

# PHOTOVOLTAIC GROUND MOUNT SYSTEM

10 MODULES-GROUND MOUNTED - 1.000 kWDC, 7.200 kWAC

595 SW INFINITY PL, LAKE CITY, FL 32024 USA

**PHOTOVOLTAIC SYSTEM SPECIFICATIONS:**

- (N) 10 - WERCHTAY SOLAR 250524005 (100W) MODULES
- (N) 01 - Y&H 7200W SOLAR HYBRID INVERTER
- (E) 200A METER MAIN PANEL WITH (E) 200A MAIN BREAKER
- (N) 60A NON-FUSED VISIBLE, LOCKABLE, LABELED AC DISCONNECT
- (N) 02 - HUMSIENK 48V 100Ah LiFePO4 BATTERIES
- (N) 01 - DC DISCONNECT
- (N) 125A SUB PANEL

**DESIGN CRITERIA:**

- SNOW LOAD :- 4 PSF
- WIND SPEED :- 120 MPH
- WIND EXPOSURE:- C
- EXPOSURE CATEGORY:- II

**GOVERNING CODES :**

- 2023 8TH EDITION FLORIDA BUILDING CODE : BUILDING
- 2023 8TH EDITION FLORIDA BUILDING CODE : RESIDENTIAL
- 2023 8TH EDITION FLORIDA BUILDING CODE : MECHANICAL
- 2023 8TH EDITION FLORIDA BUILDING CODE : PLUMBING
- 2023 8TH EDITION FLORIDA BUILDING CODE : FUEL GAS
- 2023 8TH EDITION FLORIDA BUILDING CODE : ENERGY CONSERVATION
- 2023 8TH EDITION FLORIDA BUILDING CODE : EXISTING BUILDING
- 2023 8TH EDITION FLORIDA BUILDING CODE : ACCESSIBILITY
- 2023 8TH EDITION FLORIDA FIRE PREVENTION CODE (NFPA)
- 2020 NATIONAL ELECTRIC CODE (NEC) (NFPA70)

**SHEET INDEX**

- PV-0 COVER SHEET
- PV-1 SITE PLAN WITH GROUND MOUNT PLAN
- PV-2 GROUND MOUNT PLAN WITH MODULES
- PV-2.1 ARRAY PLAN WITH MODULES
- PV-2.2 ELECTRICAL EQUIPMENT ELEVATION
- PV-3 ATTACHMENT DETAILS
- PV-4 ELECTRICAL LINE DIAGRAM WITH CALCULATION
- PV-5 WARNING LABELS & PLACARD
- PV-6+ SPEC SHEETS

**GENERAL NOTES**

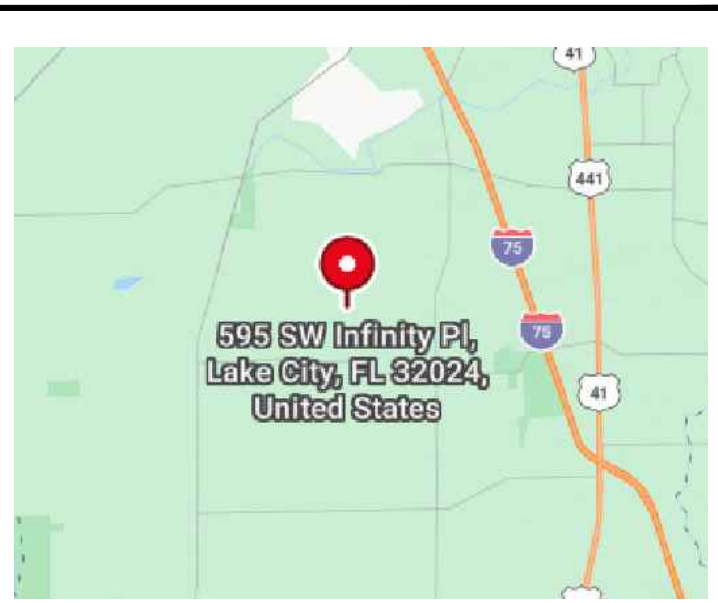
- THE CONTRACTOR/INSTALLER OF THE SOLAR PV SYSTEM OVER EXISTING GROUND SHALL CONFORM TO OSHA REQUIREMENTS DURING THE CONSTRUCTION PHASE. JOB SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR/INSTALLER.
- REFER TO ELECTRICAL DRAWING PV-4 FOR PANEL DETAILED INFORMATION.
- IN CASE OF CONFLICT BETWEEN STRUCTURAL DRAWINGS AND ELECTRICAL DRAWINGS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- THE CONTRACTOR/INSTALLER SHALL VERIFY ALL EXISTING BUILDING INFORMATION SHOWN (DIMENSIONS, GROUND MOUNTED PROJECTIONS, ETC.) AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO INSTALLATIONS OF PV SYSTEM.
- THE CONTRACTOR/INSTALLER SHALL VERIFY AND COORDINATE EXISTING OPENINGS, GROUND MOUNTED UNITS ETC. SHOWN ON DRAWINGS. IF THERE IS A DISCREPANCY BETWEEN DRAWINGS, IT IS THE CONTRACTORS/INSTALLER'S RESPONSIBILITY TO NOTIFY ENGINEER PRIOR TO PERFORMING THE WORK.
- ALL CONSTRUCTION IS TO BE PERFORMED IN STRICT CONFORMANCE WITH ALL APPLICABLE TOWN, COUNTY & STATE REGULATIONS AND/OR ANY OTHER GOVERNING BODIES.
- DO NOT SCALE THESE DRAWINGS, USE DIMENSIONS. CONTRACTOR MUST CONDUCT GROUND SURVEY TO VERIFY DIMENSIONS SHOWN ON PLAN PRIOR TO INSTALLATION. IF THERE IS A DISCREPANCY IT IS CONTRACTOR/INSTALLER'S RESPONSIBILITY TO NOTIFY THE ENGINEER IMMEDIATELY.

