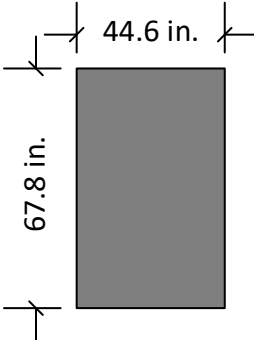

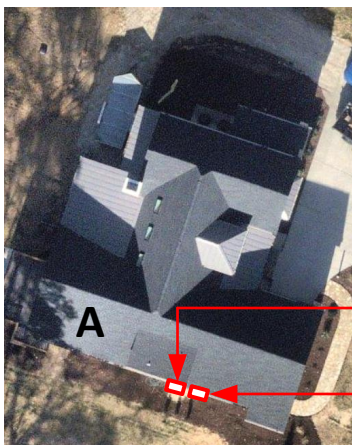


ROOF DESCRIPTION				MODULE DIMENSIONS	PV System Dead Load (Panel + Racking weight) / PV System Area (No. of panels x Weight of panel(lbs.) +Length of racking(ft.) x 1.15 lb.ft) / (No. of panels x Height x Width) = Total psf				
ROOF	PITCH	AZIMUTH	NO. OF MODULES		ROOF	A			
A	52°	199°	36		DEAD LOAD (PSF)	2.68			
Vent		<ul style="list-style-type: none">Roof A has no vents.No vents will be covered by PV modules during the installation.							



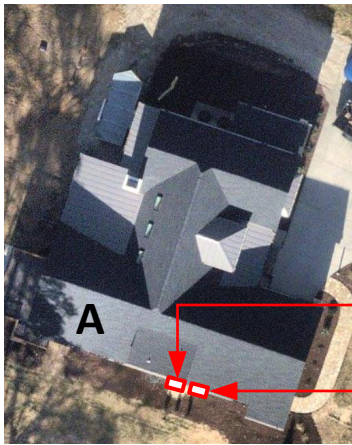
UTILITY
METER

AC
DISCONNECT

SYSTEM DETAILS

NUMBER OF PANELS : 36

PANELS MODEL : Q TRON BLK M-G2+ 435W



UTILITY
METER

AC
DISCONNECT

SYSTEM DETAILS

NUMBER OF PANELS : 36
PANELS MODEL : Q.TRON BLK M-G2+ 425W
DC SIZE : 15.3 KW
AC SIZE : 20.0 KVA



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Customer Signature:

Sheet Name:

Site Layout

JOB NUMBER:

24-336-GW

Date:

03/10/2025

Revision:

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Sheet Size:

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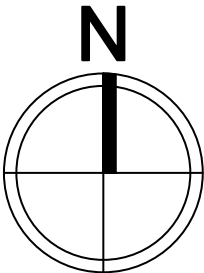
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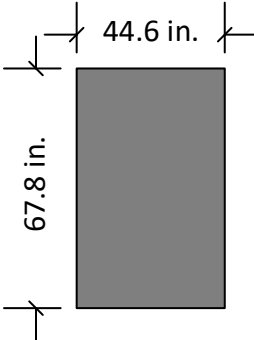

PV2

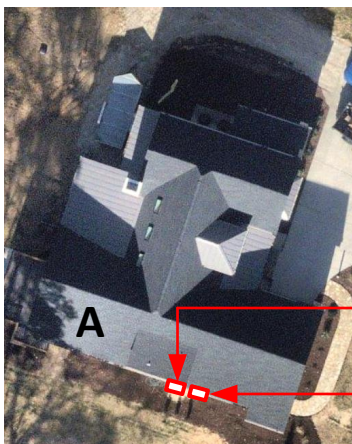


6in setback from
sides of the roof

SITE LAYOUT
SCALE: 1/8" - 1'



ROOF DESCRIPTION				MODULE DIMENSIONS	STRING LAYOUT					
ROOF	PITCH	AZIMUTH	NO. OF MODULES		TESLA POWERWALL3 (A)			TESLA POWERWALL3 (B)		
A	52°	199°	36		Strings #	No. of Modules	Color	Strings #	No. of Modules	Color
					String 1	09		String 3	09	
					String 2	09		String 4	09	
Tesla MCI (Mid Circuit Interrupter)										

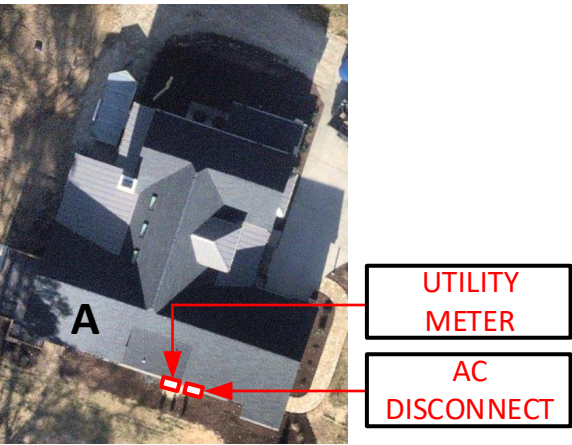


UTILITY METER

AC DISCONNECT

SYSTEM DETAILS

NUMBER OF PANELS : 36



SYSTEM DETAILS

NUMBER OF PANELS : 36
PANELS MODEL : Q.TRON BLK M-G2+ 425W
DC SIZE : 15.3 KW
AC SIZE : 20.0 KVA



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Sheet Name:

