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
PV-0	COVER PAGE
PV-1	SITE PLAN
PV-2	ARRAY PLAN & MODULES
PV-2A	STRING LAYOUT & BOM
PV-2B	EQUIPMENT ELEVATION
PV-2C	WIND ZONE CALCULATION
PV-3	ATTACHMENT DETAIL
PV-4	ELECTRICAL LINE DIAGRAM CALS.
PV-4A	SPECIFICATIONS & NOTES
PV-5	SIGNAGE & WARNING LABEL
PV-6+	EQUIPMENT SPECIFICATION

REVISIONS						
DESCRIPTION	DATE	REV				
REVISION	09/19/2024	Α				
REVISION	09/27/2024	В				

Signature with Seal

PROJECT NAME & ADDRESS

50)

SCALE: NTS

SCALE: NTS

DATE: 09/27/2024

SHEET NAME

COVER PAGE

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

SHEET NUMBER

PV-0

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.

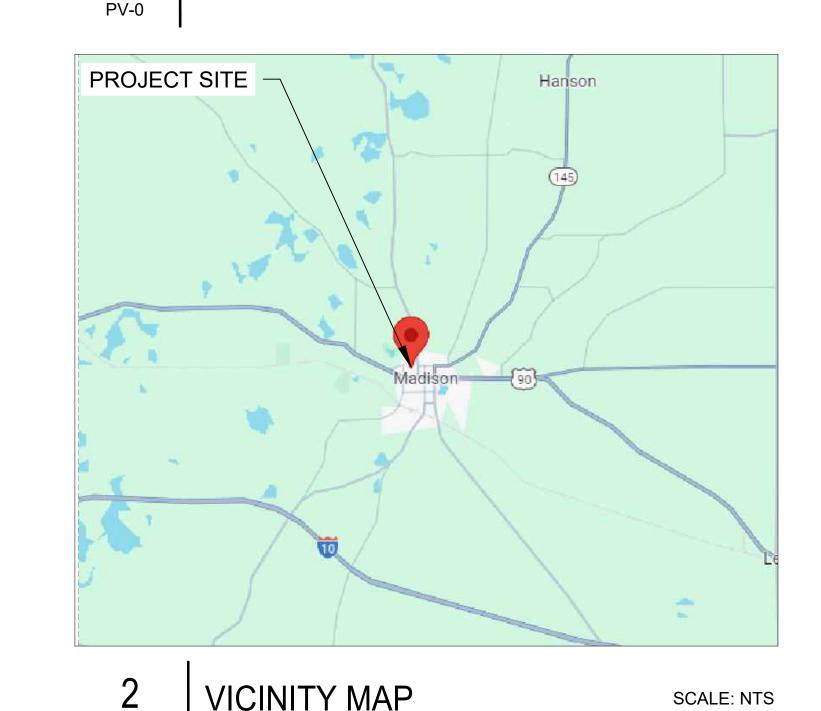
WIRING AND CONDUIT NOTES:

- 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

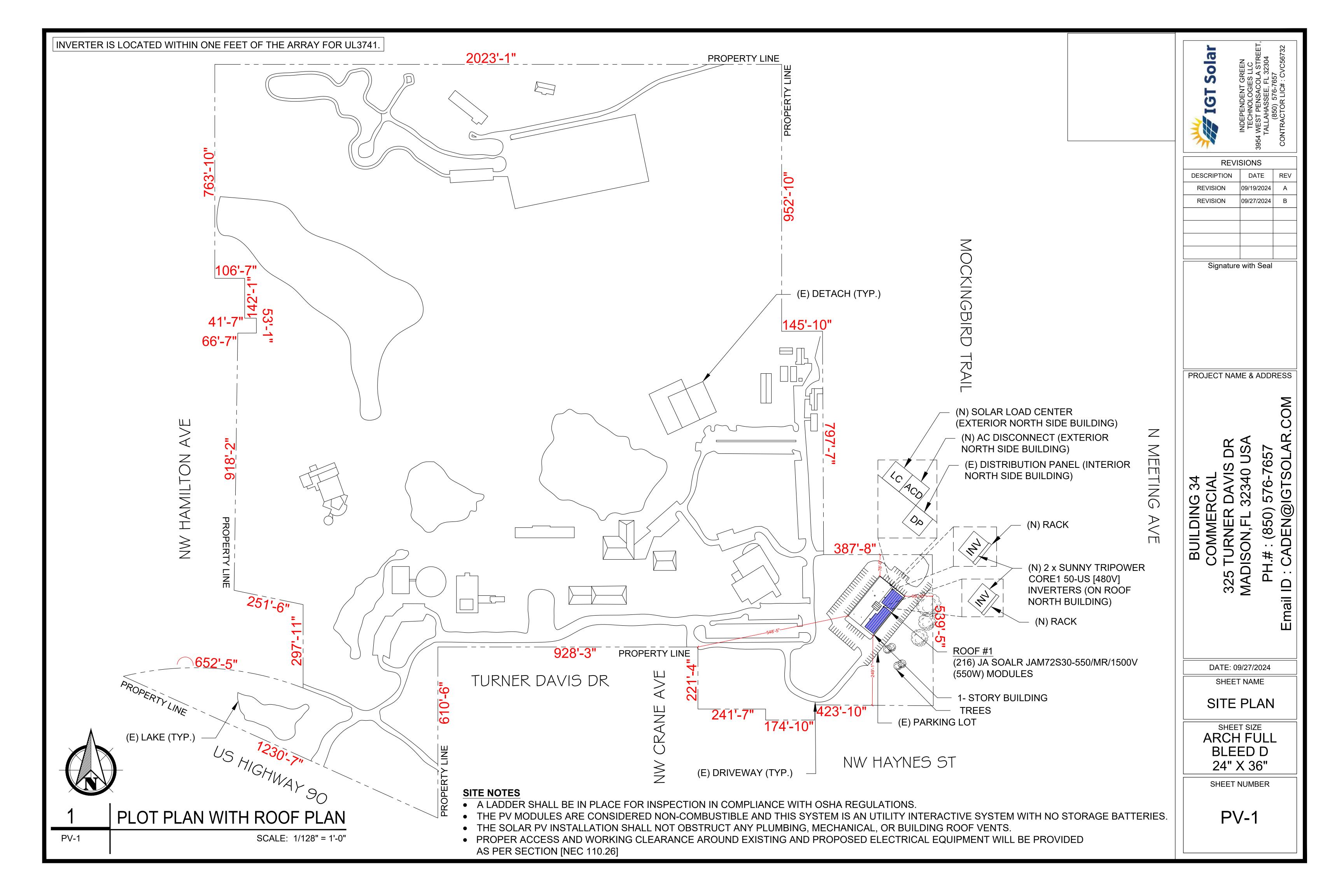
ELECTRICAL NOTES:

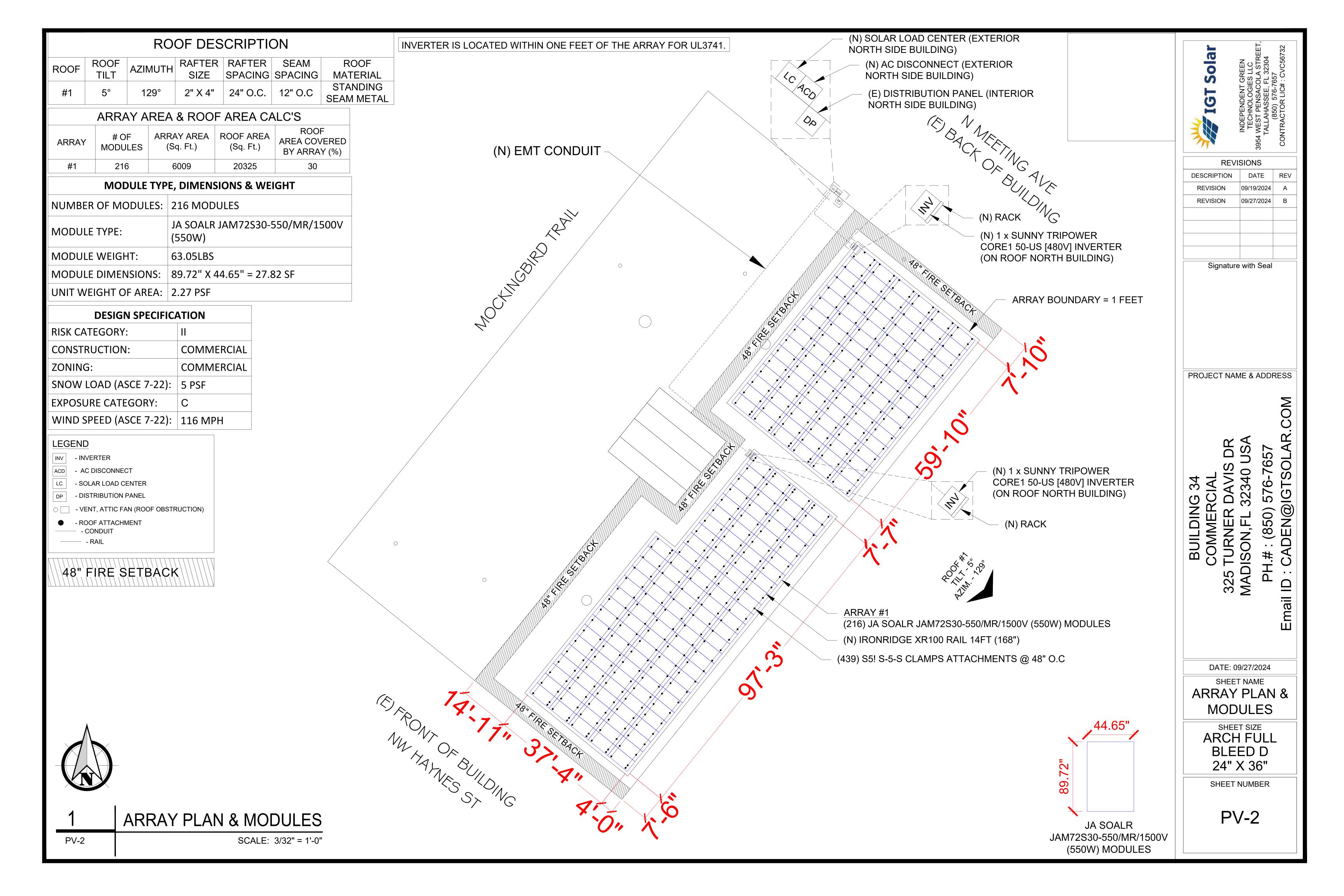
- THE EQUIPMENT AND ALL ASSOCIATED WIRING AND INTERCONNECTION SHALL BE INSTALLED ONLY BY QUALIFIED PEOPLE. A QUALIFIED PERSON IS ONE WHO HAS SKILLS AND KNOWLEDGE RELATED TO THE CONSTRUCTION AND OPERATION OF THE ELECTRICAL EQUIPMENT AND INSTALLATIONS AND HAS RECEIVED SAFETY TRAINING TO RECOGNIZE AND AVOID 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.





