPPT (I _{sc})	15 A ¹
	¹Only applicable for Powerwall 3 with 15A_{sc} on the product label. Otherwise, Powerwall 3 has an I_{sc} of 15A. When PV strings are combined on the roof and the DC input current exceeds the MPPT setting, a jumper can be used to combine two MPPTs into a single input to reduce DC current up to 30 A (I_m) / 30 A (I_{sc}) for 20 A (I_m) / 20 A (I_{sc}) if Powerwall 3 is labeled with 15A_{sc} (15A_{sc}).	
Environmental Specifications	Operating Temperature	-20°C to 50°C (-4°F to 122°F) ¹
	Operating Humidity (RH)	Up to 100%, condensing
	Storage Temperature	-20°C to 50°C (-4°F to 122°F), up to 95% RH, non-condensing, Rate of change (SR): 25% initial
	Maximum Elevation	3000 m (9843 ft)
	Environment	Indoor and outdoor rated
	Enclosure Rating	NEMA 3R
	Ingress Rating	IP67 (Battery & Power Electronics) IP55 (Wiring/Connectivity)
	Pollution Rating	PD3
	Operating Noise @ 1 m	< 50 dB(A) typical < 60 dB(A) maximum
	¹ Performance may be de-rated at operating temperatures above 40°C (104°F).	
Compliance Information	Certifications	UL 1741, UL 9540, UL 9540A, UL 5741, UL 1741 PCS, UL 1741 SA, UL 1741, UL 1703, UL 16990, UL 9500, CSA C22.2 No. 0.8, CSA C22.2 No. 10.71, CSA C22.2 No. 335, CSA 22.2 No. 3, IEEE 1547, IEEE Std. IEEE 1547.4, CA Rule No. 21
	Cord Connection	United States and Canada
	Emissions	FCC Part 15 Class B, CECE 2013
	Environmental	RoHS Directive 2011/65/EU
	Seismic	ASCE 7-10 (2009) (high)
Fire Testing		Meets the unit level performance criteria of UL 9540A

Solar Shutdown Device Technical Specifications			
The Solar Shutdown Device is a Mid-Circuit Interrupter (MCI) and is integral to the rapid shutdown (RSD) function required for rooftop PV systems in accordance with Article 69.0 of the NEC. When paired with PowerWall 3, solar array shutdowns are initiated by an External System Shutdown Switch or the On/Off Enable switch located on PowerWall 3. Systems not subject to rapid shutdown requirements must still install one or more MCIs for functional purposes; see the PowerWall 3 installation manual for details.			
Electrical Specifications	Model	MCI-1	MCI-2 High Current
	Nominal Input DC Current Rating (I _{sc})	13 A	17 A 15 A
	Maximum Input Short Circuit Current (I _{sc})	19 A	17 A 19 A
	Maximum System Voltage	450V DC	1000 V DC 1000 V DC
	Maximum Disconnect Voltage**	600 V DC	900 V DC 105 V DC
** Maximum System Voltage is limited by Powerwall to 500V DC. *** Maximum Disconnect Voltage is the maximum voltage allowed across each MCI in the open position (Partial Shutdown Isolated). An individual MCI-2 has a voltage rating of 105V but in consideration of isolation in the same system their voltage ratings are additive.			
RSD Module Performance	Maximum Number of Devices per String	5	
	Control	Power Line Detection	
	Passive State	Normally Open	
	Maximum Power Consumption	7 W	
Warranty	25 years		
Environmental Specifications	Operating Temperature	-40°C to 50°C (-40°F to 122°F)	
	Storage Temperature	-30°C to 70°C (-22°F to 158°F)	
	Enclosure Rating	NEMA 4X / IP65	
Mechanical Specifications	Electrical Connections	MCI Connector	
	Housing	Plastic	
	Dimensions	120 x 100 x 22 mm (5" x 4" x 1")	
	Weight	173 x 40 x 22 mm (6.8" x 1.6" x 0.9")	
	Mounting Options	250 g (0.77 lbs) ZEP Home Plug Clip Mid-Column Rail MS Bolt (5/16") Nail / Wood screw	
Compliance Information	Certifications	UL 1741 PURVE (UL 1741 PVUSA (Photovoltaic Rapid Shutdown-Army)	
	RSD Isolation Method	External System Shutdown Switch or PowerWall 3 Enable Switch	

JOB NUMBER	25-341-PP	PAGE SIZE	24" x 36"
 PV Installation Professional Ali Buttar PVIP #031310-32			

defaultTaxonomyAttributeLabel	Resources
Type	Cannings
Non-Sparkle, single throw	Atomix Volume 2 – Commercial Distribution
Amperage Rating	Multimedia
ISA	Divide Via on Safety
Number Of Poles	Switching Devices Fax Center
Two-pole	Specifications and datasheets
Product Category	Escon Specifications Sheet - DC1232JRB
General duty safety switch	Warranty guides
Voltage rating	Slitting Policy 23-000 - Distribution and Control Products and Services
240V	
Endorse	
NEMA 3R	
Endorse material	
Painted galvanized steel	
Fuse configuration	
Non-fusible	
Number of wires	
2	
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RAIL SYSTEM

			
Available in 14' and 7' lengths for easy install and fitting. Standard design holds MC4 and MC6 and 1/2 inch cables. Black and Silver finish.	Monsoon-proof design. Many configurations for high strength and hurricane zones. Black and Silver finish.	Installs by hand. Works on roofs. Electrically grounded and lightning automatically UL773 tested as required.	Operates at any size, strength. Like 'N' series.
			
Multi-Clamp	Hidden End Clamp	Ground Lug	W-Bonding Ampere
See 3000mm PV Panels, and end-of-strings. Two fasteners to hold cable, allowing easy to connect panels without soldering. Breaks conductive seal UL773 tested as required.	Offers perfect edge appearance. Remounted with high grade edges, allowing easy to hold installation. Works easily for future.	As in a 6002 series. Monsoon resistant as in all of our. Assembled as MC6 Mount. UL773 tested as required.	Installs by hand, eliminates extra work. 6000mm PV. UL773 tested as installable only with Pegasus Rail.
			
MC4 Mount	Cable Clip	Wire Clip	End Cap and Main End Cap
Secure and hold cables, even in wet and windy conditions. End of strings. Connects and anchors easily, needs no soldering. UL773 tested as required.	Secure for PV Panels, even in wet conditions. Remounted with high grade edges, allowing easy to hold installation. UL773 tested as required.	Hand operated. Works easily as channel. Works clip.	Flexibly for PV Modules and holds on in angled site. Hidden end quickly clips onto back of rail.
CP-1000	CP-1000	CP-1000	CP-1000
CP-1000	CP-1000	CP-1000	CP-1000
CP-1000	CP-1000	CP-1000	CP-1000
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Certification:
 • IEC 61215 edition 1
 • IEC 61215 edition 2
 • IEC 61730 edition 1
 • IEC 61730 edition 2
 • Class A fire rating for any size once

FREE PEGASUS SOLAR Design Tool
 Quickly calculate the exact amount of Pegasus Rail and components needed to install your PV. Get the Pegasus Customer Pricing, equipment and general information.

10mm (1/2")	12mm (1/2")	14mm (1/2")	16mm (1/2")
10mm (1/2")	12mm (1/2")	14mm (1/2")	16mm (1/2")
12mm (1/2")	14mm (1/2")	16mm (1/2")	18mm (1/2")
14mm (1/2")	16mm (1/2")	18mm (1/2")	20mm (1/2")
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18mm (1/2")	20mm (1/		

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