String Mapping

JOB NUMBER:

24-336-GW

Date:

03/10/2025

Revision:

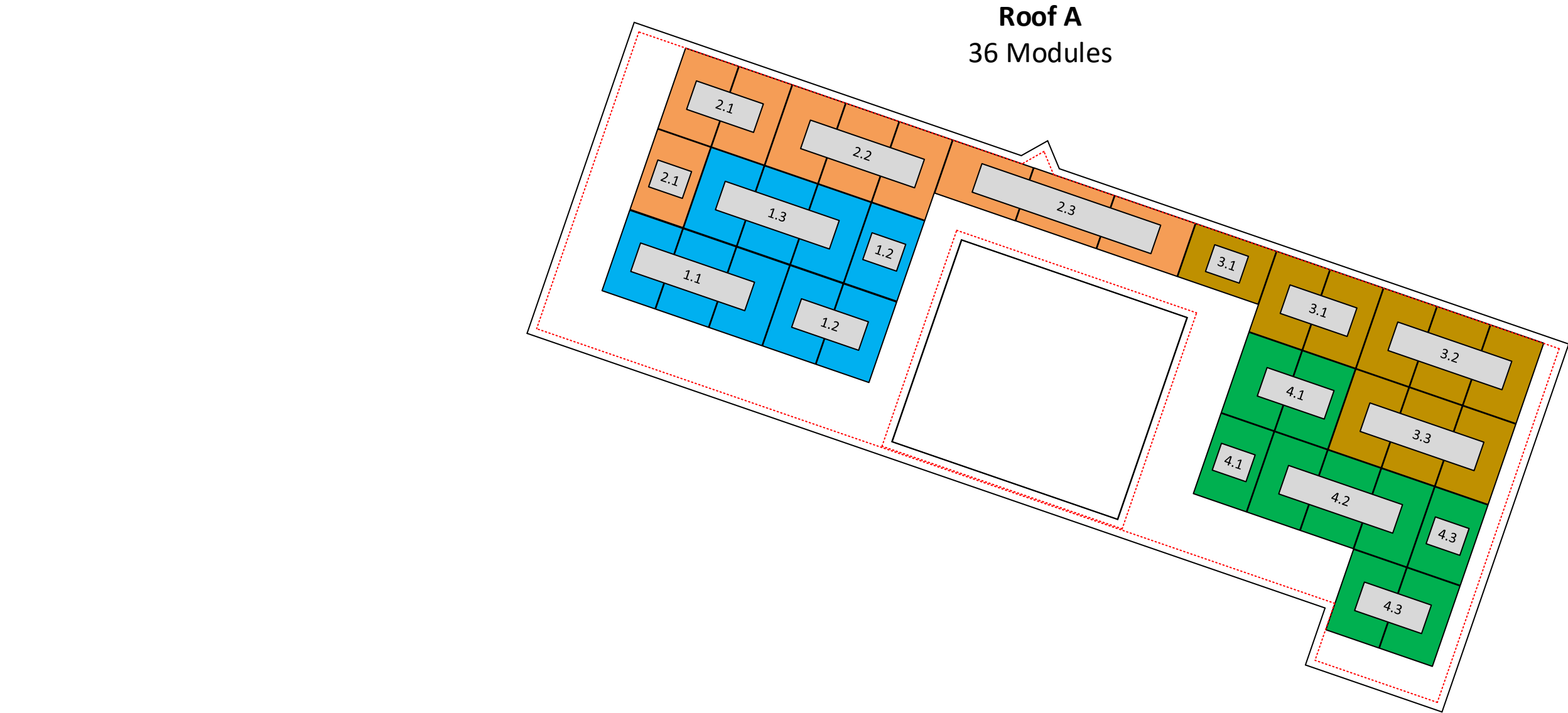
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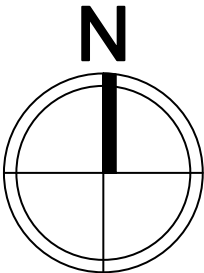
Sheet Number:

PV3



6in setback from
sides of the roof

STRING MAPPING
SCALE: 1/8" - 1'



STRING CALCULATION

String #	No of Modules	Estimated Power	Imax	Impp	Voc	Vmpp
1,2,3,4	09	3,825 W	20.24 Adc	12.98 Adc	351.27Vdc	550 Vdc

36 X Q.TRON BLK M-G2+ 425W 425W

TESLA MCI-2 HIGH CURRENT RAPID SHUTDOWN EQUIPPED

String 1

String 2

String 3

String 4

NOTE: One tesla remote energy meter is directly connected to the powerwall3(Leader) RS485 ports and the second one is connected through WIFI.