BUILDING PHOTO

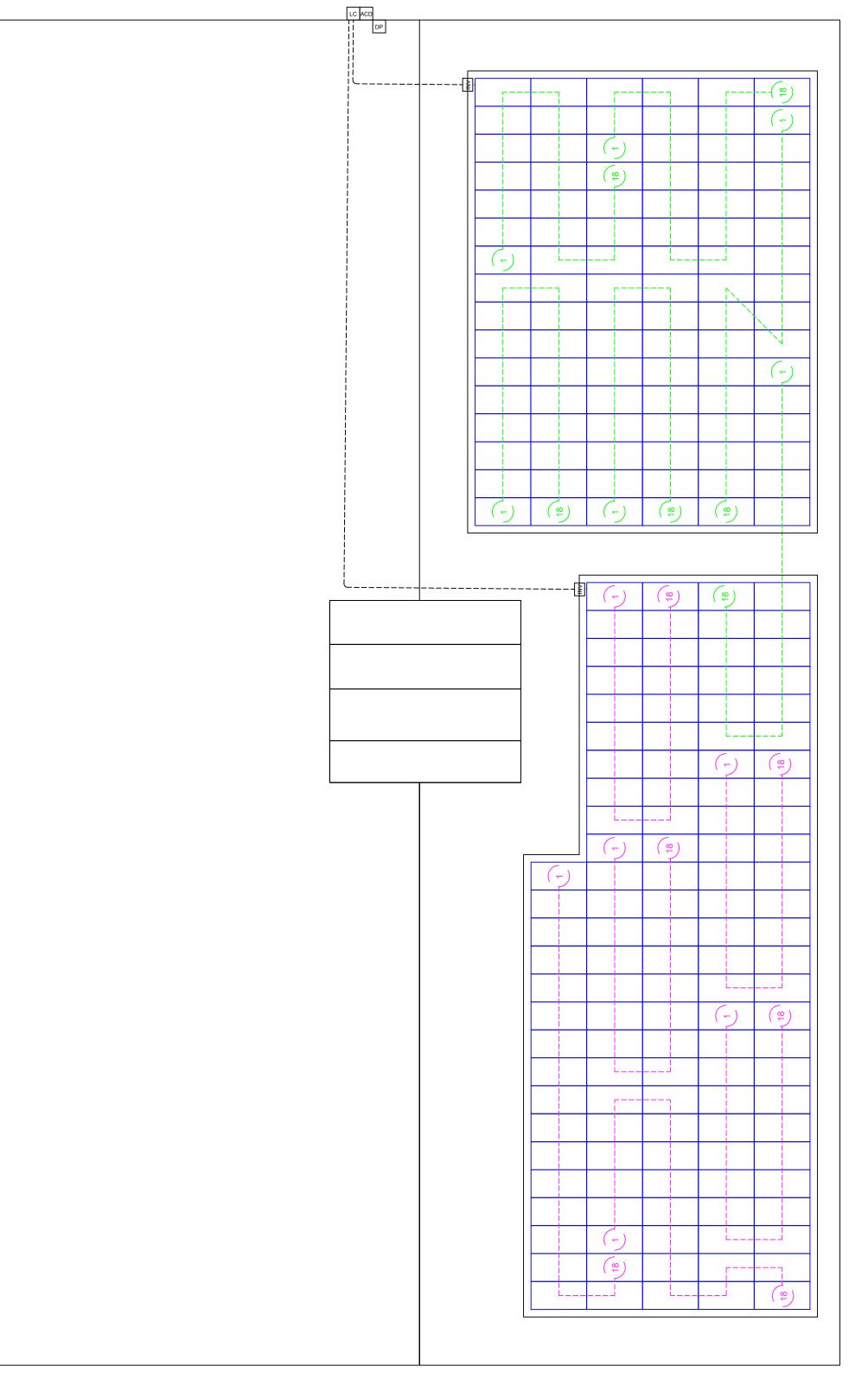




	BILL OF MATERIALS					
EQUIPMENT	QTY	DESCRIPTION				
SOLAR PV MODULE	216	JA SOALR JAM72S30-550/MR/1500V (550W) MODULES				
INVERTER	2	SUNNY TRIPOWER CORE1 50-US [480V] INVERTERS				
SOLAR LOAD CENTER	1	200A RATED SOLAR LOAD CENTER,480V, 3-PHASE,4WIRE, NEMA 3R				
AC DISCONNECT	1	200A NON FUSED AC DISCONNECT,480V, 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				

STRING INFORMATION WITH INVERTERS **INVERTER #1** 6 x STRINGS OF 18 MODULES =108 MODULES **INVERTER #2** 6 x STRINGS OF 18 MODULES =108 MODULES

N MEETING ST (E) BACK OF BUILDING



MOCKINGBIRD

(E) FRONT OF BUILDING NW HAYNES ST



REVISIONS					
DESCRIPTION	DATE	REV			
REVISION	09/19/2024	Α			
REVISION	09/27/2024	В			

Signature with Seal

PROJECT NAME & ADDRESS

'H.# : (850) 576-76 : CADEN@IGTSO

DATE: 09/27/2024

SHEET NAME
STRING LAYOUT & BOM

SHEET SIZE ARCH FULL BLEED D 24" X 36"