**ELECTRICAL NOTES**

- ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 & 75 DEGREE C WET ENVIRONMENT.
- WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION.
- MODULE SUPPORT RAIL TO BE BONDED TO CONTINUOUS COPPER E.G.C. VIA WEEB LUG OR ILSKO GBL-4DBT LAY-IN LUG.
- THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE



**1 AERIAL MAP**  
PV-0 SCALE: NTS



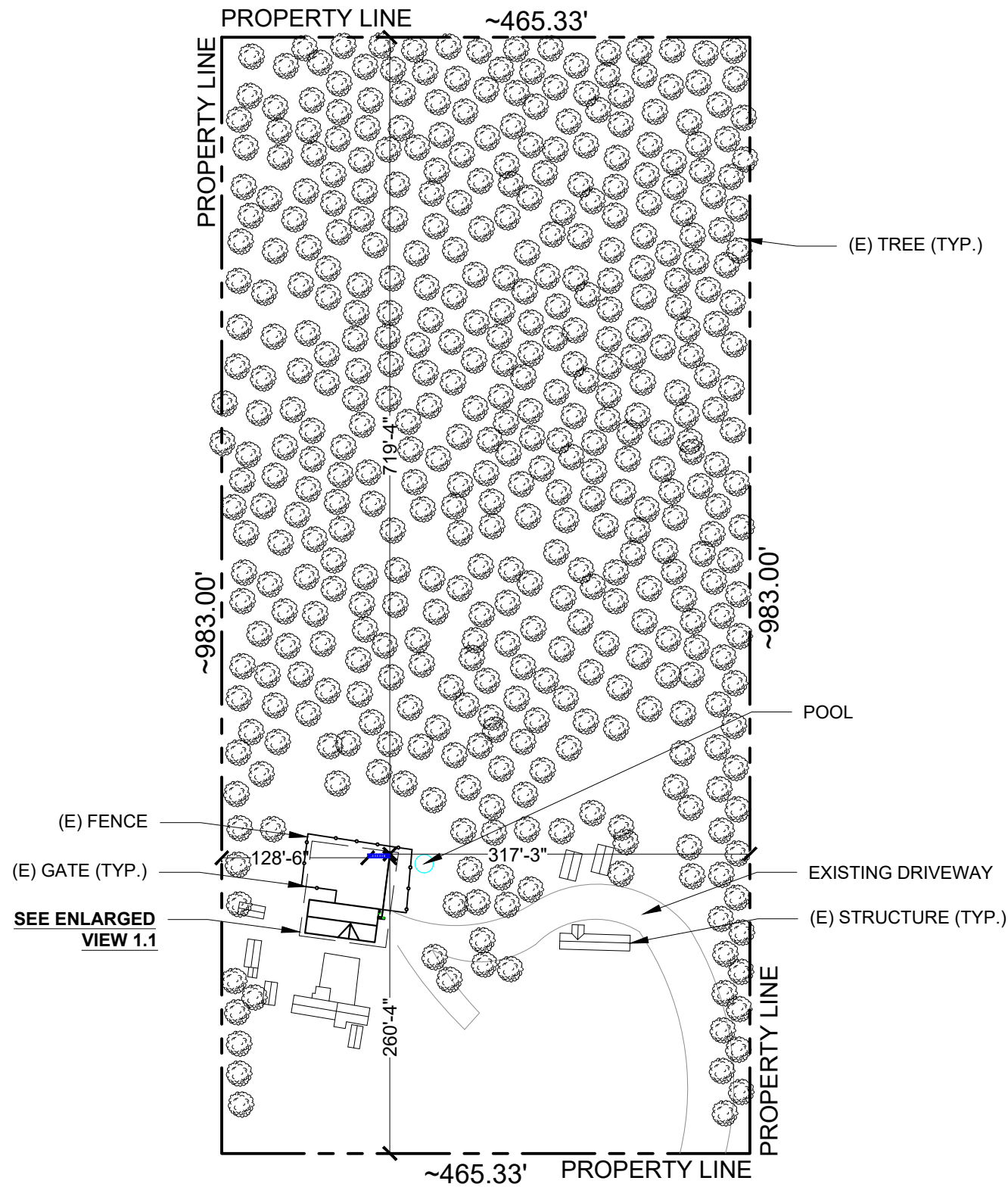
**2 VICINITY MAP**  
PV-0 SCALE: NTS



SIGNATURE WITH SEAL		<b>JOHN CORMIER</b>		SHEET NAME
		595 SW INFINITY PL, LAKE CITY, FL 32024 USA		<b>COVER SHEET</b>
		<b>APN: 245S1603707010</b>		SHEET SIZE
		<b>UTILITY: CLAY ELECTRIC</b>		<b>ANSI B</b>
		<b>AHJ: COUNTY OF COLUMBIA</b>		<b>11" X 17"</b>
		REVISIONS		
		DESCRIPTION	DATE	REV
		INITIAL PLAN	05/28/2026	V0
		SHEET NUMBER		
		<b>PV-0</b>		

**NOTE:**

A. ALL ELECTRICAL EQUIPMENT, INVERTERS, DISCONNECTS, MAIN SERVICE PANELS, ETC. SHALL NOT BE INSTALLED WITHIN 3' OF THE GAS METERS' SUPPLY OR DEMAND PIPING.



