

SCOPE OF WORK:

TO INSTALL A ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM LOCATED AT 325 TURNER DAVIS DR, MADISON, FL 32340 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

NEW EQUIPMENT SUMMARY

216 JA SOALR JAM72S30-550/MR/1500V (550W) MODULES
02 SUNNY TRIPOWER CORE1 50-US [480V] INVERTERS
01 200A NON FUSED AC DISCONNECT,480V, NEMA 3R, UL LISTED
01 SOLAR LOAD CENTER 200A RATED, 480V, 3-PH, 4-W

GOVERNING CODES

2021 NFPA 1 (FIRE CODE)
 2020 NATIONAL ELECTRICAL CODE
 2023 FLORIDA BUILDING CODE (8TH EDITION)
 2023 FLORIDA FIRE PREVENTION CODE (8TH EDITION)
 FLORIDA ADMINISTRATIVE CODE(FAC)

AHJ: CITY OF MADISON

SYSTEM RATING

118.80 KWDC
100.00 KWAC
109.65 CEC KWAC

SHEET INDEX

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PV-2	ARRAY PLAN & MODULES
PV-2A	STRING LAYOUT & BOM
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PV-3	ATTACHMENT DETAIL
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PV-5	SIGNAGE & WARNING LABEL
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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 BUILDING 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 FL 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 CERTIFICATE. UPON COMPLETION OF WORK.

ELECTRICAL NOTES:

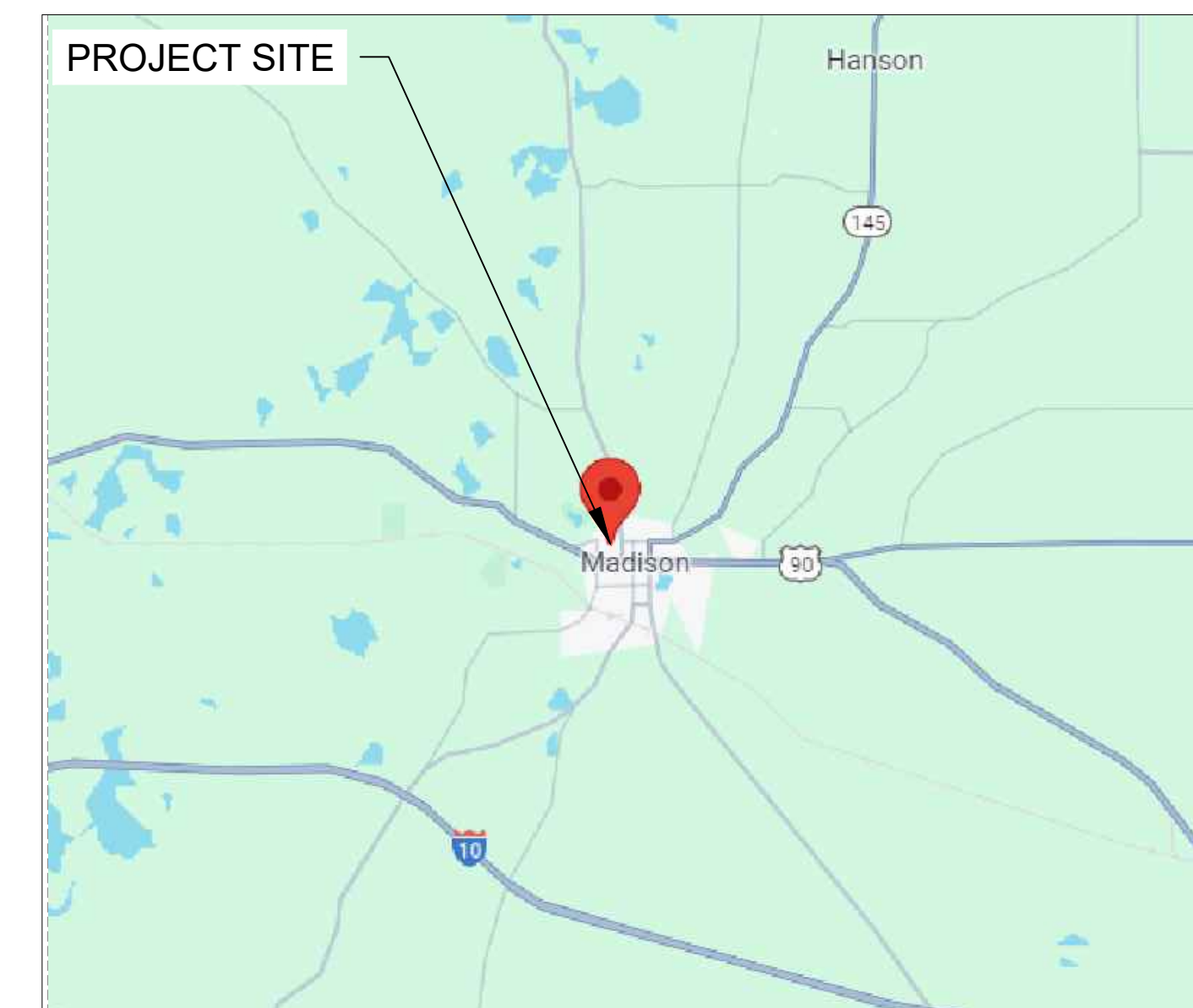
- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID THE HAZARDS INVOLVED. (NEC 690.4(E) AND 705.6)
- LOCAL UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION. FOR A LINE SIDE TAP CONNECTION, UTILITY NEEDS TO BE NOTIFIED WELL IN ADVANCE TO COORDINATE BUILDING ELECTRICAL SHUT OFF.
- NEW CONDUIT ROUTING SHOWN IS ESSENTIALLY SCHEMATIC. SUBCONTRACTOR SHALL LAY OUT RUNS TO SUIT FIELD CONDITIONS AND THE COORDINATION REQUIREMENTS OF OTHER TRADES.
- ARRAY WIRING SHOULD NOT BE READILY ACCESSIBLE EXCEPT TO QUALIFIED PERSONNEL.
- ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE WATERTIGHT AND APPROVED FOR USE IN WET LOCATIONS. (NEC 314.15A).
- WIRING METHODS FOR PV SYSTEM CONDUCTORS AREN'T PERMITTED WITHIN 10 IN. OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE LOCATED DIRECTLY BELOW THE ROOF SURFACE THAT'S COVERED BY PV MODULES AND ASSOCIATED EQUIPMENT WIRING
- BACK-FED BREAKER MUST BE AT THE OPPOSITE END OF BUS BAR FROM THE MAIN BREAKER OR MAIN LUG SUPPLYING CURRENT FROM THE UTILITIES.
- ALL CONDUCTORS AND WIRE TIES EXPOSED TO SUNLIGHT ARE LISTED AS UV RESISTANT.
- CONTRACTOR SHALL FOLLOW ALL ELECTRICAL EQUIPMENT LABELING REQUIREMENTS IN NEC 690 AND NEC 2020
- MEASURE THE LINE-TO-LINE AND LINE-TO-NEUTRAL VOLTAGE OF ALL SERVICE ENTRANCE CONDUCTORS PRIOR TO INSTALLING ANY SOLAR EQUIPMENT.

WIRING AND CONDUIT NOTES:

- ALL CONDUIT SIZES AND TYPES, SHALL BE LISTED FOR ITS PURPOSE AND APPROVED 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 CONDUCTORS AND OCPD SIZES AND TYPES SPECIFIED ACCORDING TO [NEC 690.8 (A)(1) & (B)(1)], [NEC 240] [NEC 690.7] FOR MULTIPLE CONDUCTORS
- ALL PV DC CONDUCTORS IN CONDUIT EXPOSED TO SUNLIGHT SHALL BE DERATED ACCORDING TO [NEC TABLE 310.15 (B)(2)(C)] BLACK ONLY**
- 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 600V PER NEC 2020 OR 1000V PER NEC 2020
- 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 5% FOR DC CIRCUITS AND 3% FOR AC CIRCUITS
- 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



1 BUILDING PHOTO SCALE: NTS



2 VICINITY MAP SCALE: NTS



REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

Signature with Seal

PROJECT NAME & ADDRESS

**BUILDING 34
 COMMERCIAL
 325 TURNER DAVIS DR
 MADISON, FL 32340 USA
 PH.# : (850) 576-7657
 Email ID : CADEN@IGTSOLAR.COM**

DATE: 09/27/2024

SHEET NAME
COVER PAGE

SHEET SIZE
**ARCH FULL
 BLEED D
 24" X 36"**

SHEET NUMBER

PV-0

INVERTER IS LOCATED WITHIN ONE FEET OF THE ARRAY FOR UL3741.



IGT Solar
 INDEPENDENT GREEN
 TECHNOLOGIES LLC
 3954 WEST PENSACOLA STREET,
 TALLAHASSEE, FL 32304
 (850) 576-7657
 CONTRACTOR LIC#: CVC56732