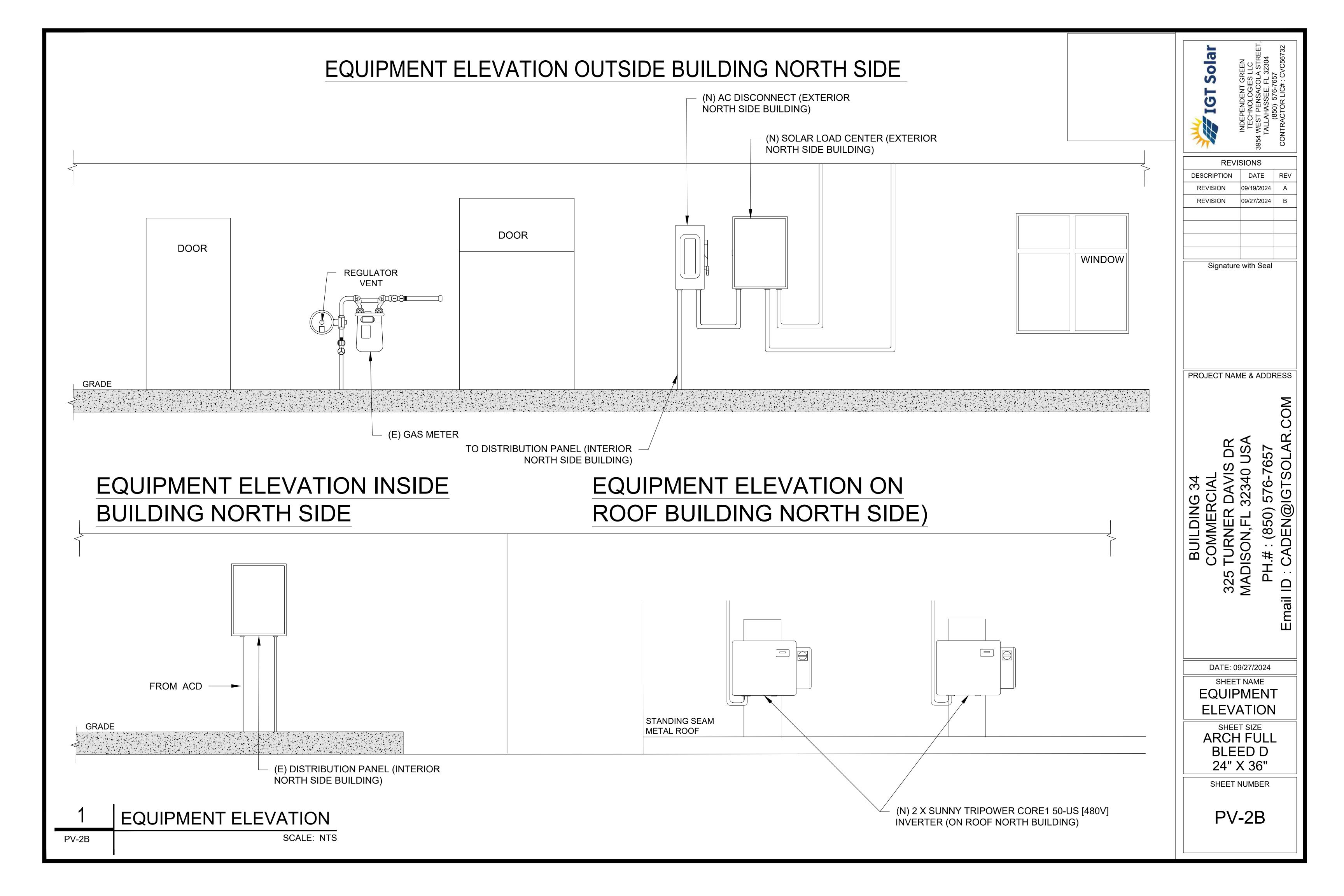
SHEET NUMBER

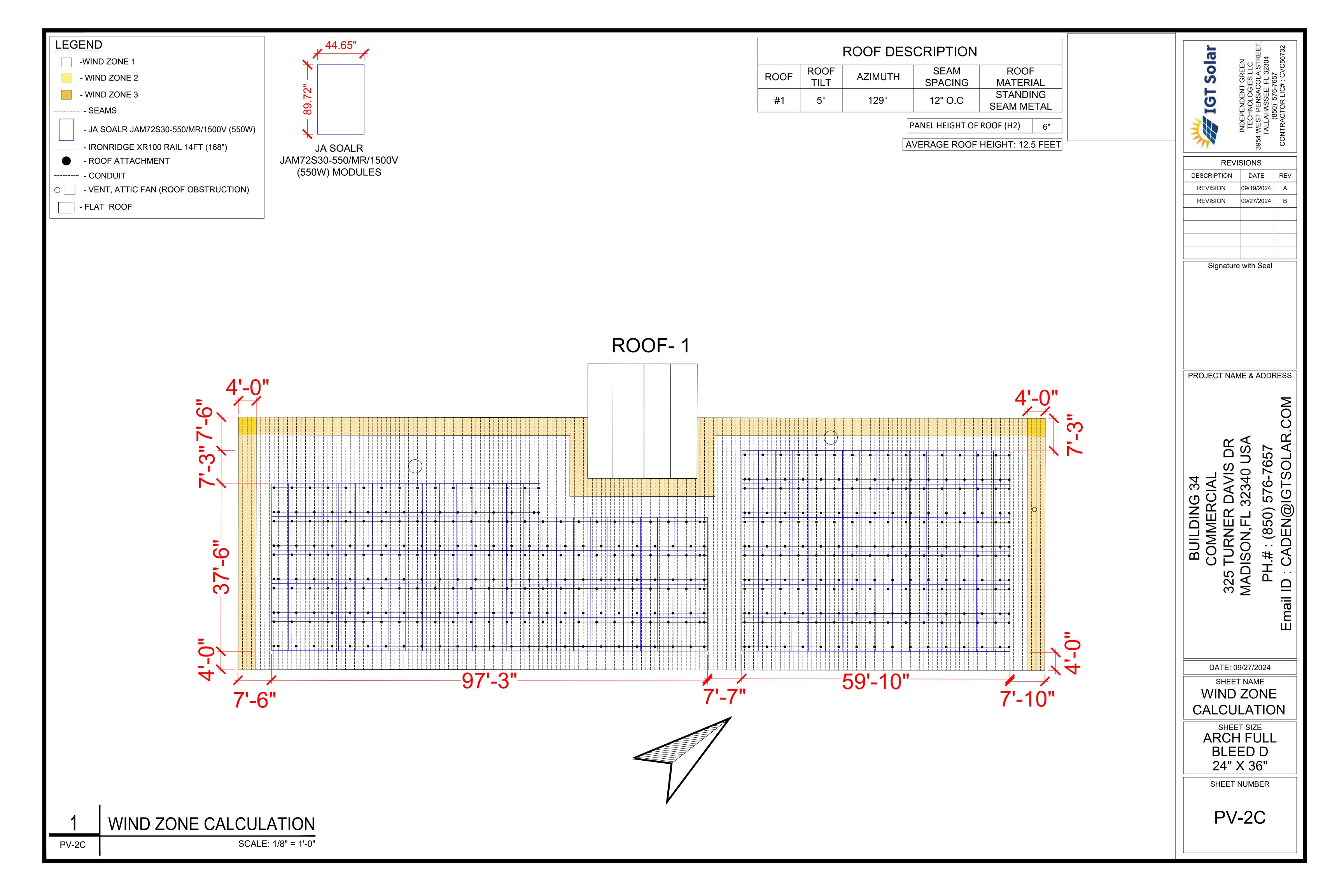
PV-2A

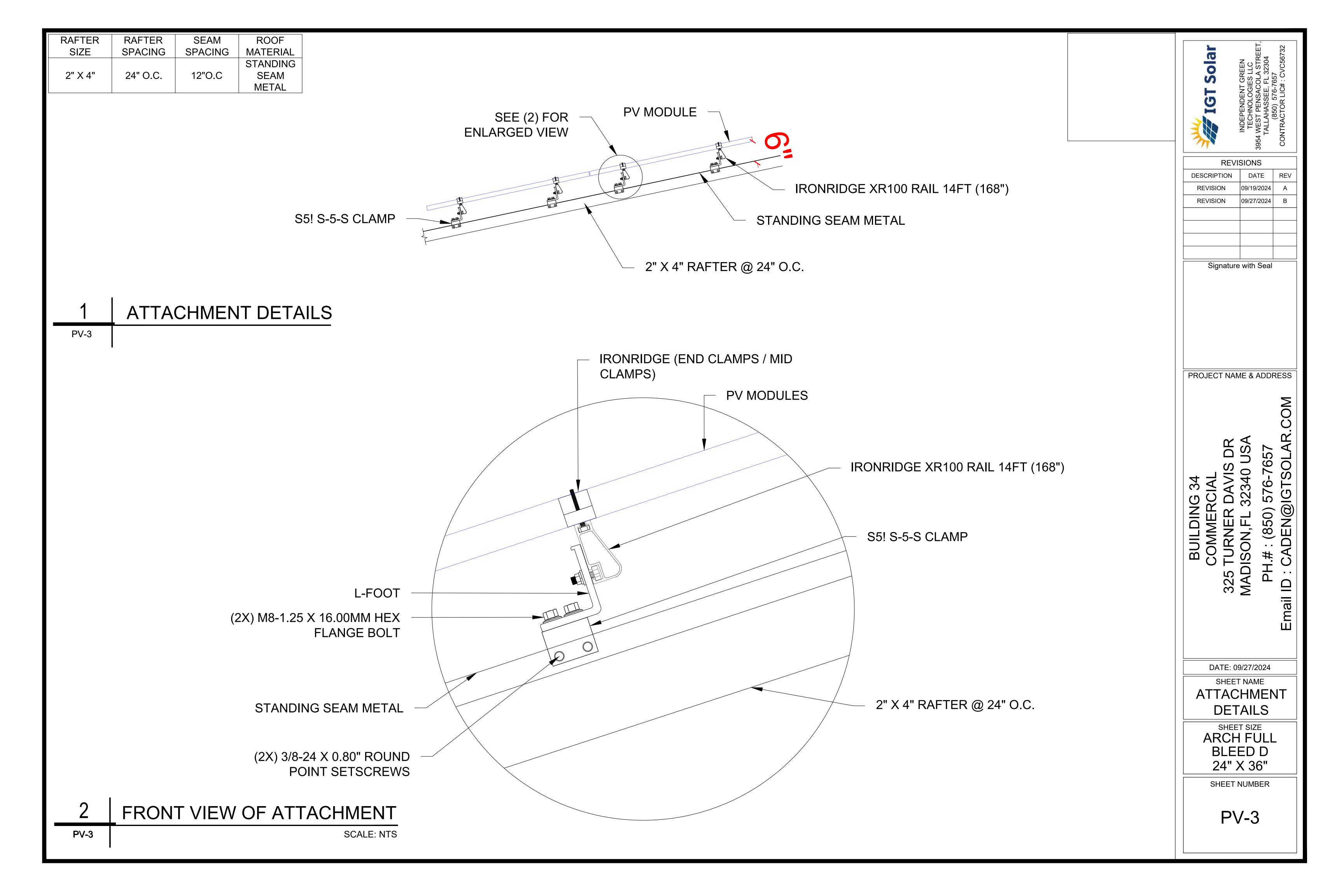
STRING LAYOUT & BOM

PV-2A

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







ID	TYPICAL	INITIAL CONDUCTOR LOCATION	FINAL CONDUCTOR LOCATION	CONDUCTOR	CONDUIT	NO# OF CIRCUITS	CURRENT-CARRYI NG CONDUCTORS IN CONDUIT		OCPD	EGC	TEMP. CORR. FACTOR	CONDUIT CONT. FILL FACTOR CURREN	MAX. T CURRENT	BASE AMP.	DERATED AMP.	WIRE AMP. TEMP. RATING	LENGT H	VOLTAG E DROP
1	6	ARRAY	INVERTER #1	10 AWG PV WIRE COPPER	MIN 1" Dia EMT	6	12	33.62%	N/A	8 AWG 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