NOTE: Export Limited to 20KW AC by PCS.

NOTE: There will be a partial home backup and whole home consumption monitoring.

System Size: 15,500 W DC

Battery Total Energy: 27.0 KWh

(36) Q.TRON BLK M-G2+ 425W

(12) 1879359-15-B: Tesla MCI-2 High Current

(02) Tesla Powerwall3 (1707000-00-J)

Inverter Output: 48A max @ 240 VAC (each)

20.0 kVA AC output max

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 datasheets.

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.

NEC Code (2020) and UL Standard References

Rapid Shut Down	NEC 690.12 (A-D), UL1741	Grounding	NEC Article 250.30(A)
Disconnecting Means	NEC 690.13	Conduit Fill	NEC Table C.9, 310.15(B)(3)(a)
Feeder Sizing	NEC Table 310, 15(B)(16, 17)	Interconnection	NEC 705.12
Over current Protection	NEC 690.9		

Service Side Work: Power Drop Required

Customer Information:

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Customer Signature:

Sheet Name:

Electrical One Line Diagram

JOB NUMBER:

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Revision:

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Sheet Number:

PV4

NABCEP
CERTIFIED

PV Installation
Professional

Ali Buttar
PVIP #031310-32

Tesla Powerwall3 – A (Leader)
1707000-00-J

Tesla Powerwall3 – B (Follower)
1707000-00-J

125A LOAD CENTER

200A NON-FUSIBLE AC DISCONNECT

Backup Gateway 3

ATS

SUB LOAD PANEL(A)
B.B RATING: 225A

SUB LOAD PANEL(B)
B.B RATING:225A

FROM UTILITY

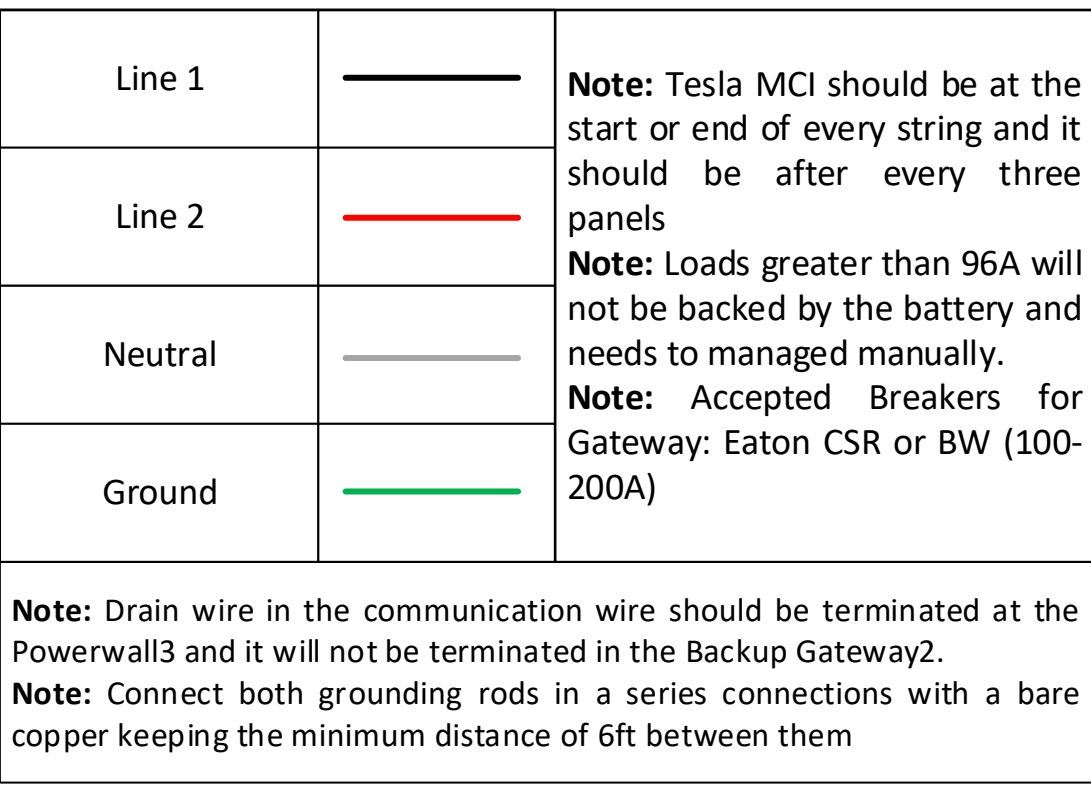
Utility Meter

System Shutdown Switch (E-Stop)