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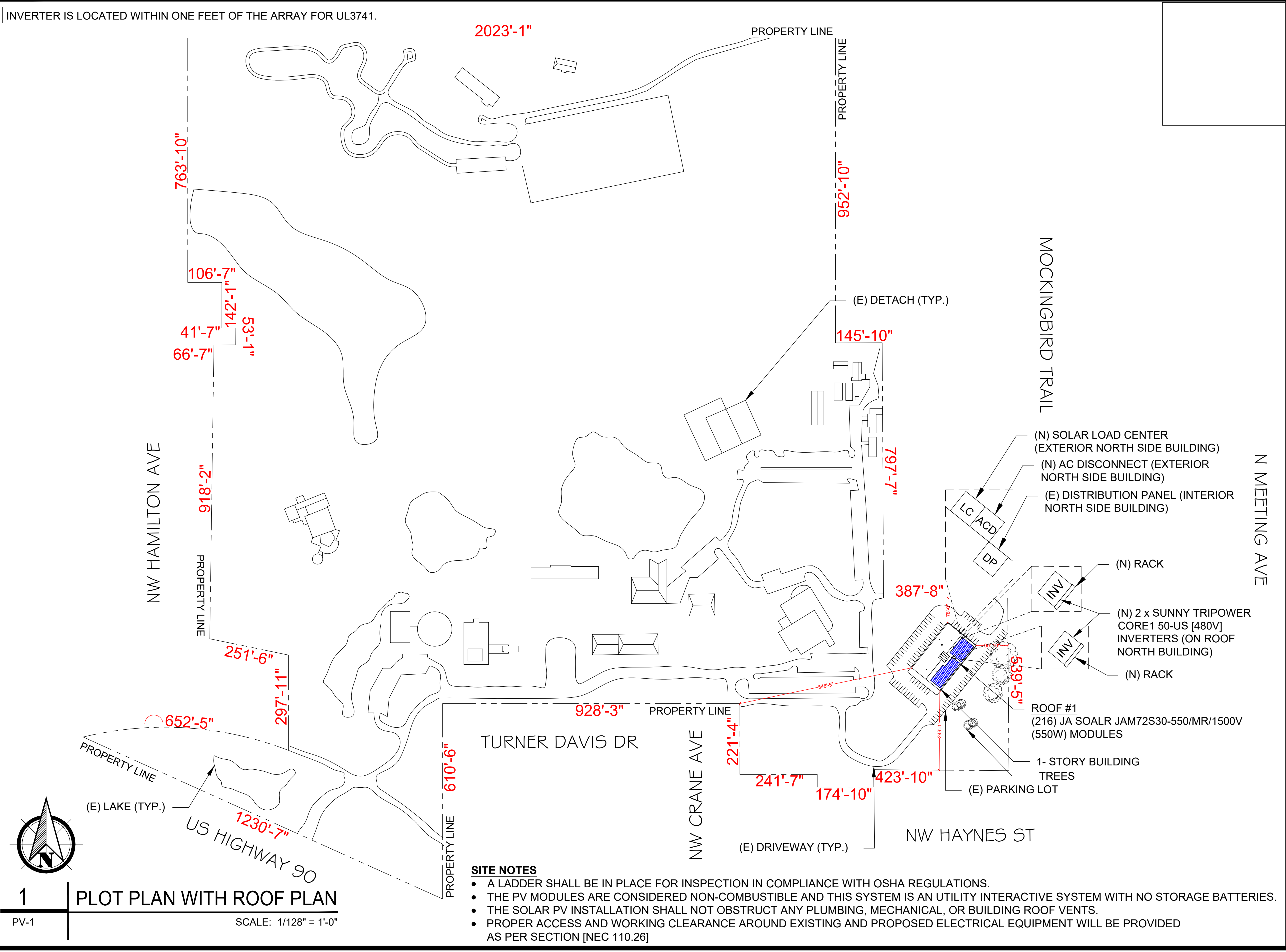
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SHEET NAME
SITE PLAN

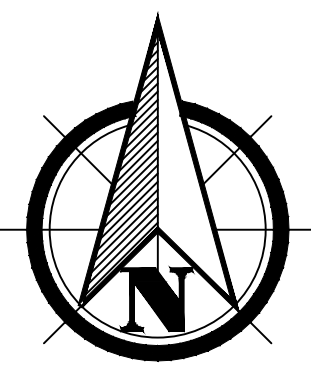
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**ARCH FULL
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SHEET NUMBER
PV-1



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]



1 | **PLOT PLAN WITH ROOF PLAN**
 PV-1 | SCALE: 1/128" = 1'-0"

ROOF DESCRIPTION

ROOF	ROOF TILT	AZIMUTH	RAFTER SIZE	RAFTER SPACING	SEAM SPACING	ROOF MATERIAL
#1	5°	129°	2" X 4"	24" O.C.	12" O.C	STANDING SEAM METAL

ARRAY AREA & ROOF AREA CALC'S

ARRAY	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	216	6009	20325	30

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES:	216 MODULES
MODULE TYPE:	JA SOALR JAM72S30-550/MR/1500V (550W)
MODULE WEIGHT:	63.05LBS
MODULE DIMENSIONS:	89.72" X 44.65" = 27.82 SF
UNIT WEIGHT OF AREA:	2.27 PSF

DESIGN SPECIFICATION

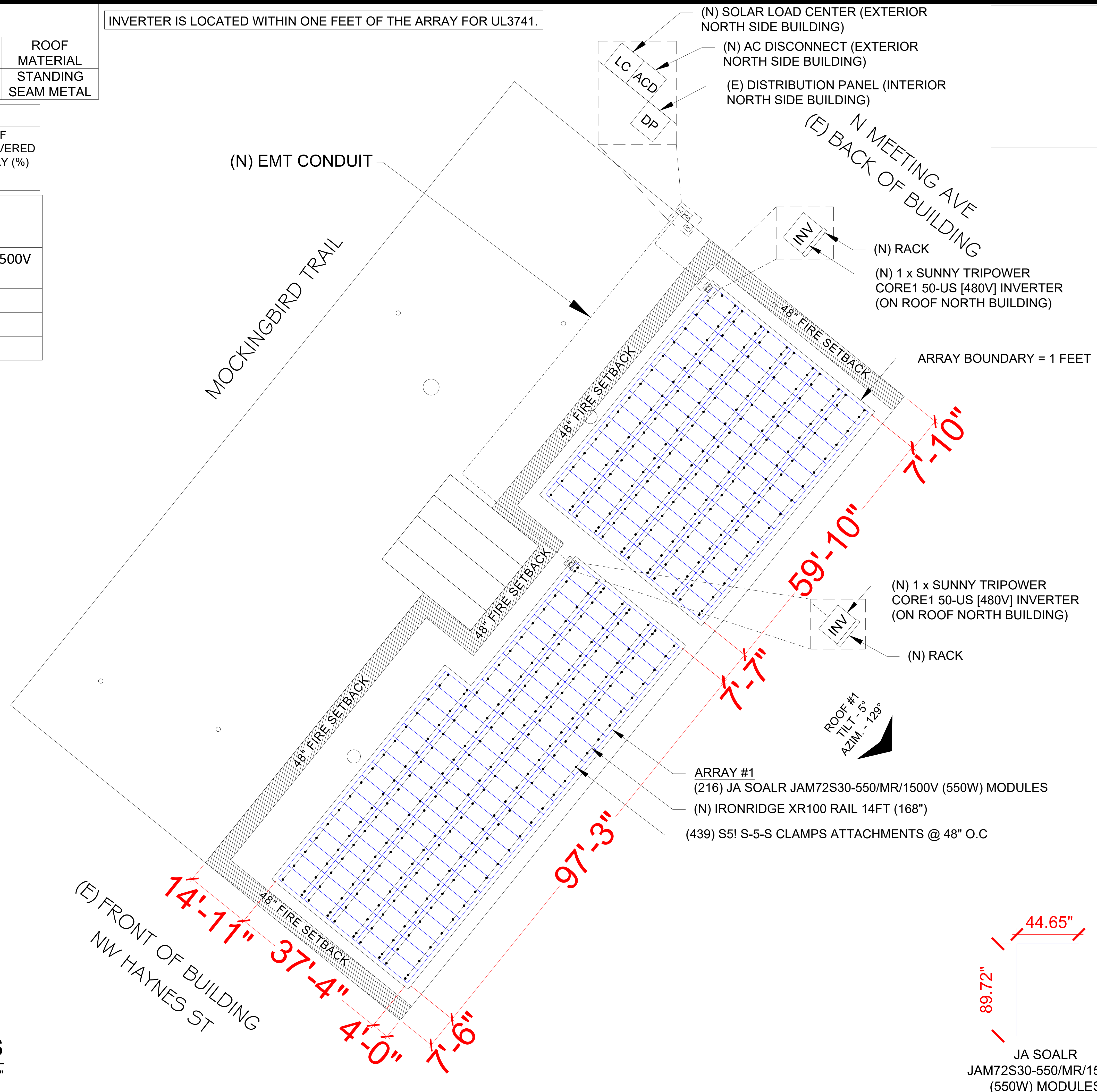
RISK CATEGORY:	II
CONSTRUCTION:	COMMERCIAL
ZONING:	COMMERCIAL
SNOW LOAD (ASCE 7-22):	5 PSF
EXPOSURE CATEGORY:	C
WIND SPEED (ASCE 7-22):	116 MPH

LEGEND

- INV - INVERTER
- ACD - AC DISCONNECT
- LC - SOLAR LOAD CENTER
- DP - DISTRIBUTION PANEL
- □ - VENT, ATTIC FAN (ROOF OBSTRUCTION)
- - ROOF ATTACHMENT
- - CONDUIT
- - RAIL

48" FIRE SETBACK

INVERTER IS LOCATED WITHIN ONE FEET OF THE ARRAY FOR UL3741.



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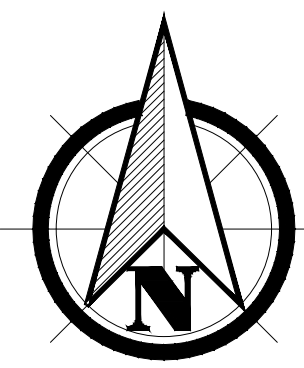
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SHEET NAME
ARRAY PLAN & MODULES

SHEET SIZE
ARCH FULL BLEED D 24" X 36"