216 JA SOALR JAM72S30-550/MR/1500V (550W) MODULES

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

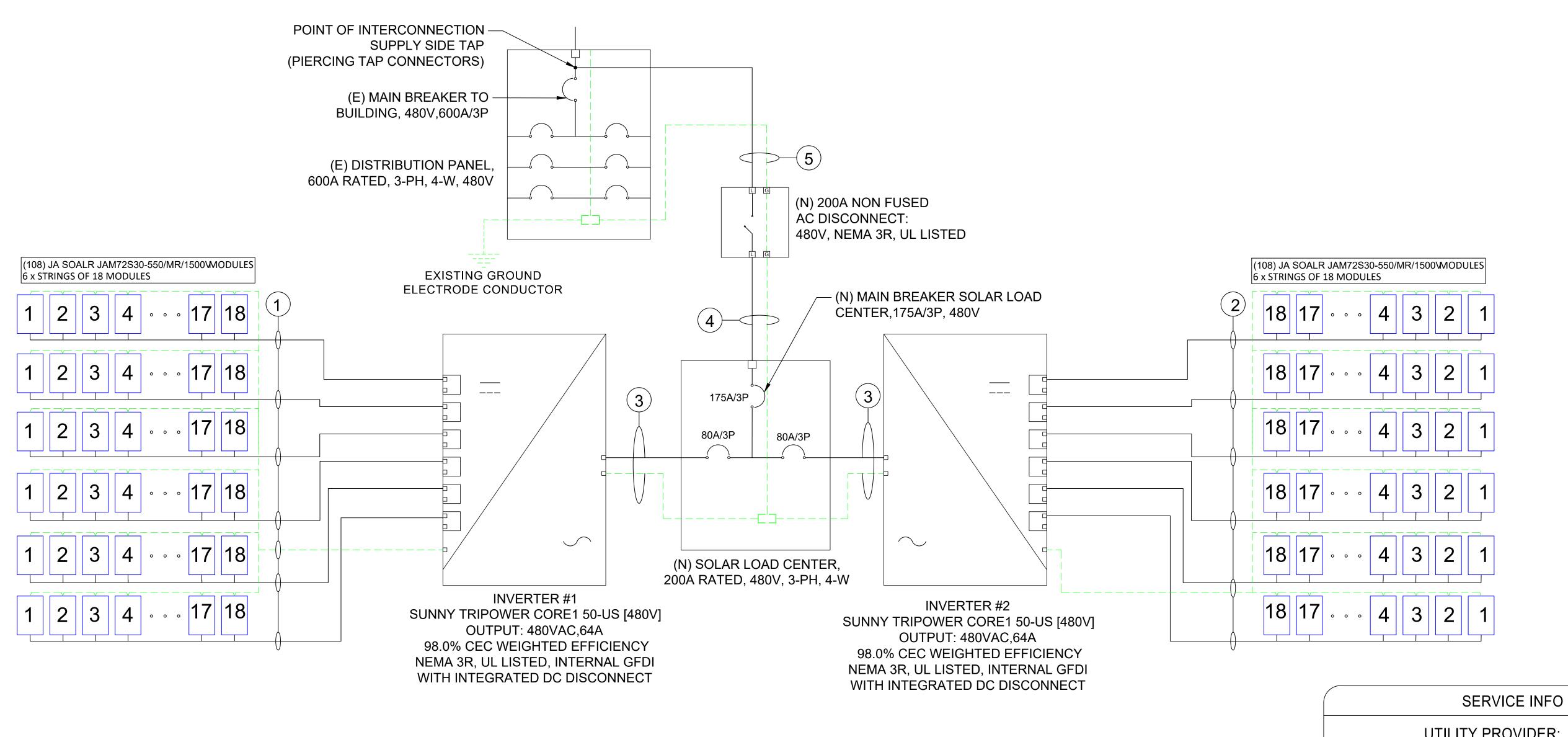
01 200A NON FUSED AC DISCONNECT,480V, NEMA 3R, UL LISTED

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

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.



ELECTRICAL LINE DIAGRAM & CALS.

PV-4

SCALE: NTS

SYSTEM RATING

118.80 KWDC

100.00 KWAC

109.65 CEC KWAC

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

IGT Solar

INDEPENDENT GREEN
TECHNOLOGIES LLC
3954 WEST PENSACOLA STRE
TALLAHASSEE, FL 32304
(850) 576-7657
CONTRACTOR LIC#: CVC5673

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

DATE: 09/27/2024

SHEET NAME

ELECTRICAL LINE DIAGRAM & CALS.

SHEET SIZE ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

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

IGT Solar

INDEPENDENT GREEN
TECHNOLOGIES LLC
3954 WEST PENSACOLA STREE
TALLAHASSEE, FL 32304
(850) 576-7657
CONTRACTOR LIC#: CVC5673

REVISIONS						
DESCRIPTION	DATE	REV				
REVISION	09/19/2024	Α				
REVISION	09/27/2024	В				

Signature with Seal

PROJECT NAME & ADDRESS

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

DATE: 09/27/2024

SHEET NAME

SPECIFICATIONS & NOTES

SHEET SIZE ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

PV-4A



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)

THE OPEN POSITION. DO NOT RELOCATE OR CUT

2 Conduit

FROM AC DISCONNECT TO TAP LOCATION

WARNING

RACEWAY IS ENERGIZED WHENIN

! WARNING

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

CODE: PER NEC 690.13(B)

Junction Box
Scale: NTS

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)

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

WARNING

ELECTRIC SHOCK HAZARD

TERMINALS ON BOTH LINE AND

LOAD SIDES MAY BE ENERGIZED

WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

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

! WARNING

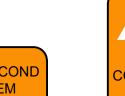
TURN OFF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

CODE: PER NEC 690.13(B)

IN THE OPEN POSITION DC VOLTAGE IS ALWAYS PRESENT

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

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 DNNECTION. DO NOT RELOCAT

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)

IN THE OPEN POSITION

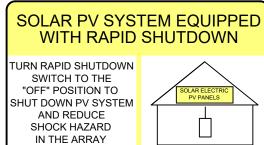
CODE: PER NEC 706.15(C)(4) and NEC 690.13(B)

! WARNING WARNING **ELECTRIC SHOCK HAZARD**

SINGLE 120-VOLT SUPPLY TERMINALS ON BOTH LINE AND DO NOT CONNECT LOAD SIDES MAY BE ENERGIZED MULTI WIRE BRANCH CIRCUITS

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

SOLAR 128A AT 480V UTILITY GRID 600A AT 480V CODE: PER NEC 690.54



PANEL BOARD ENERGIES FROM

TWO SOURCES OF AC POWER

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

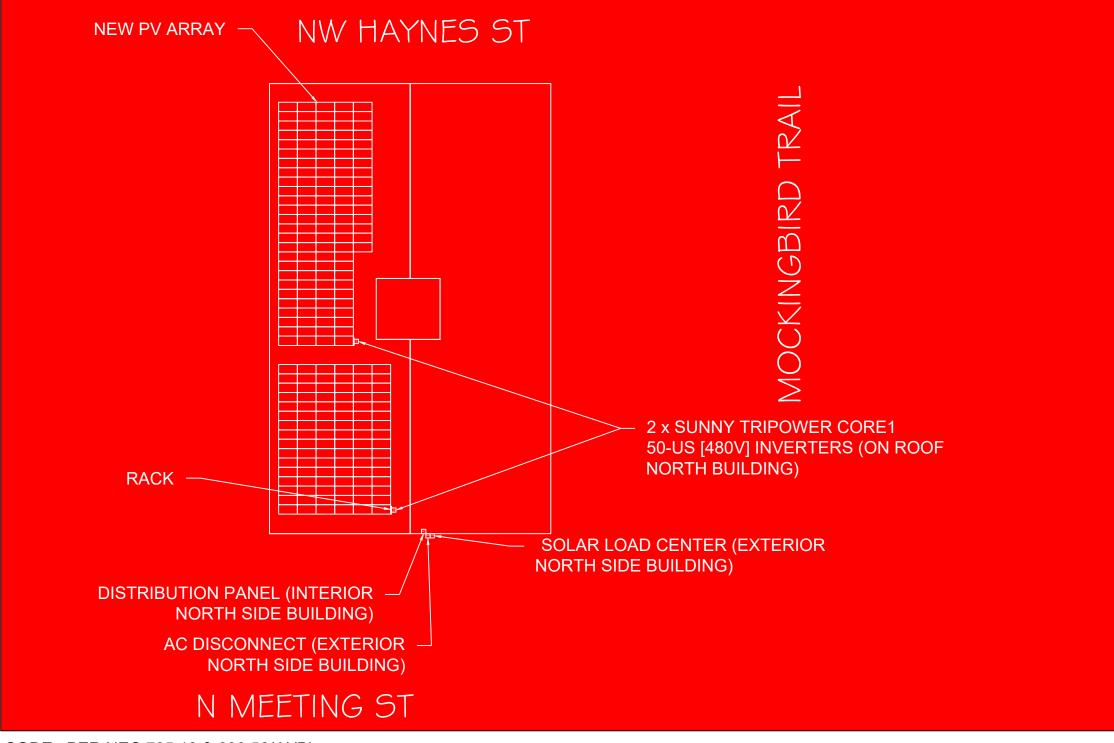
MAIN PHOTOVOLTAIC SYSTEM DISCONNECT

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)

CAUTION!

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



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.

REVISIONS DESCRIPTION DATE REV REVISION 09/19/2024 REVISION 09/27/2024 Signature with Seal