Attic

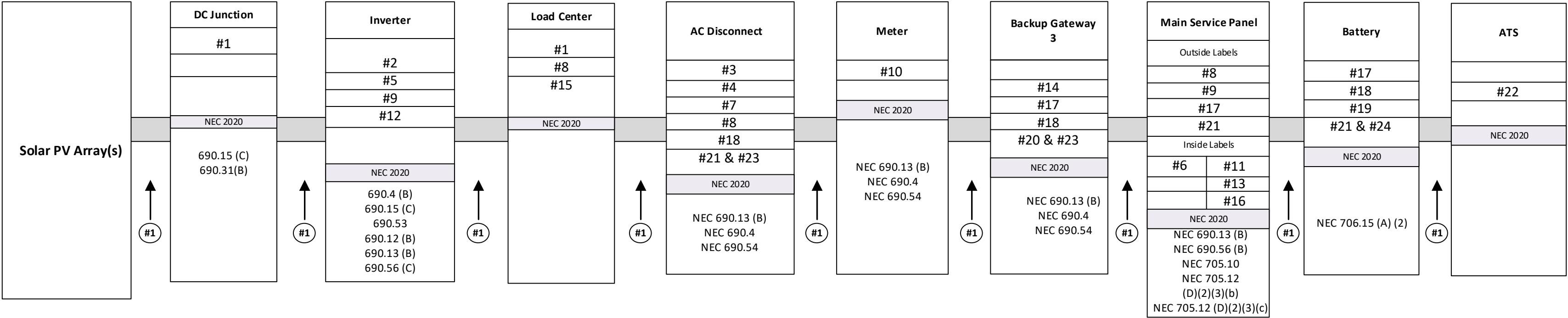
Sola Deck

RS485 Wire



Sheet Number:
PV5





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LABELING AND WARNING SIGNS: NEC 2020

A. PURPOSE
PROVIDE EMERGENCY RESPONDERS WITH APPROPRIATE WARNING AND GUIDANCE WITH RESPECT TO ISOLATING THE SOLAR ELECTRIC SYSTEM. THIS CAN FACILITATE IDENTIFYING ENERGIZED ELECTRICAL LINES THAT CONNECT THE SOLAR PANELS TO THE INVERTER, AS SHOULD NOT BE CUT WHEN VENTING FOR SMOKE REMOVAL.

- B. MAIN SERVICE DISCONNECT:
1. RESIDENTIAL BUILDINGS- THE MARKING MAY BE PLACED WITHIN THE MAIN SERVICE DISCONNECT. THE MARKING SHALL BE PLACED ON THE OUTSIDE COVER IF THE MAIN SERVICE DISCONNECT IS OPERABLE WITH THE SERVICE PANEL CLOSED.
 2. COMMERCIAL BUILDINGS- THE MARKINGS SHALL BE PLACED ADJACENT TO THE MAIN SERVICE DISCONNECT CLEARLY VISIBLE FROM THE LOCATION WHERE THE LEVER IS OPERATED

3. MARKINGS, VERBIAGE, FORMAT AND TYPE OF MATERIAL
- a. VERBIAGE: CAUTION; SOLAR ELECTRIC SYSTEM CONNECTED
 - b. FORMAT:
 - (1) WHITE LETTERING ON A RED BACKGROUND
 - (2) MINIMUM 3/8 INCH LETTER HEIGHT
 - (3) ALL LETTERS SHALL BE CAPITALIZED
 - (4) ARIAL OR SIMILAR FONT, NON-BOLD

- c. MATERIAL:
- (1) REFLECTIVE, WEATHER RESISTANT MATERIAL SUITABLE FOR THE ENVIRONMENT (USE UL-969) AS STANDARD FOR WEATHER RATING); DURABLE ADHESIVE MATERIALS MEET THIS REQUIREMENT.

C. MARKING REQUIREMENTS ON DC CONDUIT, RACEWAYS, ENCLOSURES, CABLE ASSEMBLIES, DC COMBINERS AND JUNCTION BOXES;

1. MARKING: PLACEMENT, VERBIAGE, FORMAT AND TYPE OF MATERIAL.

- a. PLACEMENT: MARKINGS SHALL BE PLACED EVERY 10 (TEN) FEET ON ALL INTERIOR AND EXTERIOR DC CONDUITS, RACEWAYS, ENCLOSURES AND CABLE ASSEMBLIES, AT TURNS ABOVE AND/OR BELOW PENETRATIONS, ALL DC COMBINERS AND JUNCTION

BOXES.