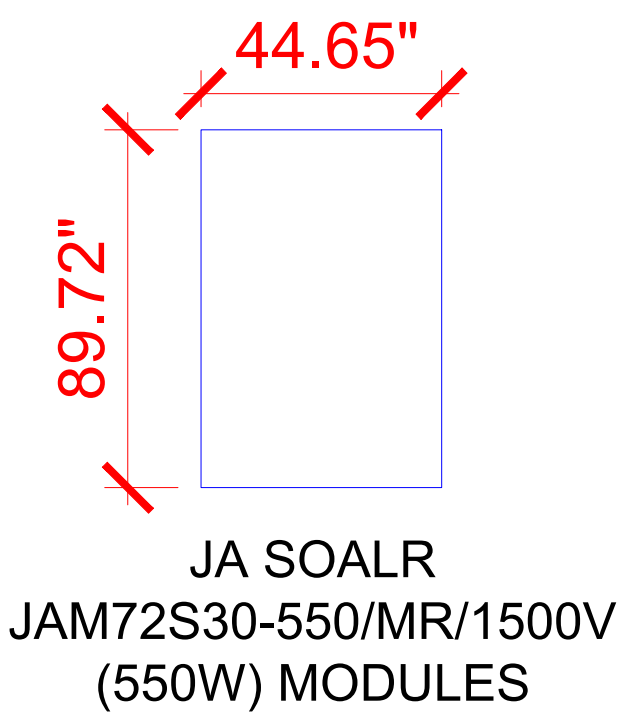
SHEET NUMBER

PV-2

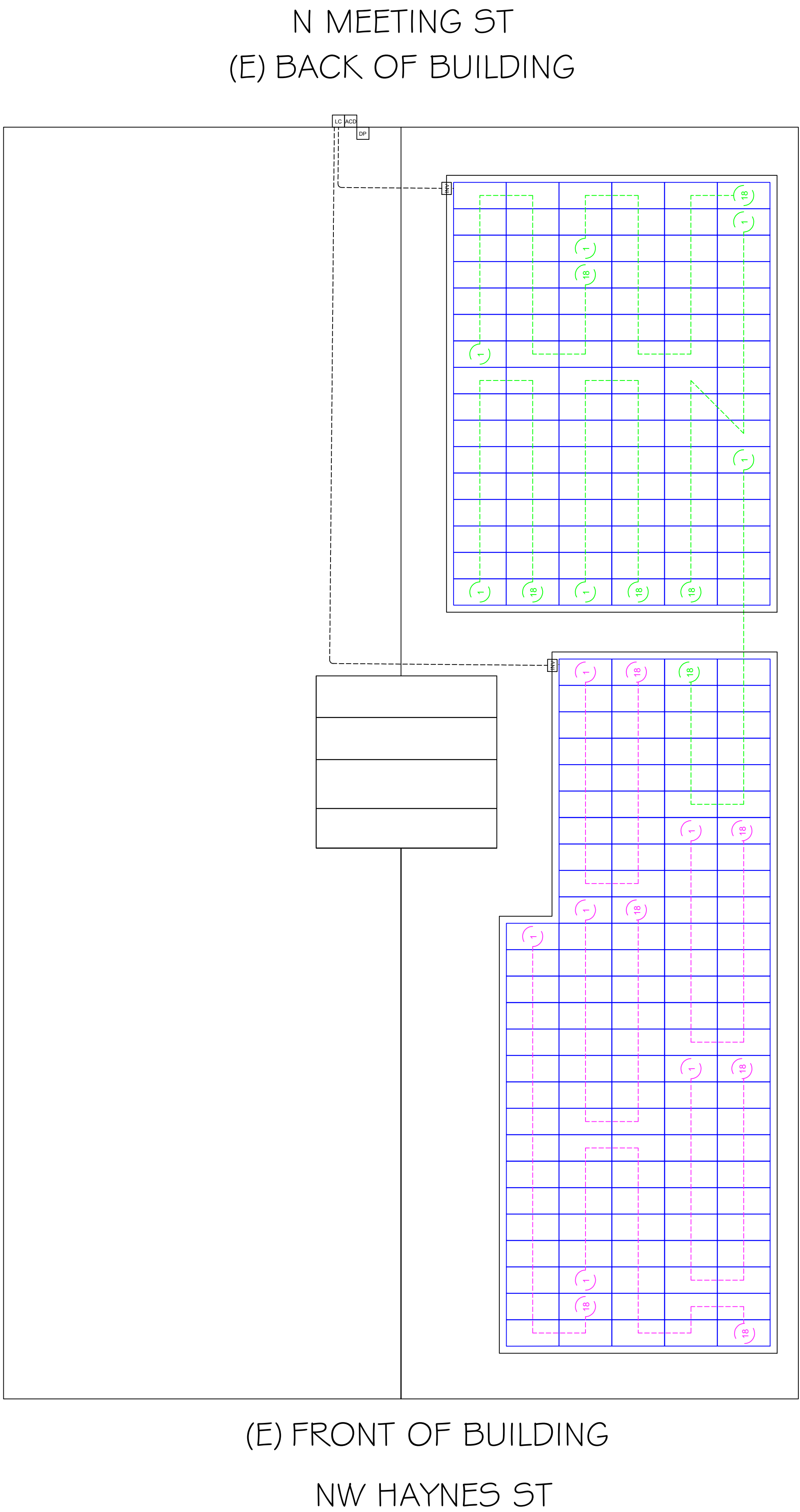
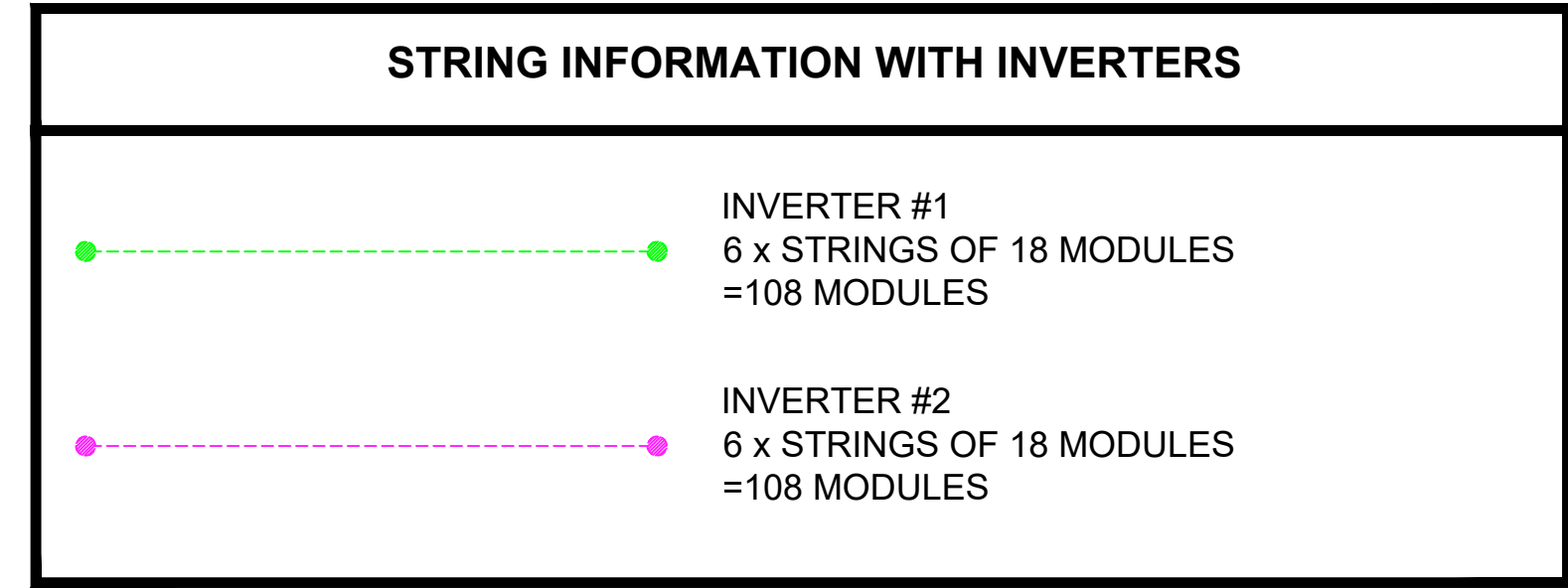


1 ARRAY PLAN & MODULES

PV-2 SCALE: 3/32" = 1'-0"



BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	216	JA SOALR JAM72S30-550/MR/1500V (550W) MODULES
INVERTER	2	SUNNY TRIPOWER CORE1 50-US [480V] INVERTERS
SOLAR LOAD CENTER	1	200A RATED SOLAR LOAD CENTER,480V, 3-PHASE,4WIRE, NEMA 3R
AC DISCONNECT	1	200A NON FUSED AC DISCONNECT,480V, NEMA 3R, UL LISTED
ATTACHMENT	439	S5! S-5-S CLAMPS
ATTACHMENT	878	M8-1.25 STAINLESS STEEL HEX FLANGE BOLT (13MM SOCKET
ATTACHMENT	878	3/8-24 STAINLESS STEEL ROUND POINT SETSCREW (3/16 HEX DRIVE)
RAILS	149	IRONRIDGE XR100 RAIL 14FT (168")
BONDED SPLICE	134	SPLICE KIT
CLAMP	410	UNIVERSAL FASTENING OBJECT (UFO)
CLAMP	44	STOPPER SLEEVES
GROUNDING LUG	11	GROUNDING LUG



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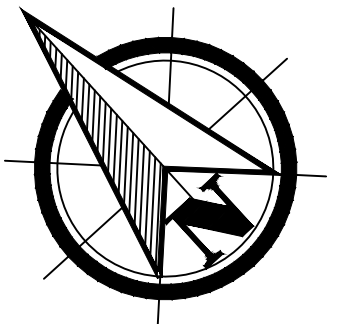
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SHEET NAME
**STRING LAYOUT
& BOM**

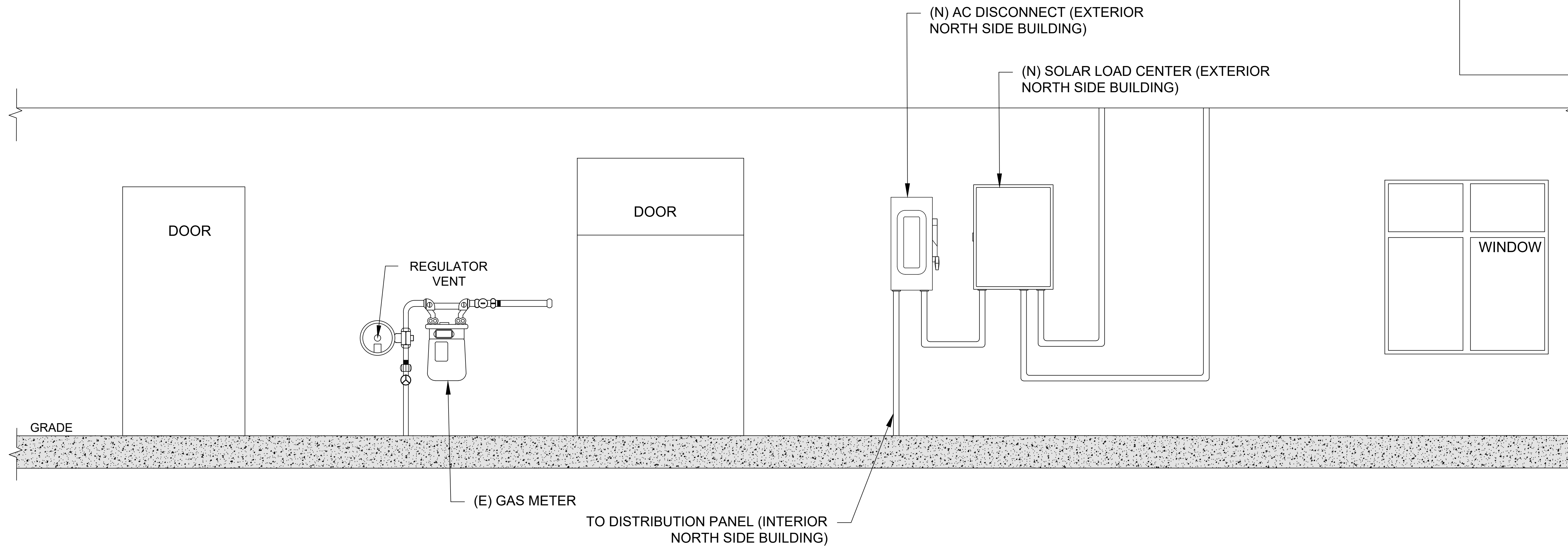
SHEET SIZE
**ARCH FULL
BLEED D
24" X 36"**