PROJECT NAME & ADDRESS

:: (850) 576-76 \DEN@IGTSO

DATE: 09/27/2024

SHEET NAME

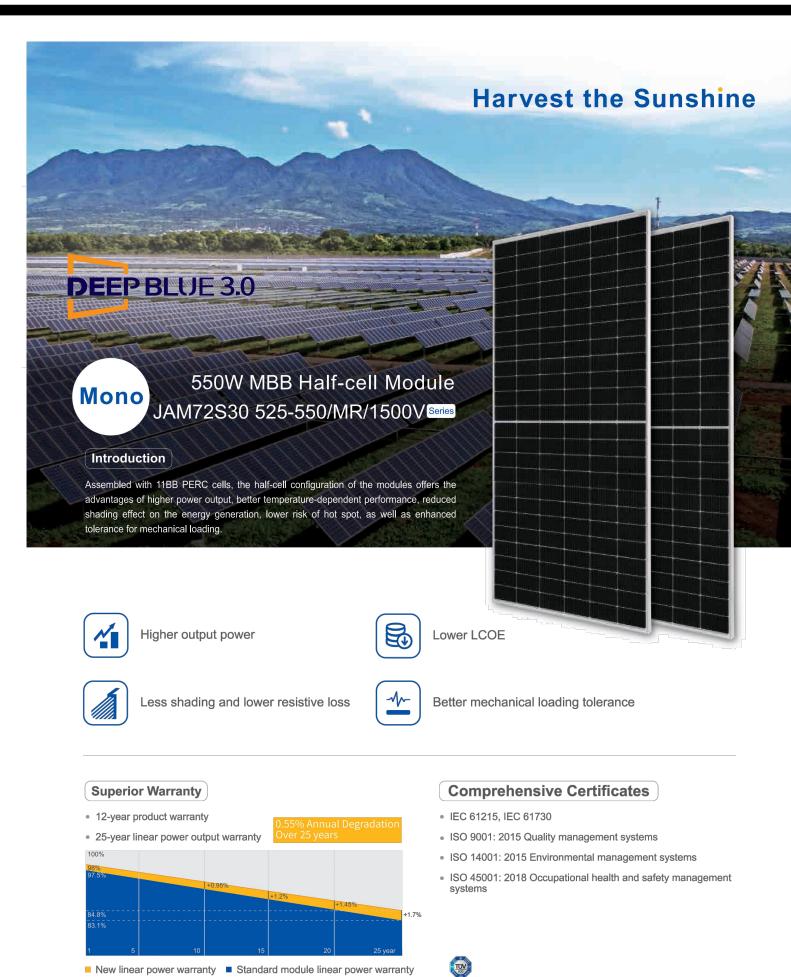
SIGNAGE & WARNING LABEL

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

SHEET NUMBER

PV-5

6 Main Distribution Board
Scale: NTS



JA SOLAR





Premium Cells, Premium Modules

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US



• Innovative design requires no Multiple power ratings for small • Integrated SunSpec PLC signal Advanced smart inverter grid support additional racking for rooftop to large scale commercial PV for module-level rapid shutdown compliance to 2017 NEC Increased ROI with SMA ennexOS cross Next-gen DC AFCI arc-fault Integrated DC and AC disconnects Six MPP trackers for flexible stringing sector energy management platform and overvoltage protection and maximum power production protection certified to new SMA Smart Connected proactive O&M 12 direct string inputs for reduced OptiTrac™ Global Peak shade Standard UL 1699B solution reduces time spent diagnosing and labor and material costs servicing in the field tolerant MPP tracking

SUNNY TRIPOWER CORE1 33-US / 50-US / 62-US

It stands on its own

The Sunny Tripower CORE1 is the world's first free-standing PV inverter for commercial rooftops, carports, ground mount and repowering legacy solar projects. Now with expanded features and new power classes, the CORE1 is the most versatile, costeffective commercial solution available. From distribution to construction to operation, the Sunny Tripower CORE1 enables logistical, material, labor and service cost reductions. Integrated SunSpec PLC for rapid shutdown and enhanced DC AFCI arc-fault protection ensure compliance to the latest safety codes and standards. With Sunny Tripower CORE1 and SMA's ennexOS cross sector energy management platform, system integrators can deliver comprehensive commercial energy solutions for increased ROI.

www.SMA-America.com

JA SOLAR JAM72S30 525-550/MR/1500V Series **MECHANICAL DIAGRAMS SPECIFICATIONS** Mono 28.6kg±3% 2279±2mm×1134±2mm×35±1mm Cable Cross Section Size 4mm² (IEC) , 12 AWG(UL) No. of cells 144(6×24) Grounding Holes / 10 Places IP68, 3 diodes Junction Box Genuine MC4-EVO2 QC 4.10-35/45 Mounting Holes 8 Places Portrait: 300mm(+)/400mm(-); (Including Connector) Landscape: 1300mm(+)/1300mm(-) **ELECTRICAL PARAMETERS AT STC** 49.90 49.45 49.75 Open Circuit Voltage(Voc) [V] 41.96 Maximum Power Voltage(Vmp) [V] 14.00 13.79 Short Circuit Current(Isc) [A] Maximum Power Current(Imp) [A] 21.3 Module Efficiency [%] Power Tolerance Temperature Coefficient of Isc(α_Isc) +0.045%°C Temperature Coefficient of Voc(β_Voc) -0.275%/°C Temperature Coefficient of Pmax(γ_Pmp) -0.350%/°C Irradiance 1000W/m², cell temperature 25°C, AM1.5G Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types Measurement tolerance at STC: Pmax ±3 %, Voc ±3% and Isc ±4%. **ELECTRICAL PARAMETERS AT NOCT** JAM72S30-525 JAM72S30-535 JAM72S30-535 JAM72S30-540 JAM72S30-545 JAM72S30-550 JAM72S30-550 JAM72S30-540 JAM72S30-550 JAM72S30-545 JAM72S30-550 JAM72S30-550 JAM72S30-550 JAM72S30-550 JAM72S30-550 JAM72S30-540 JAM72S30-540 JAM72S30-550 JAM72 Open Circuit Voltage(Voc) [V] 46.05 46.18 46.31 46.43 46.55 46.68 Maximum Series Fuse Rating 25A Short Circuit Current(Isc) [A] 10.97 11.01 11.05 11.09 11.13 11.17 NOCT 45±2℃ Max Power Current(Imp) [A] 10.35 10.39 10.43 10.47 10.51 10.55 Safety Class Irradiance 800W/m², ambient temperature 20°C, wind speed 1m/s, AM1.5G Fire Performance *For NexTracker installations, Maximum Static Load, Front is 2000Pa while Maximum Static Load, Back is 2000Pa. CHARACTERISTICS Current-Voltage Curve JAM72S30-540/MR/1500V Current-Voltage Curve JAM72S30-540/MR/1500

Technical data*	Sunny Tripower CORE1 33-US	Sunny Tripower CORE1 50-US	Sunny Tripower CORE1 62-US			
Input (DC)						
Maximum array power	50000 Wp STC	75000 Wp STC	93750 Wp STC			
Maximum system voltage		1000 V	·			
Rated MPP voltage range	330 V 800 V	500 V 800 V	550 V 800 V			
MPPT operating voltage range		150 V 1000 V				
Minimum DC voltage / start voltage		150 V / 188 V				
MPP trackers / strings per MPP input		6/2				
Maximum operating input current/per MPP tracker		120 A / 20 A				
Maximum short circuit current per MPPT / per string input		30 A / 30 A				
Output (AC)						
AC nominal power	33300 W	50000 W	62500 W			
Maximum apparent power Output phases/line connections	33300 VA	50000 VA 3/3-(N)-PE	66000 VA			
Nominal AC voltage		480 V / 277 V WYE				
AC voltage range		244 V 305 V				
Maximum output current	40 A	64 A	79.5 A			
Rated grid frequency		60 Hz				
Grid frequency/range		50 Hz, 60 Hz/-6 Hz+6Hz				
Power factor at rated power/adjustable displacement		1 / 0.0 leading 0.0 lagging				
Harmonics THD		<3%				
Efficiency						
CEC efficiency (preliminary)	97.5%	98%	98%			
Protection and safety features						
Load rated DC disconnect		•				
Load rated AC disconnect		•				
Ground fault monitoring: Riso / Differential current		●/●				
DC AFCI arc-fault protection		•				
SunSpec PLC signal for rapid shutdown		•				
DC reverse polarity protection		•				
AC short circuit protection		•				
DC surge protection: Type 2 / Type 1+2		0/0				
AC surge protection: Type 2 / Type 1+2		0/0 I/IV				
Protection class/overvoltage category (as per UL 840)		1/10				
General data	401	(=0.0 (5.40 (0.4.4.) 0.00.4.	00 (.)			
Device dimensions (W/H/D)	621 mm/	733 mm/569 mm (24.4 in x 28.8 in	x 22.4 in)			
Device weight		84 kg (185 lbs) -25 °C+60 °C (-13 °F+140 °F)				
Operating temperature range Storage temperature range		, ,				
Audible noise emissions (full power @ 1m and 25 °C)	-40 °C+70 °C (-40 °F+158 °F) 65 dB(A)					
Internal consumption at night		5 W				
Topology	3 vv Transformerless					
Cooling Concept	OptiCool (forced convection, variable speed fans)					
Enclosure protection rating	Type 4X, 3SX (as per UL 50E)					
Maximum permissible relative humidity (non-condensing)		100%				
Additional information						
Mounting	Fi	ree-standing with included mounting fe	et			
DC connection		Amphenol UTX PV connectors				
AC connection	Scre	ew terminals - 4 AWG to 4/0 AWG CU	J/AL			
LED indicators (Status / Fault / Communication)		•				
Network interfaces: Ethernet/WLAN/RS485		(2 ports)/ ● / ○				
Data protocols: SMA Modbus/SunSpec Modbus/Webconnect		●/●/●				
Multifunction relay OptiTrac Global Peak (shade-tolerant MPP tracking)		•				
OptiTrac Global Peak (shade-tolerant MPP tracking) Integrated Plant Control/Q on Demand 24/7		• / •				
Off-Grid capable / SMA Fuel Save Controller compatible		●/●				
SMA Smart Connected (proactive monitoring and service support)		•				
Certifications (pending as of June 2018)		•				
Certifications and approvals	111 1741 111 140	9B, UL 1998, IEEE 1547, CAN/CSA-C	22.2 No. 42100			
FCC compliance	UL 1741, UL 189	FCC Part 15 Class A	.22.2 100. 82109			
Grid interconnection standards	ll .		(H			
Advanced grid support capabilities	UL 1741 SA - CA Rule 21, HECO Rule 14H L/HFRT, L/HVRT, Volt-VAr, Volt-Watt, Frequency-Watt, Ramp Rate Control, Fixed Power Factor					
Warranty	,, -,,	, , , , , , , , , , , , , , , , , , , ,	,			
Standard		10 years				
Optional extensions		15 / 20 years				
O Optional features Standard features - Not available	* Preliminary data as of June 20					
Type designation	STP33-US-41	STP50-US-41	STP62-US-41			
Accessories						
SMA Data Manager M EDMM-US-10 SMA Sensor Module MD.SEN-US-40	Univers. UMS_K	IT-10 A	NC Surge Protection Module Kit NC_SPD_KIT1-10, AC_SPD_KIT2_T1T2			
			DC Surge Protection Module Kit DC_SPD_KIT4-10, DC_SPD_KIT5_T1T2			