- b. VERBIAGE: CAUTION SOLAR CIRCUIT
c. THE FORMAT AND TYPE OF MATERIAL SHALL ADHERE TO SECTION B-3.B & C ABOVE

D. INVERTERS ARE NOT REQUIRED TO HAVE CAUTION MARKINGS

#1

WARNING:PHOTOVOLATIC
POWER SOURCE

#2

PHOTOVOLATIC

DC DISCONNECT

#3

PHOTOVOLATIC

AC DISCONNECT

#4

RAPID SHUTDOWN
SWITCH FOR
SOLAR PV SYSTEM

#5

MAXIMUM VOLTAGE

550Vdc

MAX. RATED CIRCUIT CURRENT

12.98Adc

OF THE CHARGE CONTOLLER OR

DC-TO-DC CONVERTER (IF INSTALLED)

#6

PHOTOVOLTIVC POWER SOURCE

OPERATING AC VOLTAGE

240

V

MAXIMUM OPERATING
AC OUTPUT CURRENT

96

A

#7

AC DISCONNECT

PHOTOVOLTAIC SYSTEM
POWER SOURCE

RATED AC
OUTPUT CURRENT

96

AMPS

NOMINAL OPERATING
AC VOLTAGE

240

VOLTS

#8

WARNING

ELECTRIC SHOCK HAZARD

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

#9

WARNING

THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND
PV SOLAR ELECTRIC SYSTEM

#10

WARNING

THREE POWER SOURCES

SOURCES: UTILITY GRID, BATTERY AND
PV SOLAR ELECTRIC SYSTEM

#11

WARNING

TURN OFF PHOTOVOLTAIC
AC DISCONNECT PRIOR TO
WORKING INSIDE PANEL

#12

WARNING

BIPOLAR PHOTOVOLTAIC ARRAY

DISCONNECT OF NEUTRAL
GROUNDED CONDUCTORS MAY
RESULT IN OVERVOLTAGE ON
ARRAY OR INVERTER

#13

WARNING

POWER SOURCE

OUTPUT CONNECTION

DO NOT RELOCATE THIS
OVERCURRENT DEVICE

#14

WARNING

SOLAR ELECTRIC
CIRCUIT BREAKER
IS BACKFEED

#15

WARNING

THIS EQUIPMENT FED BY MULTIPLE
SOURCES.TOTAL RARTING OF ALL
OVERCURRENT DEVICES,EXCLUDING MAIN
SUPPLY OVERCURRENT DEVICE,SHALL NOT
EXCEED
AMPACITY OF BUSBAR

#16

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

#17

SOLAR AC DISCONNECT
LOCATED AT SOUTH-WEST SIDE
WALL OF THE HOUSE BESIDE
THE UTILITY METR

#18

SERVICE DISCONNECT LOCATED
IN THE BACKUP GATEWAY3

#19

BATTERY

#20

MAIN BATTERY
SYSTEM DISCONNECT

#21

BATTERY DISCONNECT LOCATED
IN THE BACKUP GATEWAY 3
PANEL

#22

CAUTION

POWER TO THIS BUILDING IS SUPPLIED
FROM THE FOLLOWING SOURCES
UTILITY GRID
ELECTRICAL GENERATOR
PV SOLAR ELECTRICAL SYSTEM

#23

GENERATOR WILL BE MANAGED
BY THE ATS

#24

ENERGY STORAGE
SYSTEM DISCONNECT

NOMINAL ESS AC VOLTAGE

240V

NOMINAL ESS DC VOLTAGE

550V

AVAILABLE FAULT CURRENT

10kA

DATE CALCULATION PERFORMED

07/19/2024

Customer Information:

George B Womble

109 Overlook Court
Angier NC 27501

Customer Signature:

Sheet Name:

PV Labels

JOB NUMBER:

24-336-GW

Date:

03/10/2025

Revision:

C

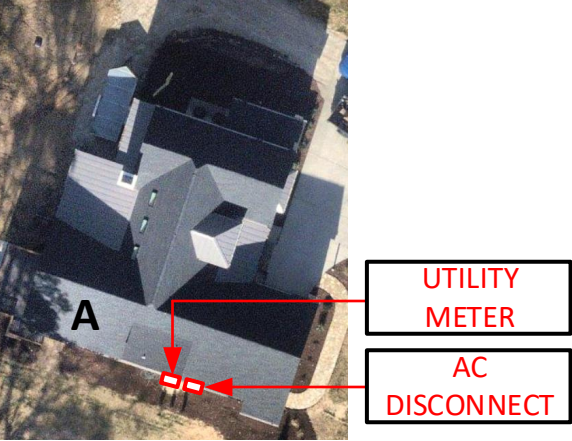
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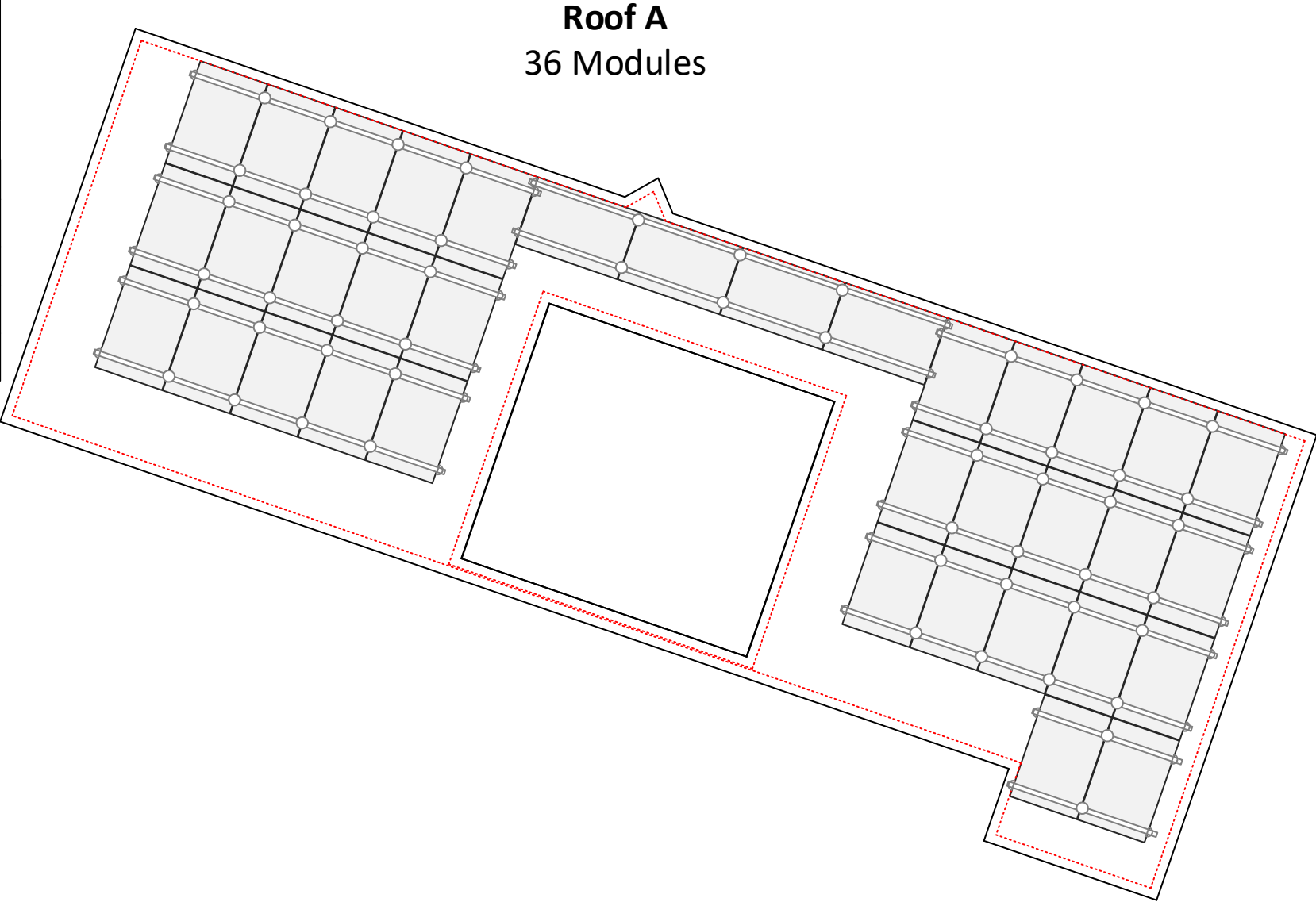
Sheet Number:

PV6

ROOF DESCRIPTION				MODULE DIMENSIONS	Rails and Splices : PSR-B84 (BLACK)	Roof Attachment : Pegasus Comp Mount
ROOF	PITCH	AZIMUTH	NO. OF MODULES		Rafter Spacing : 24 in	There is one layer of shingles Roofing material is asphalt shingles
A	52°	199°	36		Attachment Span: 4ft	The roof is located in 115mph wind zone



PV LABELS		
Sr No	Code	Qty
01	02-314	10
02	03-301	02
03	03-302	01
04	02-316	02
05	03-308	02
06	03-390	01
07	03-306	01
08	05-215	03
09	05-230	03
10	03-230	01
11	05-372	01
12	05-103	02
13	05-216	01
14	05-342	01
15	05-108	01
16	07-111	01
17	8M-001	05
18	8M-002	05
19	03-395	03
20	04-304	01
21	8M-004	05
22	8M-005	01
23	8M-003	02
24	03-511	02



- RAILS AND MOUNTING SYSTEM
- 48 x PSR-B84: Pegasus Rail, Black, 84" (7 Feet)
 - 32 x PSR-SPL: Pegasus - Bonded, Structural Splice
 - 56 x PSR-MCB: Pegasus - Multiclamp, Mid/End, 30 to 40 mm, Black
 - 32 x PSR-HEC: Pegasus - Hidden End Clamp
 - 10 x PSR-LUG: Pegasus - Grounding Lug
 - 54 x PSR-WMC: Pegasus - Wire Management Clip
 - 06 x PSR-CBG: Pegasus - Cable Grip
 - 32 x PSR-CAP: Pegasus - End Cap
 - 92 x PSCR-UBBDT: Pegasus Comp Mount - Open Slot, Black L Foot, Black Flashing, Dovetail 3/8" T-Bolt
 - 72 x Heyco Wire Clips