SHEET NUMBER
PV-2A



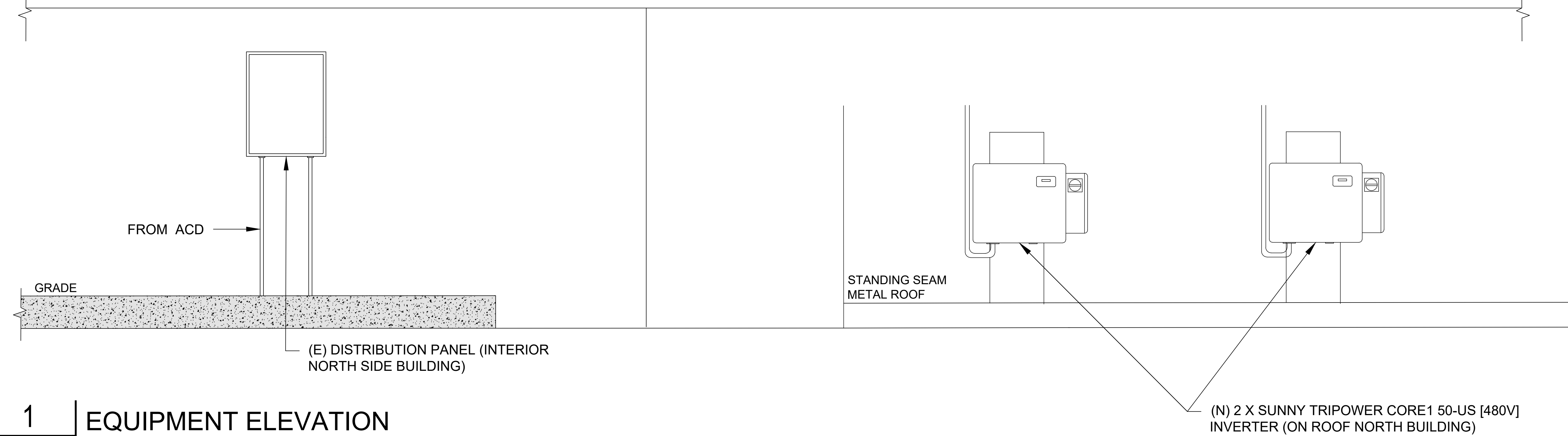
1 STRING LAYOUT & BOM

EQUIPMENT ELEVATION OUTSIDE BUILDING NORTH SIDE



EQUIPMENT ELEVATION INSIDE BUILDING NORTH SIDE

EQUIPMENT ELEVATION ON ROOF BUILDING NORTH SIDE



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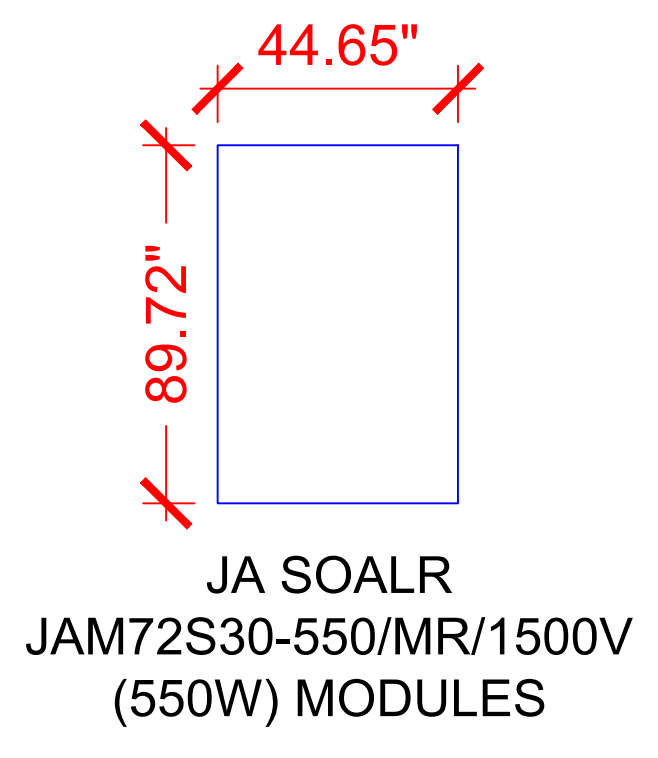
SHEET NAME
EQUIPMENT ELEVATION

SHEET SIZE
ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

PV-2B

- LEGEND**
- WIND ZONE 1
 - WIND ZONE 2
 - WIND ZONE 3
 - SEAMS
 - JA SOALR JAM72S30-550/MR/1500V (550W)
 - IRONRIDGE XR100 RAIL 14FT (168")
 - - ROOF ATTACHMENT
 - CONDUIT
 - - VENT, ATTIC FAN (ROOF OBSTRUCTION)
 - - FLAT ROOF



ROOF DESCRIPTION				
ROOF	ROOF TILT	AZIMUTH	SEAM SPACING	ROOF MATERIAL
#1	5°	129°	12" O.C	STANDING SEAM METAL
PANEL HEIGHT OF ROOF (H2)				6"
AVERAGE ROOF HEIGHT: 12.5 FEET				

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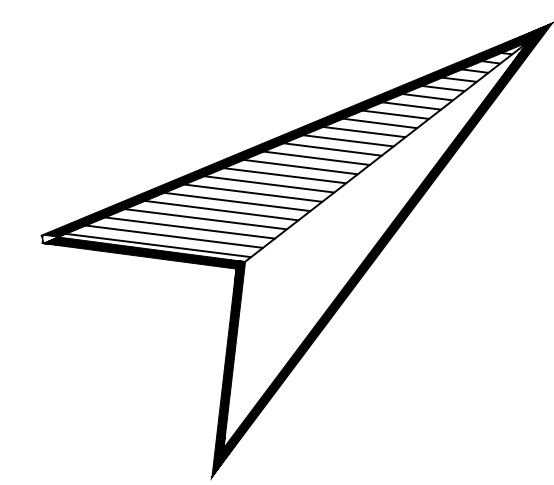
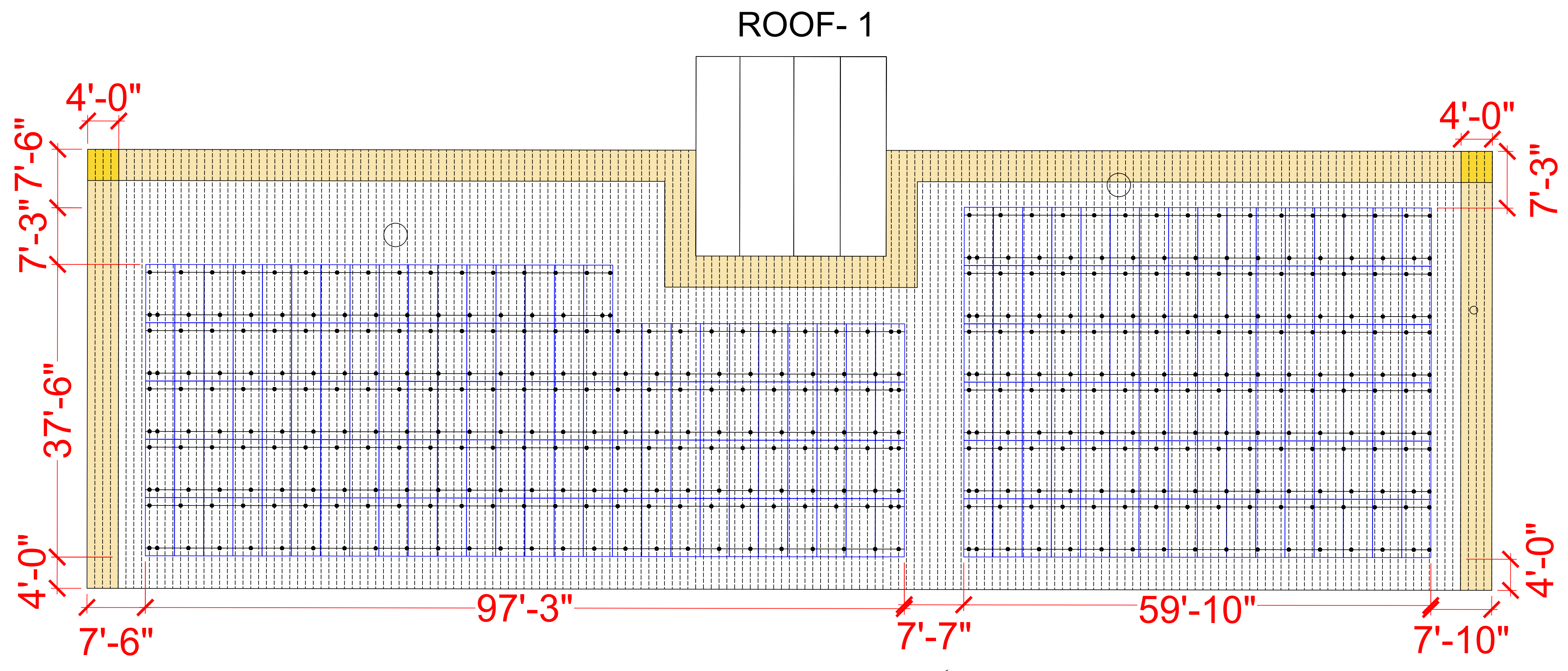
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SHEET NAME
**WIND ZONE
 CALCULATION**