Version No. : Global_EN_20210607

REVISIONS										
DESCRIPTION	DATE	REV								
REVISION	09/19/2024	Α								
REVISION	09/27/2024	В								

Signature with Seal

PROJECT NAME & ADDRESS

-9/5 (850)

DATE: 09/27/2024

SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE ARCH FULL BLEED D 24" X 36"

SHEET NUMBER



EASY-TAP™ INSULATION PIERCING CONNECTORS IPCS SERIES

No need to strip wire

No tape or cover needed

• Can be installed on energized connectors

No spacer required between connections

• "Turbo spacer" keeps tabs open during tightening

Watertight and corrosion-freeConnectors handle a large wire range

(#14 AWG-750 MCM)Double shear-head bolts ensure a perfe

Double shear-head bolts ensure a perfect connection every time

Use as a splice or tap No special tools required

For any combination of copper and/or aluminum wires
Suitable for solid and/or stranded wires

• Four sizes approved for use with bare wire (4/0 to #10)

Blue insert re-creates insulation to avoid conductorUL486B Listed

Meets ANSI C119.4 requirements

• 600 V, 90° C Rated

CATALOG NUMBER	UPC CODE	CONDUCTOR RANGE		CURREN	T RATING	DIN	MENSIONS (IN)	NO. OF BOLTS	CARTON QTY.	SHIPPING WT. LB/100	
		MAIN AWG	TAP AWG	CU AMP	AL AMP	HEIGHT	WIDTH	LENGTH				
IPCS2001*	08260	2/0-4	10-14	55	40	3	1.8	2.2	1	6	.23	
IPCS7501	08261	750-3/0	10-14	55	40	3.7	2.4	2.6	1	6	.35	
IPCS1002	08262	1/0-8	2-10	190	150	3.1	1.8	2.2	1	6	.30	
IPCS1010	08263	1/0-8	1/0-8	190	150	3.1	1.8	2.2	1	6	.30	
IPCS4002*	08264	4/0-3	2-10	190	150	3.1	1.8	2.2	1	6	.26	
IPCS4020	08265	4/0-2	2/0-6	300	235	3.3	2.2	2.6	1	4	.41	
IPCS4040	08266	4/0-2	4/0-4	405	315	3.3	2.4	3.5	1	4	.43	
IPCS2540**	08272	250-1	4/0-4	405	315	3.5	2.2	2.6	1	4	.56	
IPCS3535**	08267	350-1/0	350-1/0	570	445	4.5	3	3.9	2	2	1.11	
IPCS5040**	08268	500-2/0	4/0-4	405	315	4.5	3	3.9	2	2	1.16	
IPCS5035**	08269	500-4/0	350-1/0	570	445	4.5	3	3.9	2	2	1.11	
IPCS7550**	08270	750-250	500-250	700	545	4.7	3.3	4.3	2	2	1.66	

*Cannot be used with bare wire or as a splice

**Cannot be used with bare wire

All sizes can be installed on an energized main conductor

anot be used with pare wire All sizes can be installed on an energized main conductor when the tap is not under load Not recommended for use with extra-flexible cables

Not recommended for use with extra-flexible on Not approved for submersible applications

NSI_Electrical_Insulation_Piercing_0422

©2022 NSI Industries







SKU: PBTD-2-3/0 **UPC:** 0783669077629

Features & Benefits:

Description:Nimbus Insulated Aluminum Multi-Tap Connector, Conductor Range 3/0-6, 2 Ports, Dual Sided Entry, Tin Plated, UL, CSA

Specs

Iditional Class Attributes	
Connection	Mechanical
Contains DE-OX®	Yes
Number of Conductors	2
Number of Poles	1
Number of Ports / Wireways	2
Number of Usable Ports	2
Number of Usable Taps	2
Replacement Part(s)	PLUG-3/0

Dimensions	
Drive Size Main	1/4
Drive Type Main	Internal Hex
Height (IN)	1.863
Height BX (IN)	2.75
Height (mm)	47.3202
Length (IN)	1.79
Length (mm)	45.466
Max Insulation OD (IN)	0.62
Max Insulation OD (mm)	15.748
Weight (LB)	0.234
Weight BX (LB)	1.572
Width (IN)	1.965
Width BX (IN)	5
	10.011

Material and Finish		
Conductor Material	Aluminum	
Connector Finish	Tin	
Insulation	Plastisol	
Material	Aluminum	
Wire Binding Hardware Finish	Tin	
Wire Binding Hardware Material	Aluminum	

dultional Technical Specifications								
Conductor Type	Stranded							
	ILSCO 4730 MADISON ROAD CINCINNATI, OH 45227 513-533-6200 800-776-9775							



Number of Wire Binding Screws per Port	1
Wire Binding Screw Size	1/2
Wire Binding Torque	200
General	
Bag Quantity	1
Carton Quantity Description	STD PACK QTY 6
Dual Rated	Yes
NEMA Code	S-588-4
UPC Code	78366907762
esting Standards	
CSA File Number	LR-29601
CSA Standard	C22.2 No. 65-03
Prop65 Compliance	WARNING: Cancer and Reproductive Harm - www.P65warnings.ca.gov
UL Control Number	453G
UL / CULUS Specification UL File Number	UL 486A/B Listed E6207
Conductor Ranges	
Juliuuctui Naliues	
	NA
Conductor Range AL Solid (Secondary, tap, load)	NA 3/0 Str - 6 Str
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line)	NA 3/0 Str - 6 Str NA
Conductor Range AL Solid (Secondary, tap, load)	3/0 Str - 6 Str
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load)	3/0 Str - 6 Str NA NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line)	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load)	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line)	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range Voltage Voltage Rating	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range Voltage Voltage Color Cap Color Main	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA NA Black
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range Voltage Voltage Voltage Rating Color Cap Color Main Cap Color Tap Color	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA NA Black Black
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range Voltage Voltage Voltage Rating Color Cap Color Main Cap Color Tap	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA NA Black Black
Conductor Range AL Solid (Secondary, tap, load) Conductor Range AL Stranded (Primary, run, main, line) Conductor Range AL Stranded (Secondary, tap, load) Conductor Range CU Solid (Primary, run, main, line) Conductor Range CU Solid (Secondary, tap, load) Conductor Range CU Stranded (Primary, run, main, line) Conductor Range CU Stranded (Secondary, tap, load) Conductor Range AL Solid (Primary, run, main, line) Flex Conductor Range Voltage Voltage Voltage Rating Color Cap Color Main Cap Color Tap Color	3/0 Str - 6 Str NA NA NA 3/0 Str - 6 Str NA NA NA NA Black Black Black Black





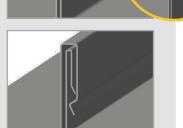
The **S-5-S** and **S-5-S Mini** clamps are each furnished with the hardware shown to the right. Each box also includes a bit tip for tightening setscrews using an electric screw gun. A structural aluminum attachment clamp, the S-5-S is compatible with most common metal roofing materials excluding copper. All included hardware is stainless steel. Please visit **www.S-5.com** for more information including CAD details, metallurgical compatibilities and

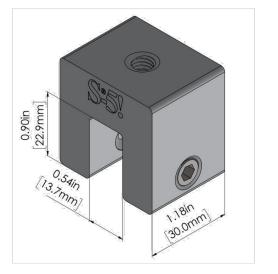
The S-5-S clamp has been tested for load-to-failure results on most major brands and profiles of standing seam roofing. The independent lab test data found at www.S-5.com can be used for load-critical designs and applications. S-5!® holding strength is unmatched in the industry. Profiles that are shaped as illustrated below will work with the S-5-S and S-5-S Mini. In order for the S-5-S or S-5-S Mini to fit these types of seams, the finished seam

• Be at least 1.00" high.

 Have a height distance less than or equal to 0.25" between the male portion of the panel and female portion of the panel.







Please note: All measurements are rounded to the second decimal place.

S-5!® Warning! Please use this product responsibly!

Products are protected by multiple U.S. and foreign patents. Visit the website at www.S-5.com for complete information on patents and trademarks. For maximum holding strength, setscrews should be tensioned and re-tensioned as the seam material compresses. Clamp setscrew tension should be verified using a calibrated torque wrench between 160 and 180 inch pounds when used on 22ga steel, and between 130 and 150 inch pounds for all other metals and thinner gauges of steel. Consult the S-5! website at www.S-5.com for published data regarding holding strength.

Copyright 2021 Metal Roof Innovations, Ltd. S-5! products are patent protected.
S-5! aggressively protects its patents, trademarks and copyrights. Version 081721.