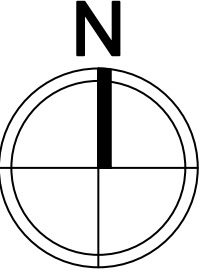
- SOLAR MODULES
- 36 x Q.TRON BLK M-G2+ 425W
- INVERTER & SUPPORTING ITEMS
- 02 x 1707000-00-J :Tesla Powerwall3
 - 12 x 1879359-15-B: Tesla MCI-2 High Current
 - 01 x 1841000-01-C: Backup GateWay 3
 - 01 x 1549184-00-X: 02" Conduit Hub Kit
 - 02 x 2045796-xx-y: Tesla Remote Energy Meter Kit
 - 02 x 2060713-xx-y CT Extension Wire
 - 01 x 2045794-xx-y:RS485 Harness Remote Energy Meter

- WIRE
- 01 x WIRPV 2KVPV10STRBLK500: #10 PV WIRE BLK (Cu) 500ft

- ELECTRICAL ITEMS
- 01 x BW2200: Gateway Main Breaker-Eaton BW2200
 - 01 x BR2125: Eaton BR 125/2
 - 02 x BR260: Eaton BR 60/2
 - 01 x BR215: Eaton BR 15/2
 - 01 x BR816L125RP : Eaton Combiner Sub Panel
 - 01 x DG224URK: 250volt/200amp/2pole non fusible disconnect (NEMA 3R)
 - 01 x EATON M22PVK02: EMG STOP W/ CONTACTOR
 - 01 x Eaton M2211PG: SFC MTG ENC - Emergency Stop Enclosure
 - 01 x EZSLR JB-1.2: SolaDeck

6in setback from
sides of the roof

BILL OF MATERIAL
SCALE: 1/8" - 1'



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Sheet Name:

Bill of Material

JOB NUMBER:

24-336-GW

Date:

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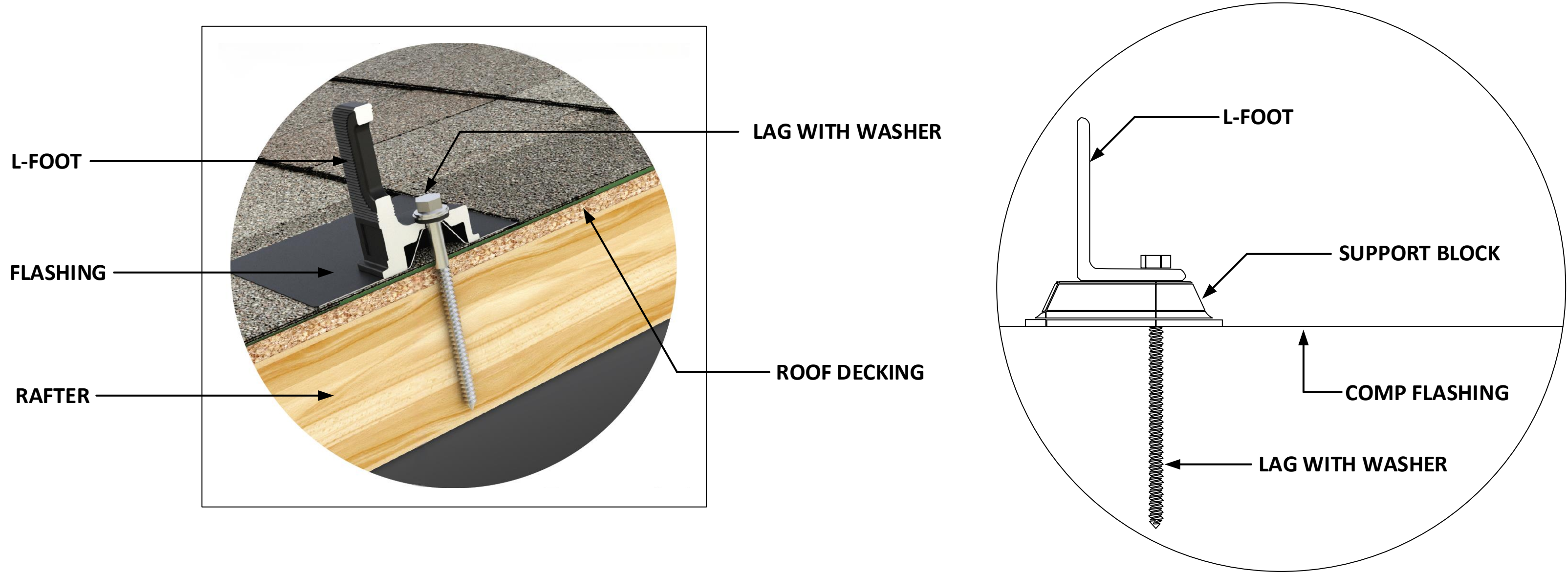
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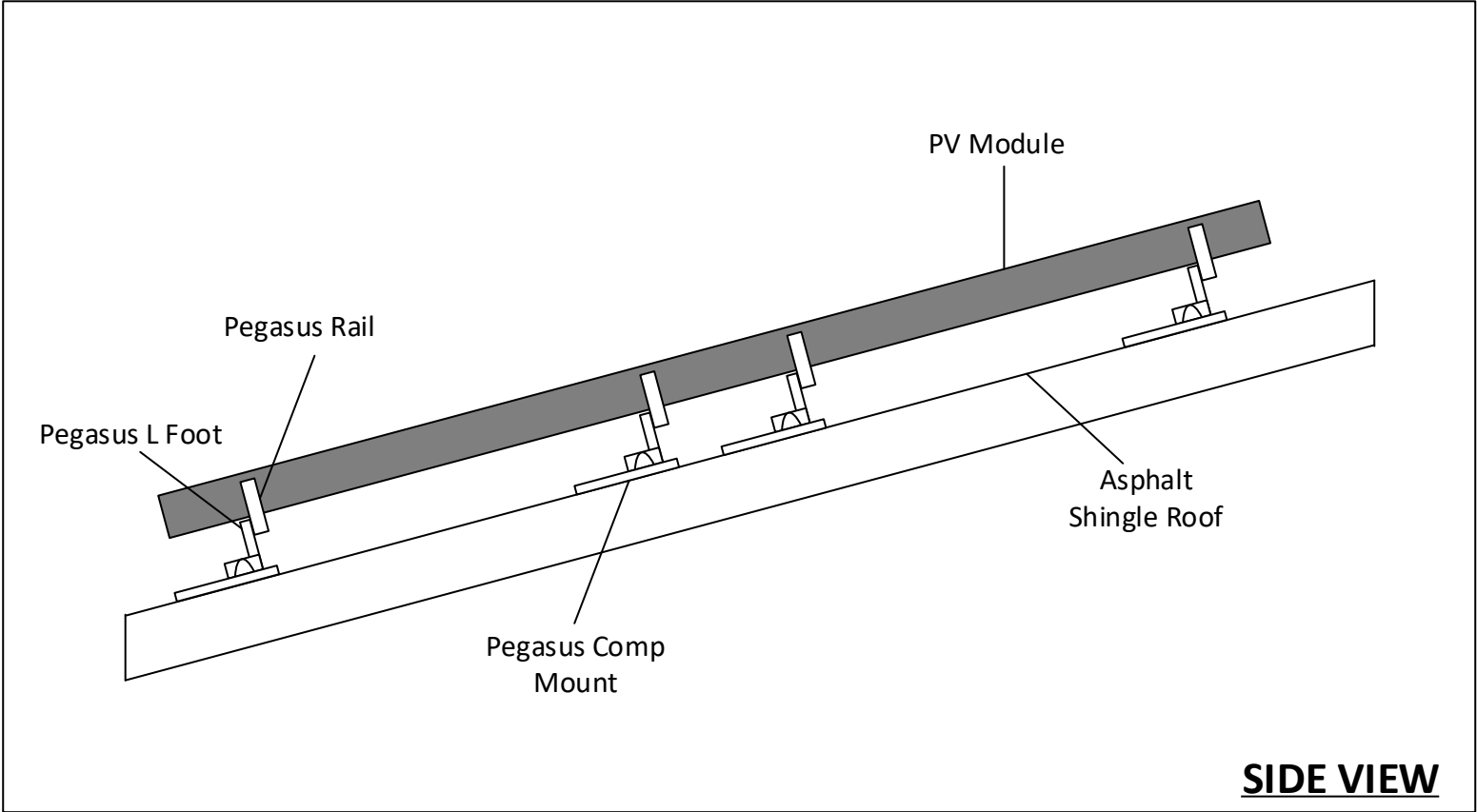
Sheet Number:

PV7





					
Multi-Clamp	Hidden End Clamp	MLPE Mount	Dovetail T-Bolt	Ground Lug	Cable Grip
Torque Value 100 in-lbs.	Torque Value 135 in-lbs.	Torque Value 135 in-lbs.	Torque Value 300 in-lbs.	Torque Value 135 in-lbs.	Torque Value 135 in-lbs.



PV Dead Load	
Roof A	<p>PV System Dead Load (Panel + Racking weight) / PV System Area (36 panels x 47.2 lbs./panel + 286 ft. of racking x 1.17 lb.ft) / (36 panels x 5.65' x 3.71') = 2.68 psf</p>



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Sheet Name:

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PV8