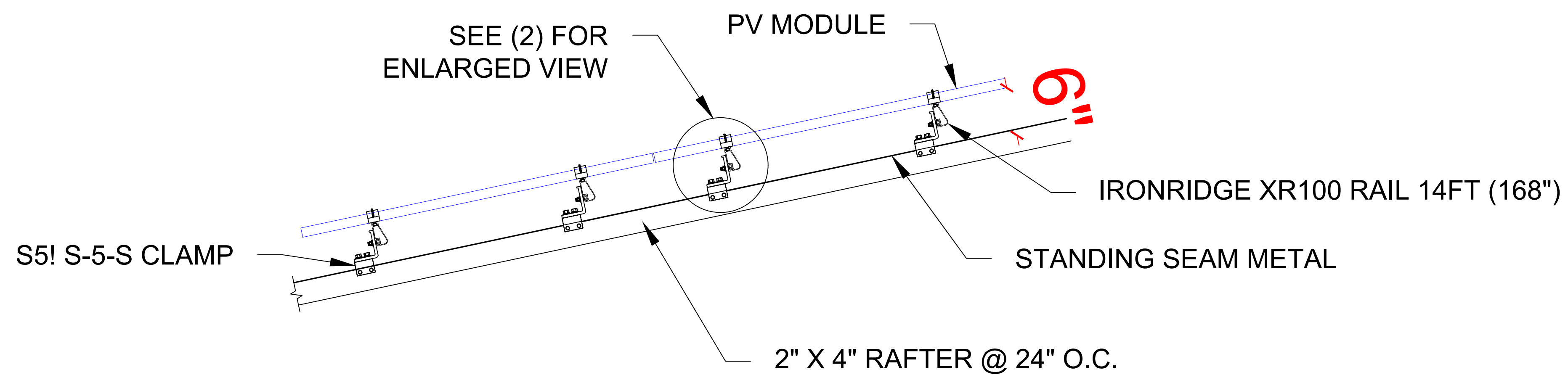
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**ARCH FULL
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SHEET NUMBER

PV-2C

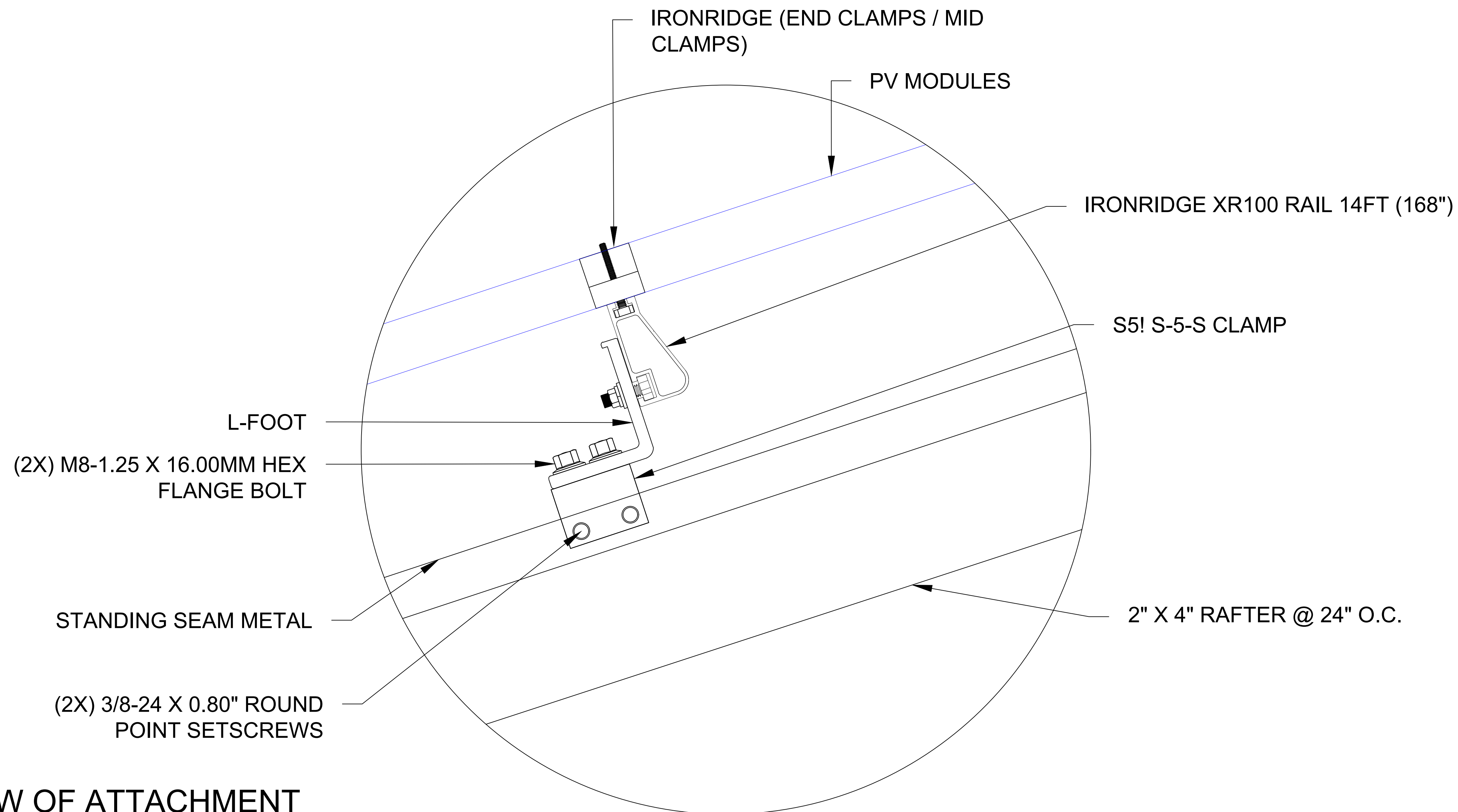


RAFTER SIZE	RAFTER SPACING	SEAM SPACING	ROOF MATERIAL
2" X 4"	24" O.C.	12"O.C	STANDING SEAM METAL



1 ATTACHMENT DETAILS

PV-3



2 FRONT VIEW OF ATTACHMENT

PV-3

SCALE: NTS



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SHEET NAME
ATTACHMENT
DETAILS

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ARCH FULL
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24" X 36"

SHEET NUMBER

PV-3

ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR			CONDUIT	NO# OF CIRCUITS	CURRENT-CARRYING CONDUCTORS IN CONDUIT	CONDUIT FILL PERCENT	OCPD	EGC		TEMP. CORR. FACTOR	CONDUIT FILL FACTOR	CONT. CURRENT	MAX. CURRENT	BASE AMP.	DERATED AMP.	WIRE AMP. TEMP. RATING	LENGT H	VOLTAGE DROP	
1	6	ARRAY	INVERTER #1	10 AWG	PV WIRE	COPPER	MIN 1" Dia EMT	6	12	33.62%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.5	14.0A	17.5A	40A	19.02A	90°	1FT	0.01%
2	6	ARRAY	INVERTER #2	10 AWG	PV WIRE	COPPER	MIN 1" Dia EMT	6	12	33.62%	N/A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.5	14.0A	17.5A	40A	19.02A	90°	1FT	0.01%
3	2	INVERTERS #1 & #2	SOLAR LOAD CENTER	4 AWG	THWN-2	COPPER	MIN 1.25" Dia EMT	1	4	24.41%	80A	8 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	64.0A	80.0A	95A	72.96A	90°	141FT	1.25%
4	1	SOLAR LOAD CENTER	AC DISCONNECT	2/0 AWG	THWN-2	COPPER	MIN 2" Dia EMT	1	4	28.01%	N/A	6 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	128.0A	160.0A	195A	149.76A	90°	5FT	0.03%
5	1	AC DISCONNECT	DISTRIBUTION PANEL	2/0 AWG	THWN-2	COPPER	MIN 2" Dia EMT	1	4	28.01%	N/A	6 AWG	THWN-2, COPPER	0.96	(35°C)	0.8	128.0A	160.0A	195A	149.76A	90°	5FT	0.03%

NEW EQUIPMENT SUMMARY

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02 SUNNY TRIPOWER CORE1 50-US [480V] INVERTERS

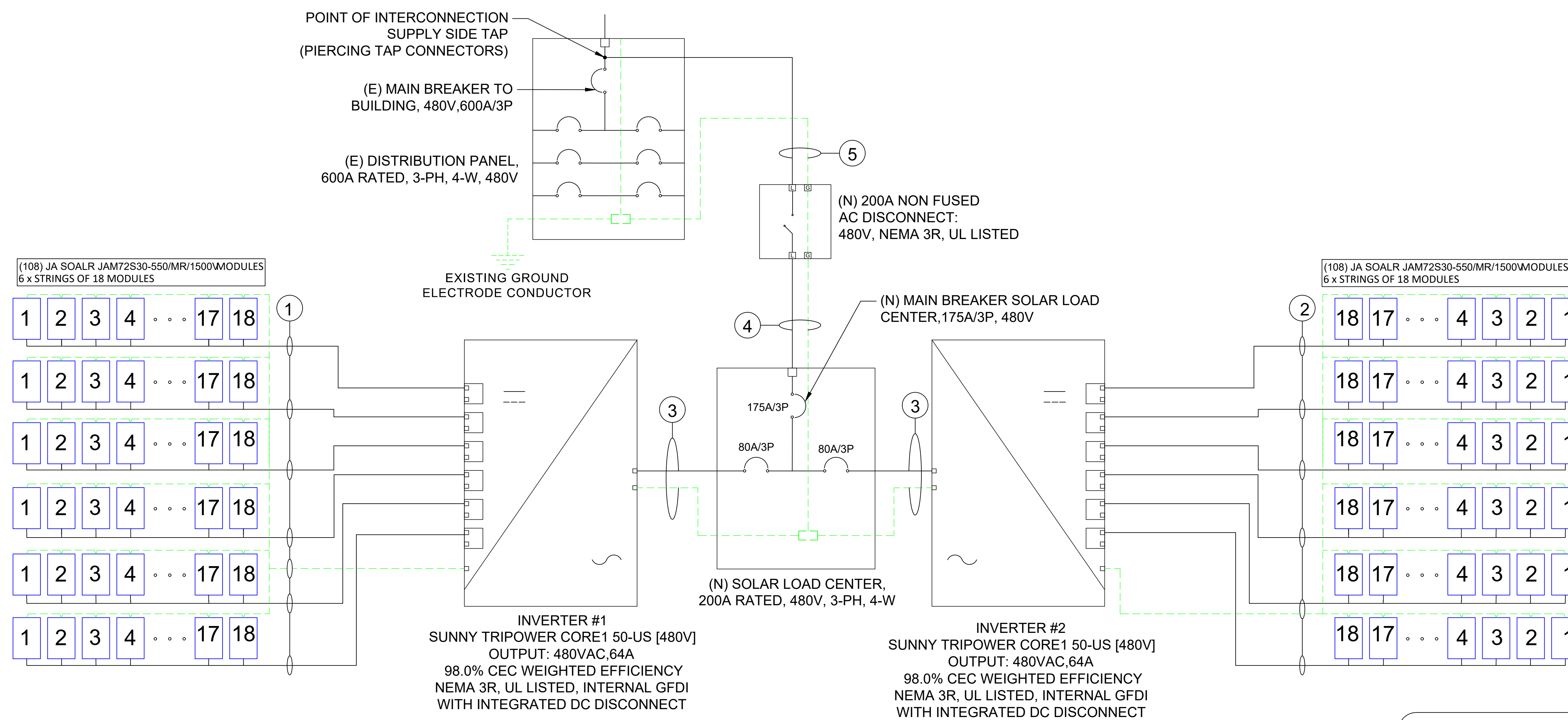
01 200A NON FUSED AC DISCONNECT, 480V, NEMA 3R, UL LISTED

01 SOLAR LOAD CENTER 200A RATED, 480V, 3-PH, 4-W

NOTE: ALL EQUIPMENT TERMINAL TEMPERATURE RATING AT 75°C.