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Distributed by

S-5-S Clamp

S-5-S Mini Clamp

M8-1.25 X 16.00 mm

Two 3/8-24 X 0.80"

Round-Point Setscrews

Hex Flange Bolt

IGT Sola

INDEPENDENT GREEN
TECHNOLOGIES LLC
3954 WEST PENSACOLA STREI
TALLAHASSEE, FL 32304
(850) 576-7657
CONTRACTOR LIC#: CVC5673

	က								
REVISIONS									
DESCRIPTION	DATE	REV							
REVISION	09/19/2024	Α							
REVISION	09/27/2024	В							

Signature with Seal

PROJECT NAME & ADDRESS

325 TURNER DAVIS DR MADISON,FL 32340 USA PH.#: (850) 576-7657

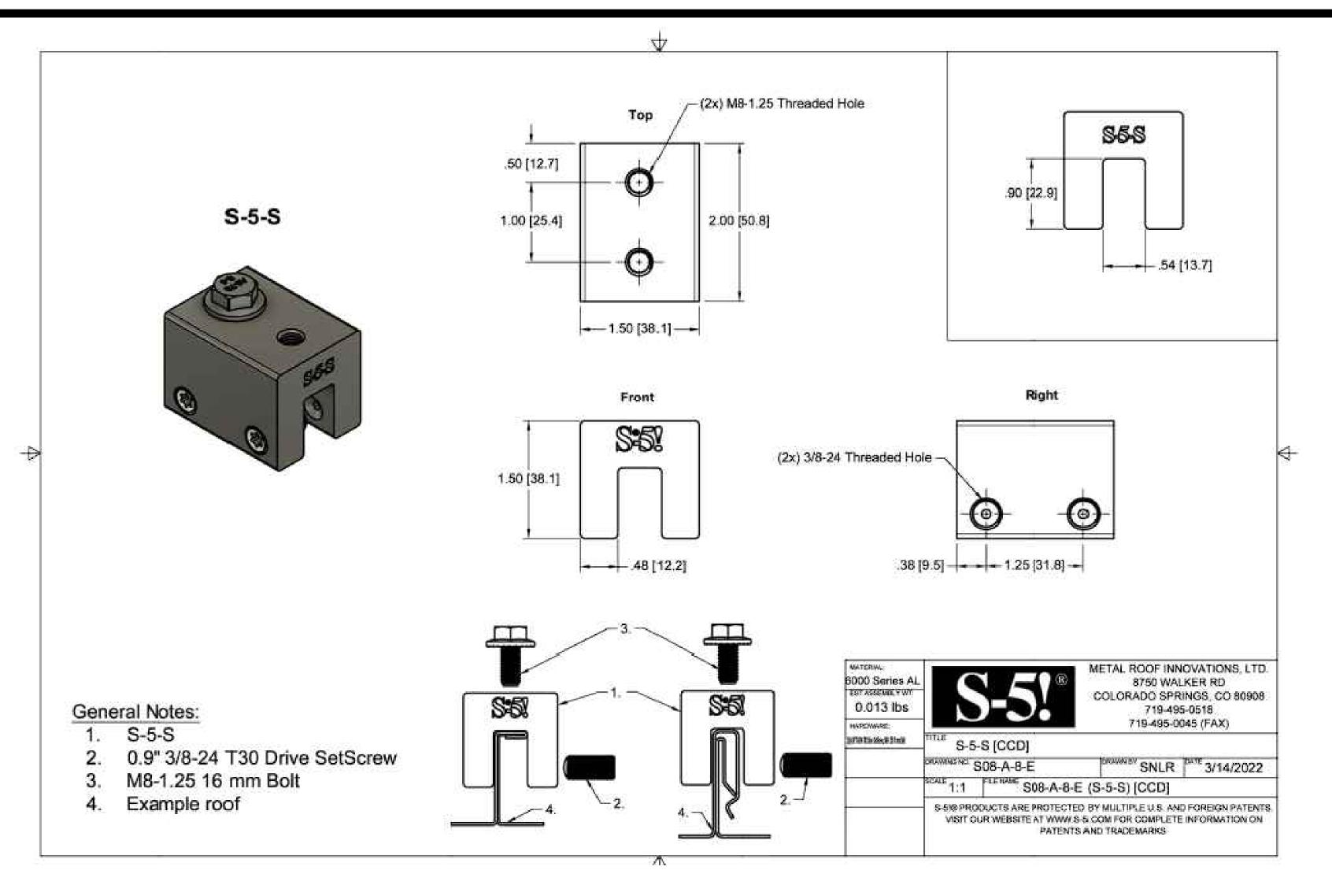
DATE: 09/27/2024

SHEET NAME

EQUIPMENT SPECIFICATION

ARCH FULL BLEED D 24" X 36"

SHEET NUMBER



Rai (R1												- DOIC		Flush		100				1 1 TO 1	The second second	odule			cape	mote.	illution	N.									
	ordered to						Expo	sure E	3										Expos	sure C						Exposure D											
22.00	Roof Slope							2000000	d Snow	: 0 psf		10 psf				osed Mod. Edge Mod.			Ground Snow: 0 ps				10 psf		Ехр	osed N	lod.	E	ige Mo	d.							
ph)	deg.)	Zone 1				Zone 2	Zone 3		1 Zone 2			Zone 2				Zone 3		30		Zone 1		1	Zone 1		3		Zone 2						Zone 2	Zone 3	Zone 1		Zone
5 -	8-20	130	118	105	110	110	105	112	_	92	82 96	72	72	118 129	96 104	84 96	110	96	96	86 101	73	65 74	72 80	58 64	45 59	104	85 96	75 86	104	85 96	75 86	78 91	72	56 66	73	48 58	38 48
-	21-27	128	128	115	103	103	103	119		96	92	84	75	124	111	99	103	103	99	97	88	78	77	72	64	112	101	90	103	101	90	88	80	72	72	65	58
	8-20	130	111	99	110	110	99	104		77	79	67	61	111	90	80	110	90	80	82	69	61	67	52	42	96	80	72	96	80	72	74	61	48	61	42	35
2	21-27	131	121	113	105	105	105	118	_	87	90	74	69	123	99	91	105	99	91	96	76	72	76	61	53	111	88	82	105	88	82	87	69	64	72	53	43
1.	28-45	128	126	113	103	103	103	113	102	90	88	80	72	118	106	96	103	103	96	92	84	74	73	67	60	107	96	85	103	96	85	83	76	67	66	64	52
	8-20	125	100	89	110	100	89	92	77	69	73	64	52	97	80	72	97	80	72	75	64	48	64	42	35	85	72	54	85	72	64	68	49	39	54	36	3(
	21-27	131	109	101	105	105	101	107	_	78	83	67	64	112	89	82	105	89	82	87	69	64	72	53	43	100	80	73	100	80	73	79	64	52	65	43	33
9//	28-45	126	116	103	103	103	103	103		82	80	74	66	108	97	86	103	97	86	84	77	67	67	64	53	97	88	77	97	88	77	75	69	61	61	56	43
_	8-20 21-27	124	91	92	110	91	81 92	97	72	72	68 77	54 64	43 56	86 102	73 81	65 74	86 102	73	65 74	69 80	52 64	39 53	55 66	36 44	30 35	79 92	66 73	57 66	79 92	66 73	57 66	73	40 52	40	48 60	32 37	25
	28-45	118	107	96	103	103	96	96	85	75	74	69	61	99	89	78	99	89	78	77	72	61	64	57	44	88	80	72	88	80	72	69	64	52	54	48	3
_	8-20	99	83	74	99	83	74	77		53	64	45	37	80	67	60	80	67	60	64	41	34	48	32	26	73	60	44	73	60	44	56	35	29	40	27	2
	21-27	114	91	84	105	91	84	90	72	65	72	57	48	96	74	67	96	74	67	74	56	41	61	38	30	85	66	61	85	66	61	67	42	32	54	32	2
1	28-45	109	99	87	103	99	87	87	79	69	69	64	57	91	82	72	91	82	72	72	64	54	57	49	37	82	74	65	82	74	65	64	58	41	45	40	3
_	8-20	88	76	68	88	76	68	72	-	42	59	39	32	74	61	48	74	61	48	59	36	30	42	28	24	67	48	38	67	48	38	48	30	25	35	24	1
	21-27	105	84	77	105	84	77	83	65	60	68	48	39	86	68	64	86	68	64	69	44	35	57	33	24	79	61	50	79	61	50	64	37	27	48	28	1
_	28-45 8-20	101	92 72	81	101 82	92 72	81 64	80 67	73	64 37	54 52	60 35	48	83 69	76 53	40	83 69	76 53	67 40	65 50	60 32	26	48	42	32 20	75 64	69	60	75	69 41	60	58 41	48	35	39	35 21	2
_	21-27	98	78	72	98	78	72	78	61	48	64	42	32	81	64	56	81	64	56	64	38	30	50	29	20	74	54	40	74	54	40	59	32	24	42	25	1
	28-45	96	86	76	96	86	76	74		60	60	54	41	78	72	64	78	72	64	60	52	37	41	37	27	72	64	53	72	64	53	48	40	30	35	32	2
_	8-20	80	68	60	80	68	60	64		35	49	33	27	67	48	38	67	48	38	48	30	25	35	24	19	61	38	32	61	38	32	38	25	21	29	19	16
	21-27	93	75	68	93	75	68	75	58	43	64	39	30	78	61	49	78	61	49	64	36	27	48	28	19	72	49	37	72	49	37	54	30	22	40	24	16
_	28-45	91	83	73	91	83	73	72	65	57	58	50	39	75	68	60	75	68	60	58	48	35	39	35	25	67	64	48	67	64	48	43	38	28	33	29	20
	8-20	77	.65	57	77	65	57	54		33	48	32	25	65	43	36	65	43	36	43	28	24	33	22	18	59	36	30	59	36	30	36	24	20	28	18	. 13
	21-27	90	72	66	90	72 80	66 72	73	53	40	60	37 48	28	76	59 66	44	76	59	44	60	34	26 32	44 37	26 33	18	69	44	35	69 65	44	35 44	51 40	29 36	20	37	22	15
-	28-45	* min 7	80 72" sna	72	88		64° span	69	64	52 min 4	54 8" span	Maria 1997 V	36	72	bb	58	72	66	58	52	43	34	3/	- 33	24	65	60	44	55	60	44	40	36	26 REV 01,	32		19
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	Fie	ure 2	8	a=	dimen	sion or	3 ft (0.9	m). I	ension o f an over imension	hang ex	ists, the	edge d	istance	shall be	measu	red from	m the or	itside o	dge of	the											_	$\overline{}$	Ţθ	2		$\overline{}$	ń.
	Figure 2: overhang. The horizontal dimensions used to compute the edge distance shall not include any overhang dimensions. B = Horizontal dimension of building measured normal to wind direction, ft (m), h = Mean roof height, in ft (m), except that eave height shall be used for θ ≤ 10°. θ = Angle of plane of roof from horizontal, degrees.									В																											
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IGT Solar

INDEPENDENT GREE
TECHNOLOGIES LLC
3954 WEST PENSACOLA STALLAHASSEE, FL 323
(850) 576-7657
CONTRACTOR LIC#: CVC

REVISIONS									
DESCRIPTION	DATE	REV							
REVISION	09/19/2024	Α							
REVISION	09/27/2024	В							

Signature with Seal

PROJECT NAME & ADDRESS

MADISON, FL 32340 USA PH.#: (850) 576-7657 Email ID: CADEN@IGTSOLAR.COM

DATE: 09/27/2024

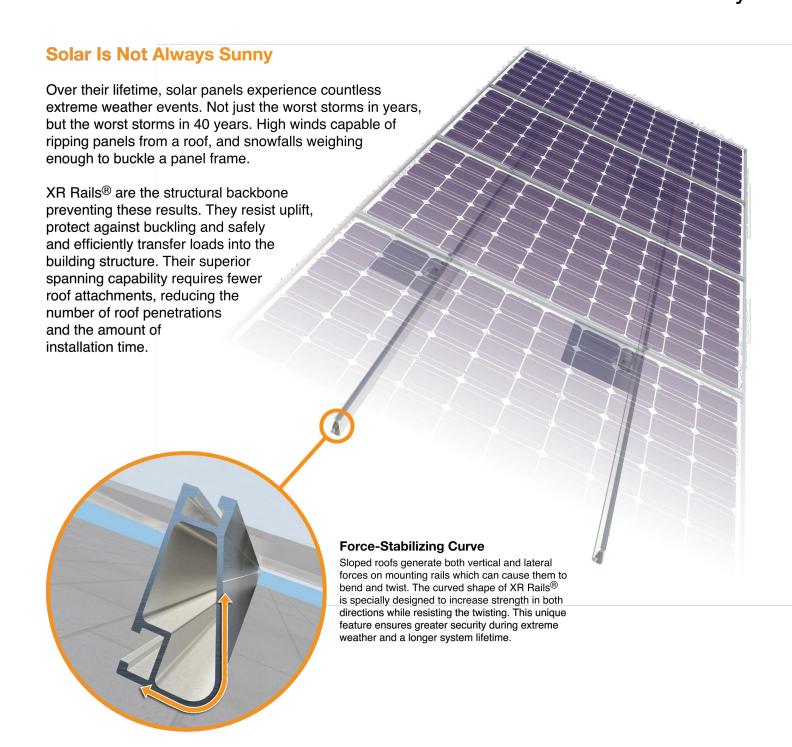
SHEET NAME

EQUIPMENT SPECIFICATION

SHEET SIZE ARCH FULL BLEED D 24" X 36"

SHEET NUMBER

XR Rail® Family



Compatible with Flat & Pitched Roofs

compatible with FlashFoot® and other pitched roof

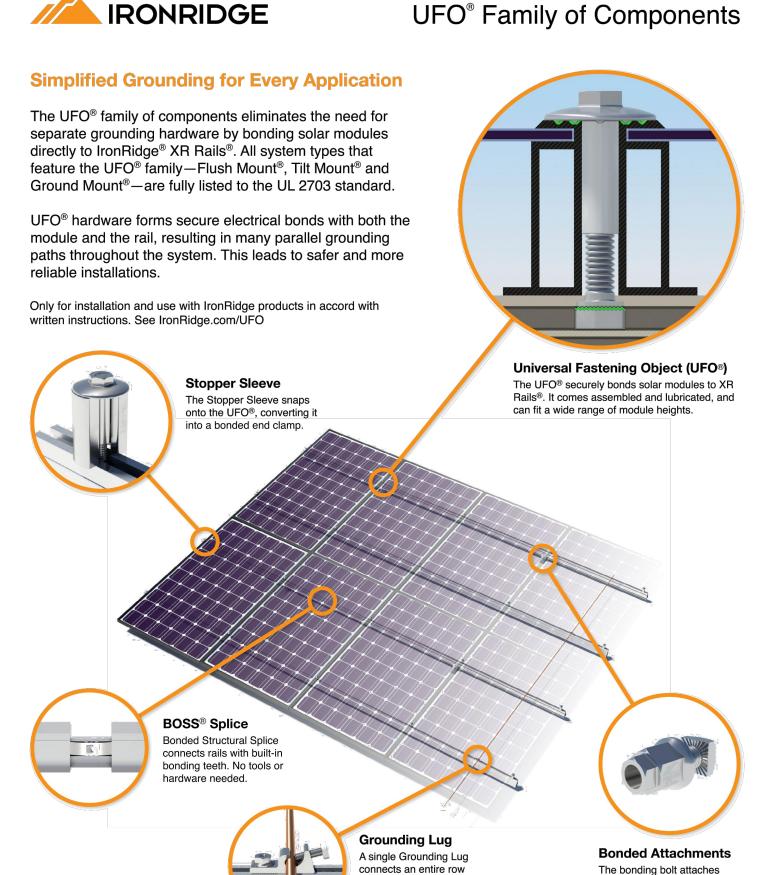
IronRidge® offers a range of tilt leg options for flat roof mounting applications.

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.

UFO® Family of Components

and bonds the L-foot® to the

rail. It is installed with the same socket as the rest of the



of PV modules to the

grounding conductor.

XR Rail[®] Family

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.



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 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

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

Internal splices available

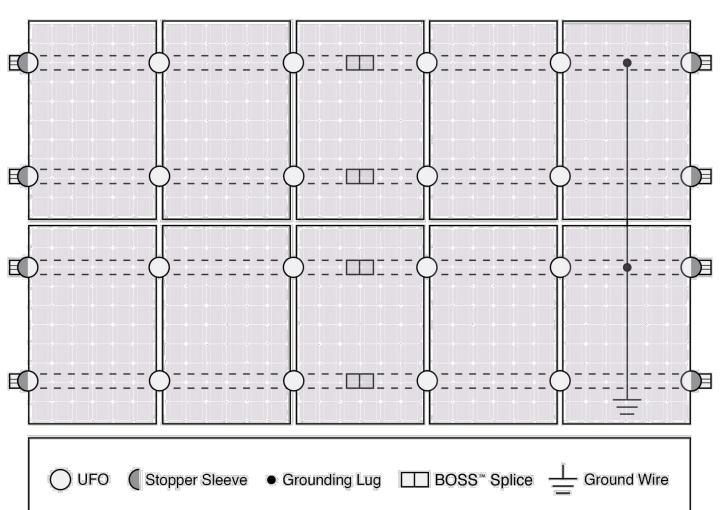
Clear & black anodized finish

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 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Lo	ad			Rail	Span		
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
	90						
Name	120						
None	140	XR10		XR100		XR1000	
	160						
	90						
00	120						
20	140						
	160						
30	90						
30	160						
40	90						
40	160						
80	160						
120	160						
	*Table is mear	nt to be a simplified sp	an chart for conveyin	g general rail capabilit	ies. Use approved ce	rtification letters for ac	tual design guidance.

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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	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.			

Cross-System Compatibility

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-toaluminum, aluminum-to-copper and copper-to-copper conductors on distribution and transmission lines.

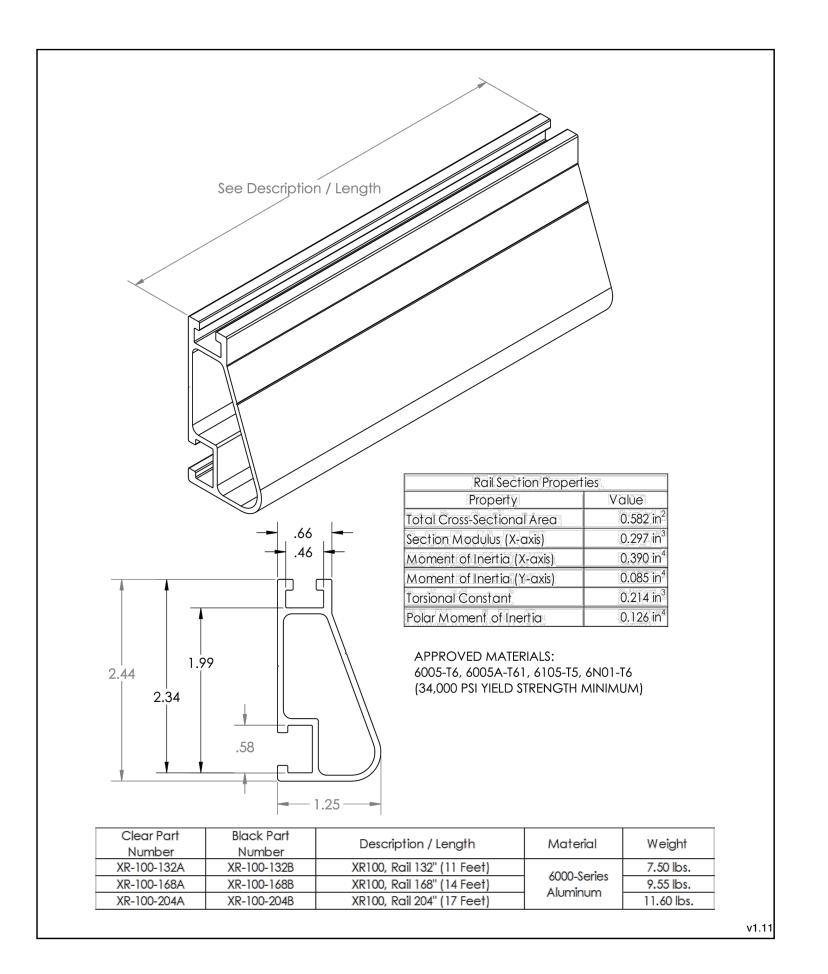
ANSI C119.5-2018

// IRONRIDGE

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

XR100[®] Rail



REVISIONS					
DESCRIPTION	DATE	REV			
REVISION	09/19/2024	Α			
REVISION	09/27/2024	В			

Signature with Seal

PROJECT NAME & ADDRESS

576 (850)

DATE: 09/27/2024

SHEET NAME

EQUIPMENT SPECIFICATION

> SHEET SIZE **ARCH FULL** BLEED D

SHEET NUMBER