NOTE: SAME CALCULATION FOR THE WIRE TAG NO. 3.

INVERTER IS LOCATED WITHIN ONE FEET OF THE ARRAY FOR UL3741.



SYSTEM RATING	
118.80 KWDC	
100.00 KWAC	
109.65 CEC KWAC	

SERVICE INFO	
UTILITY PROVIDER:	N/A
DISTRIBUTION PANEL:	600A
PANEL BRAND:	SIEMENS
MAIN CIRCUIT BREAKER RATING:	600A
MAIN SERVICE VOLTAGE:	480VAC
MAIN SERVICE LOCATION:	NORTH
SERVICE FEED SOURCE:	UNDERGROUND

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SHEET NAME
ELECTRICAL LINE DIAGRAM & CALS.

SHEET SIZE
ARCH FULL BLEED D 24" X 36"

SHEET NUMBER
PV-4

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL	JA SOALR JAM72S30-550/MR/1500V (550W)
VMP	41.96 A
IMP	13.11 A
VOC	49.90 V
ISC	14.00A
TEMP. COEFF. VOC	-0.275%/°C
MODULE DIMENSION	89.72"(L) x 44.65"(W)
PANEL WATTAGE	550W

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL	SUNNY TRIPower CORE1 50-US [480V]
NOMINAL AC POWER	50000 W
NOMINAL OUTPUT CURRENT	64 A
NOMINAL OUTPUT VOLTAGE	480 VAC

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-7°C
AMBIENT TEMP (HIGH TEMP 2%)	35°C
CONDUIT HEIGHT	7/8"
MODULE TEMPERATURE COEFFICIENT OF VOC	-0.275%/°C

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
0.80	4-6
0.70	7-9
0.50	10-20
0.45	21-30



REVISIONS		
DESCRIPTION	DATE	REV
REVISION	09/19/2024	A
REVISION	09/27/2024	B

Signature with Seal

PROJECT NAME & ADDRESS

BUILDING 34
COMMERCIAL
325 TURNER DAVIS DR
MADISON, FL 32340 USA
PH.# : (850) 576-7657
Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME
SPECIFICATIONS & NOTES

SHEET SIZE
ARCH FULL
BLEED D
24" X 36"

SHEET NUMBER

PV-4A

! WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE : PER NEC 110.27(C) & OSHA 1910.145(f)(7)

! WARNING
ELECTRICAL SHOCK HAZARD
TERMINALS ON THE LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

CODE : PER NEC 110.27(C) & OSHA 1910.145(f)(7)

! WARNING
RACEWAY IS ENERGIZED WHENIN THE OPEN POSITION. DO NOT RELOCATE OR CUT

2 Conduit
FROM AC DISCONNECT TO TAP LOCATION

1 Junction Box
Scale: NTS

! WARNING
THE DISCONNECTION OF THE GROUNDED CONDUCTORS(S) MAY RESULT IN OVERVOLTAGE OF THE EQUIPMENT

CODE : PER NEC 690.13(B)

PHOTOVOLTAIC SYSTEM AC DISCONNECT
RATED AC OUTPUT CURRENT 128 AMPS
NOMINAL OPERATING AC VOLTAGE 480 VOLTS

LABEL LOCATION:
POINT OF INTERCONNECTION,
(PER CODE: NEC 690.54)

3 Inverter
Scale: NTS

! WARNING
THIS EQUIPMENT FED BY MULTIPLE SOURCES: TOTAL RATING OF ALL OVER CURRENT DEVICES EXCLUDING MAIN POWER SUPPLY SHALL NOT EXCEED AMPACITY OF BUSBAR

CODE : PER NEC 690.13(B)

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

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

4 AC Disconnects
Scale: NTS

! WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE : PER NEC 690.13(B)

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

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT
CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

5 Panel Board
Scale: NTS

! WARNING DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM

CODE : PER NEC 690.59 and NEC 705.12(D)(3)

! WARNING
POWER SOURCE OUTPUT CONNECTION. DO NOT RELOCATE THIS OVERCURRENT DEVICE.

CODE : PER NEC 705.12(B)(3)(2)

! WARNING
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE : PER NEC 110.27(C) and OSHA 1910.145(f)(7)

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

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

! WARNING
SINGLE 120-VOLT SUPPLY DO NOT CONNECT MULTI WIRE BRANCH CIRCUITS

CODE : PER NEC 706.15(C)(4) and NEC 690.13(B)

PANEL BOARD ENERGIES FROM TWO SOURCES OF AC POWER SOLAR 128A AT 480V UTILITY GRID 600A AT 480V

CODE : PER NEC 690.54

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

CODE : PER NEC 605.11.3.1(1) and NEC 690.56(C)

MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

CODE : PER NEC 690.13(B)

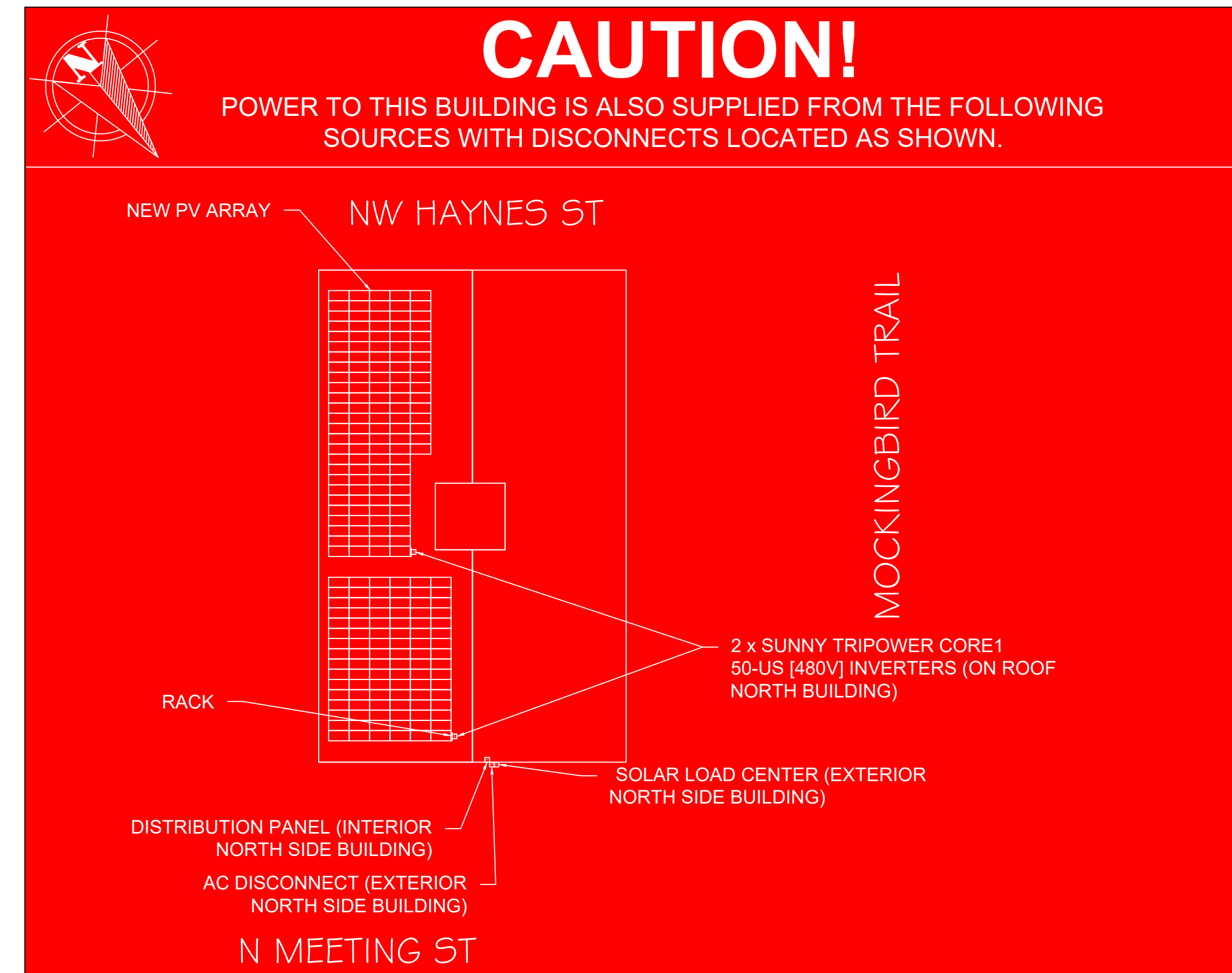
RAPID SHUTDOWN FOR SOLAR PV SYSTEM

CODE : PER NEC 690.56(C)(2)

DO NOT DISCONNECT UNDER LOAD

CODE : PER NEC 690.15(B) and NEC 690.33(D)(2)

6 Main Distribution Board
Scale: NTS



CODE : PER NEC 705.10 & 690.56(A)(B)
LABEL LOCATION:
MAIN SERVICE PANEL & UTILITY METER&SUB PANEL, INVERTER, AC DISCONNECT

CONTRACTORS NOTES:
• ALL OF THESE LABELS ARE APPLICABLE.

ADHESIVE FASTENED SIGNS:
• ANSI Z535.4-2011 PRODUCT SAFETY SIGNS AND LABELS, PROVIDES GUIDELINES FOR SUITABLE FONT SIZES, WORDS, COLORS, SYMBOLS, AND LOCATION REQUIREMENTS FOR LABELS. NEC 110.21(B)(1)
• THE LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED. NEC 110.21(B)(3)
• ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT.

IGT Solar
INDEPENDENT GREEN TECHNOLOGIES LLC
3954 WEST PENSACOLA STREET, TALLAHASSEE, FL 32304
(850) 576-7657
CONTRACTOR LIC# : CVC56732

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Signature with Seal

PROJECT NAME & ADDRESS

BUILDING 34 COMMERCIAL
325 TURNER DAVIS DR
MADISON, FL 32340 USA
PH.# : (850) 576-7657
Email ID : CADEN@IGTSOLAR.COM

DATE: 09/27/2024

SHEET NAME
SIGNAGE & WARNING LABEL

SHEET SIZE
ARCH FULL BLEED D
24" X 36"

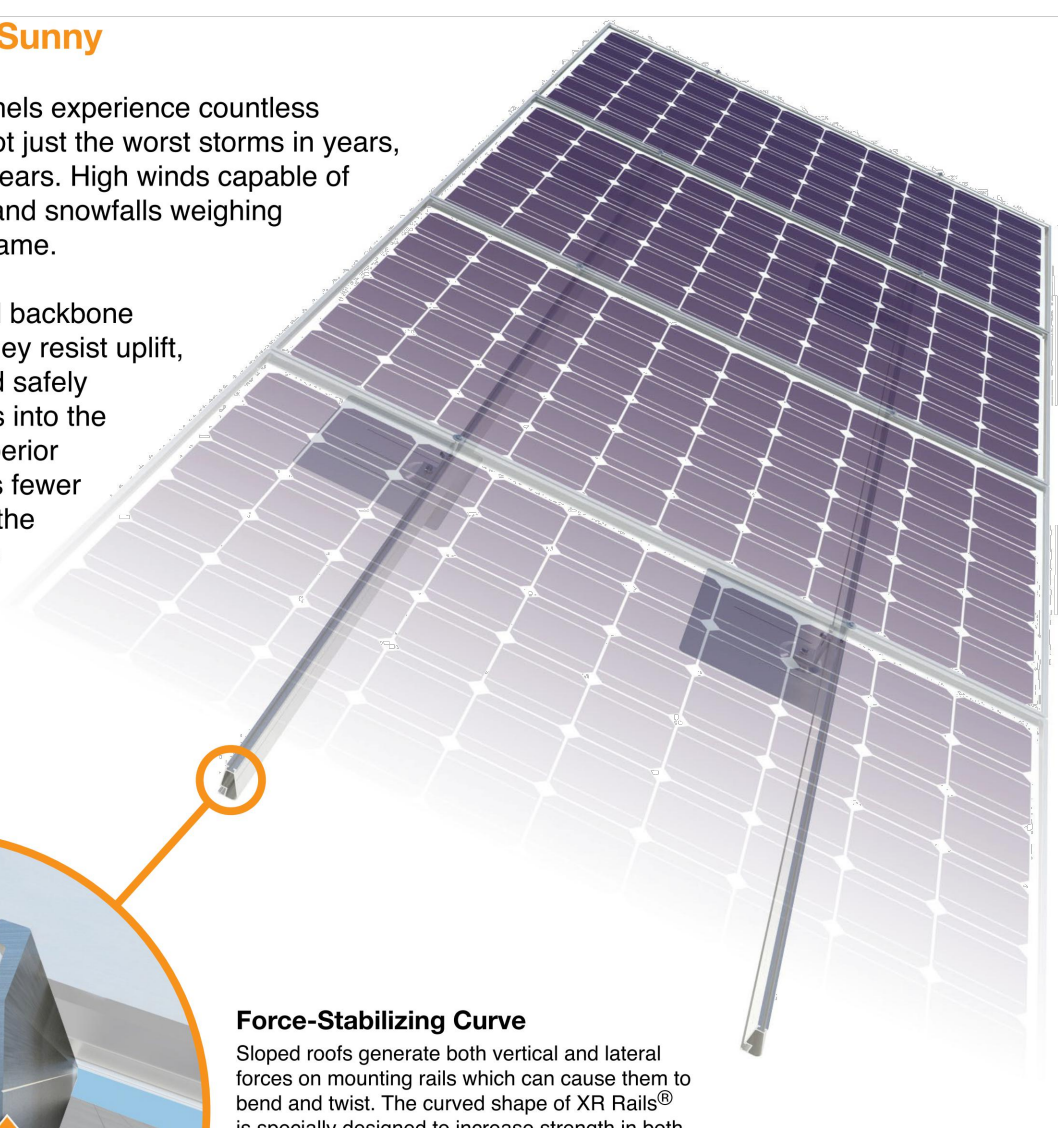
SHEET NUMBER

PV-5

Solar Is Not Always Sunny

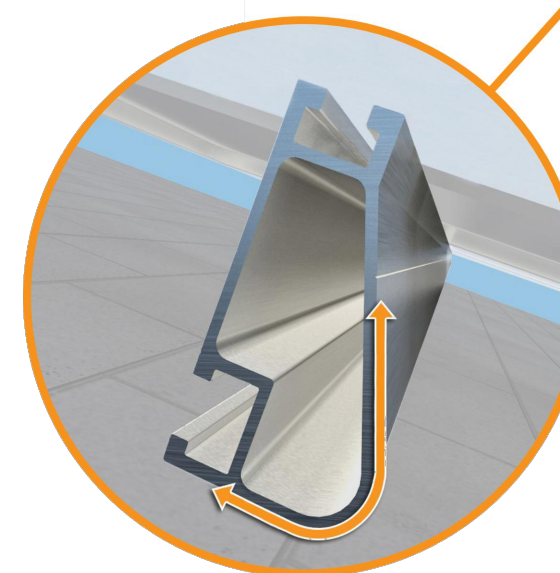
Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.



Force-Stabilizing Curve

Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.



Compatible with Flat & Pitched Roofs

XR Rails® are compatible with FlashFoot® and other pitched roof attachments.

IronRidge® offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials

All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.



XR10

XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available



XR100

XR100 is a residential and commercial mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.

- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000

XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2a, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Snow (PSF)	Wind (MPH)	Rail Span					
		4'	5' 4"	6'	8'	10'	12'
None	90						
	120						
	140	XR10		XR100		XR1000	
	160						
20	90						
	120						
	140						
30	90						
	160						
40	90						
	160						
80	160						
	120	160					

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

ANSI C119.4-2022

Electric Connectors - Connectors For Use Between Aluminum-To-Aluminum And Aluminum-To-Copper Conductors Designed For Normal Operation At Or Below 93°C And Copper-To-Copper Conductors Designed For Normal Operation At Or Below 100°C

Covers connectors used to make electrical connections between aluminum-to-aluminum, aluminum-to-copper and copper-to-copper conductors on distribution and transmission lines.

ANSI C119.5-2018

Electric Connectors - Insulation Piercing Connector Systems, Rated 600 Volts Or Less (Low-Voltage Aerial Bundled Cables And Insulated And Non-Insulated Line Wires)

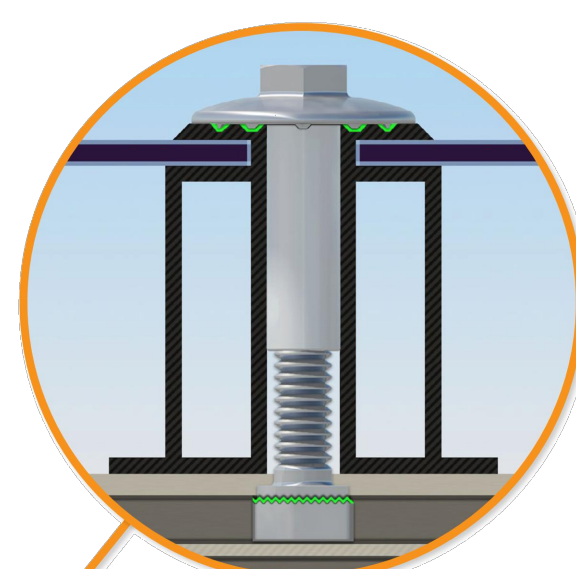
Establishes the electrical, mechanical and environmental test requirements for electrical insulation-piercing connectors. Covers insulation-piercing connectors used for making electrical connections between insulated, insulated-to-bare and bare-to-bare conductors rated 600 V or less and 90°C (low voltage aerial bundled cables and bare and insulated line wires) on overhead distribution lines for electric utilities.

Simplified Grounding for Every Application

The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO



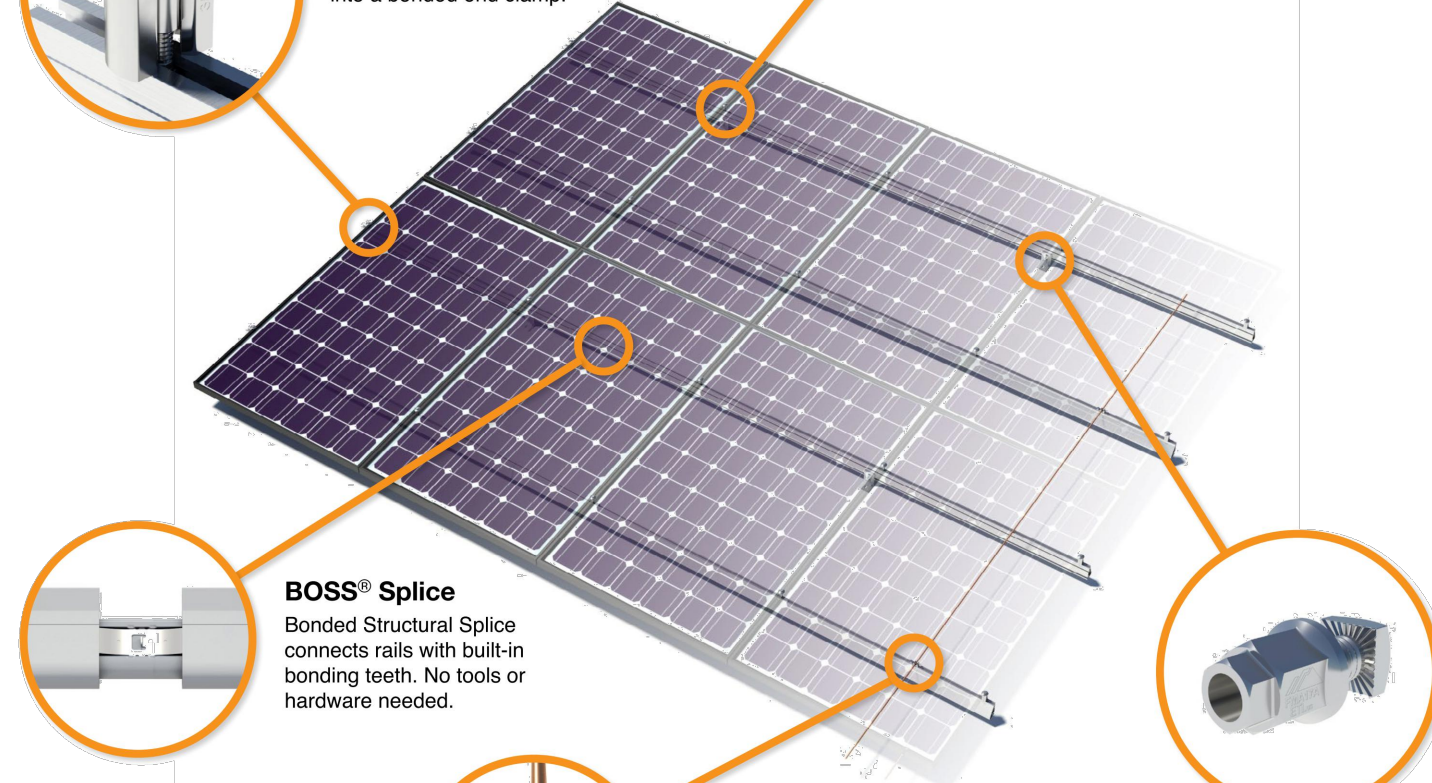
Universal Fastening Object (UFO®)

The UFO® securely bonds solar modules to XR Rails®. It comes assembled and lubricated, and can fit a wide range of module heights.



Stopper Sleeve

The Stopper Sleeve snaps onto the UFO®, converting it into a bonded end clamp.



BOSS® Splice

Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

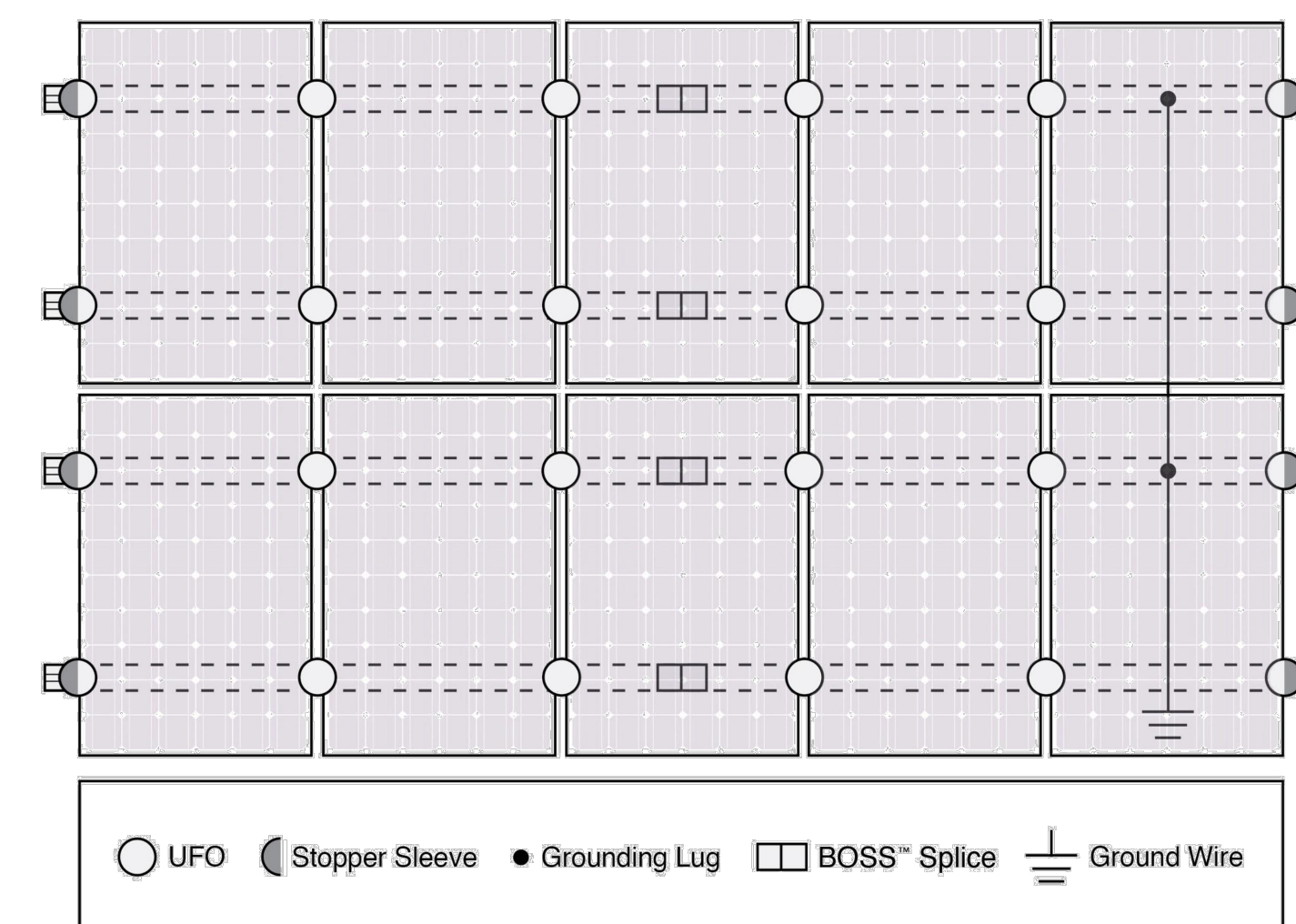
Grounding Lug

A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments

The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.

System Diagram



Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

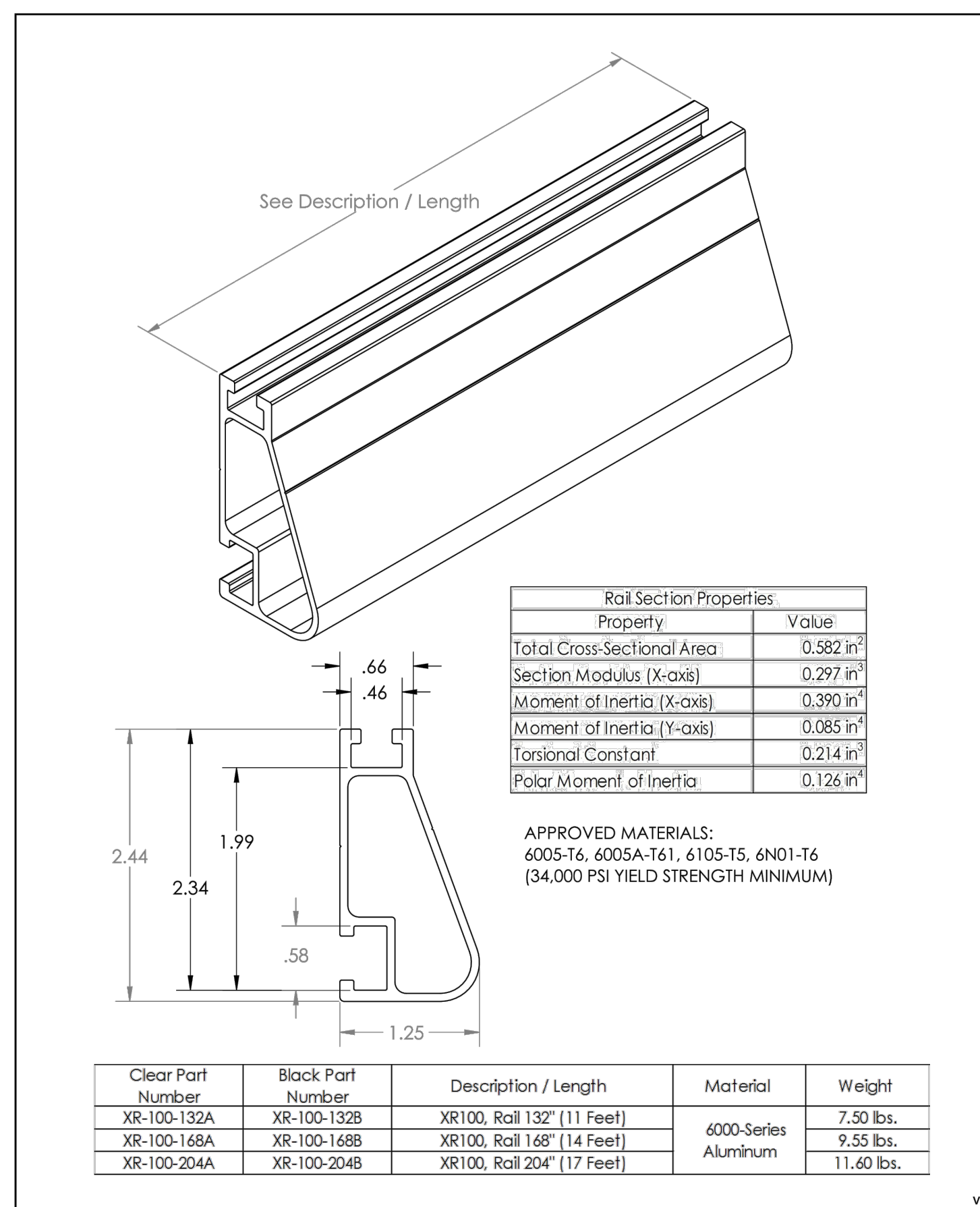
UL Certification

The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Feature	Cross-System Compatibility		
	Flush Mount	Tilt Mount	Ground Mount
XR Rails®	✓	✓	XR100 & XR1000
UFO/Stopper	✓	✓	✓
BOSS® Splice	✓	✓	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules. Refer to installation manuals for a detailed list.		



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SHEET NAME
EQUIPMENT SPECIFICATION

SHEET SIZE
ARCH FULL BLEED D
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SHEET NUMBER

PV-9