SW INFINITY PL

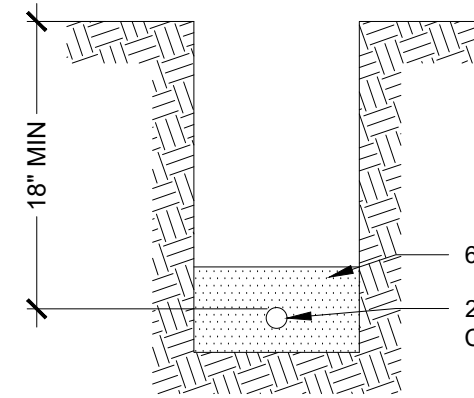
**1 SITE PLAN WITH GROUND MOUNT PLAN**

PV-1

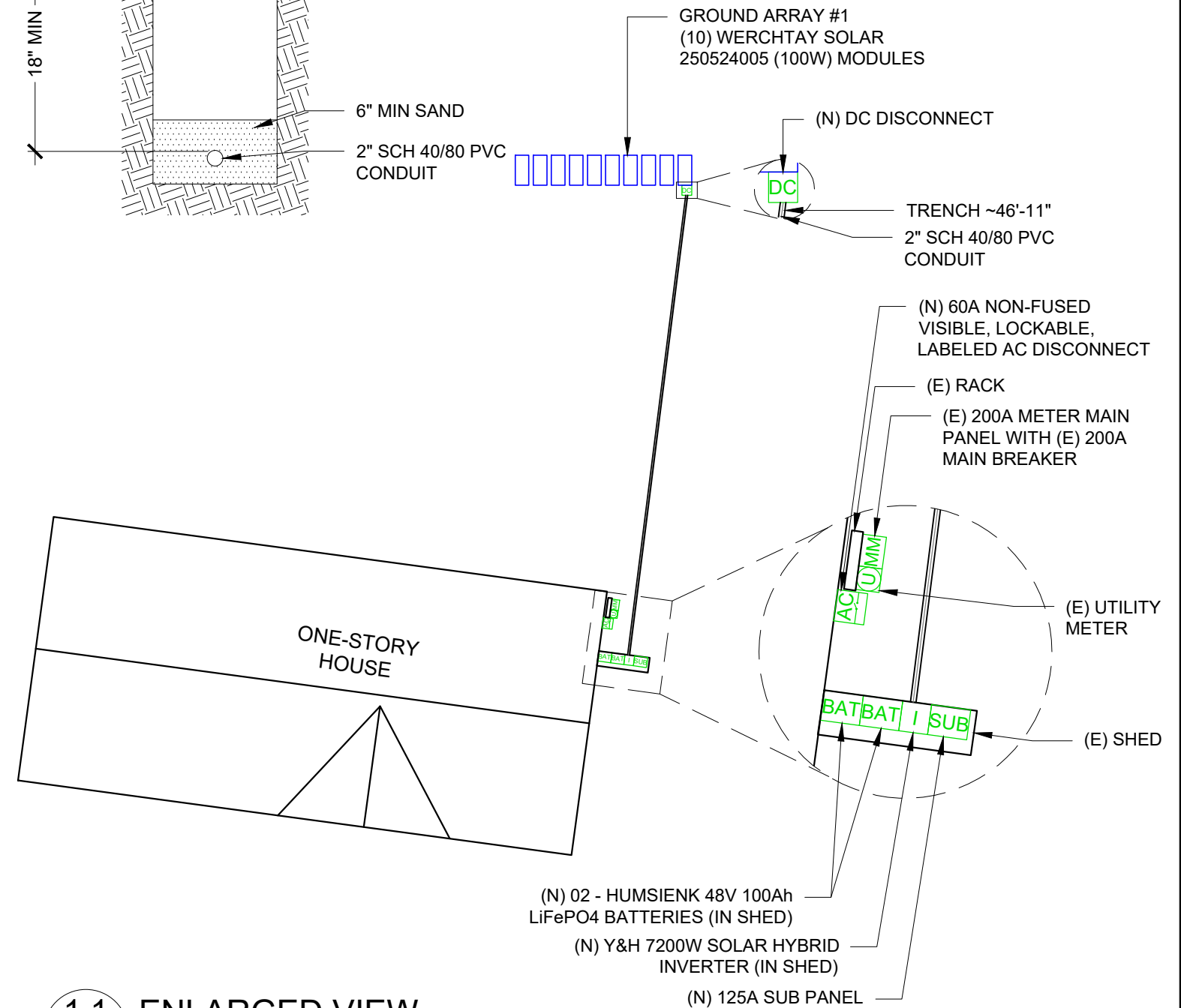
SCALE: 1/128" = 1'-0"



**TRENCH DETAIL**



**NOTE :** AC DISCONNECT WILL BE VISIBLE, LOCKABLE, ADJACENT TO AND WITHIN 10' OF UTILITY METER



**1.1 ENLARGED VIEW**

PV-1

SCALE: 1/16" = 1'-0"

SIGNATURE WITH SEAL

**JOHN CORMIER**

595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA

APN: 245S1603707010

UTILITY: CLAY ELECTRIC

AHJ: COUNTY OF COLUMBIA

SHEET NAME  
SITE PLAN WITH  
GROUND  
MOUNT PLAN

SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

**PV-1**

REVISIONS

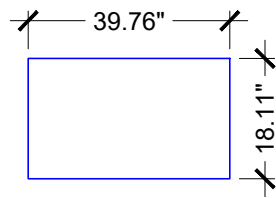
DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0

NUMBER OF MODULES	10 MODULES
MODULE	WERCHTAY SOLAR 250524005 (100W)
MODULE DIMENSIONS	39.76" X 18.11" X 1.18"
MODULE WEIGHT	10.80 LBS / 4.9 KG.
UNIT WEIGHT OF ARRAY	2.16 PSF

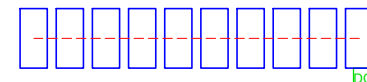
GROUND ARRAY	GROUND ARRAY PITCH (DEG)	AZIMUTH (DEG)	NO. OF MODS
#1	30°	180°	10

BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	10	WERCHTAY SOLAR 250524005 (100W) MODULES
INVERTER	01	Y&H 7200W SOLAR HYBRID INVERTER
DC DISCONNECT	01	DC DISCONNECT
AC DISCONNECT	01	AC DISCONNECT 60A NON-FUSED, VISIBLE LOCKABLE LABELED DISCONNECT, 240 VAC
BATTERY	02	HUMSIENK 48V 100Ah LiFePO4 BATTERIES
SUB PANEL	01	125A SUB PANEL

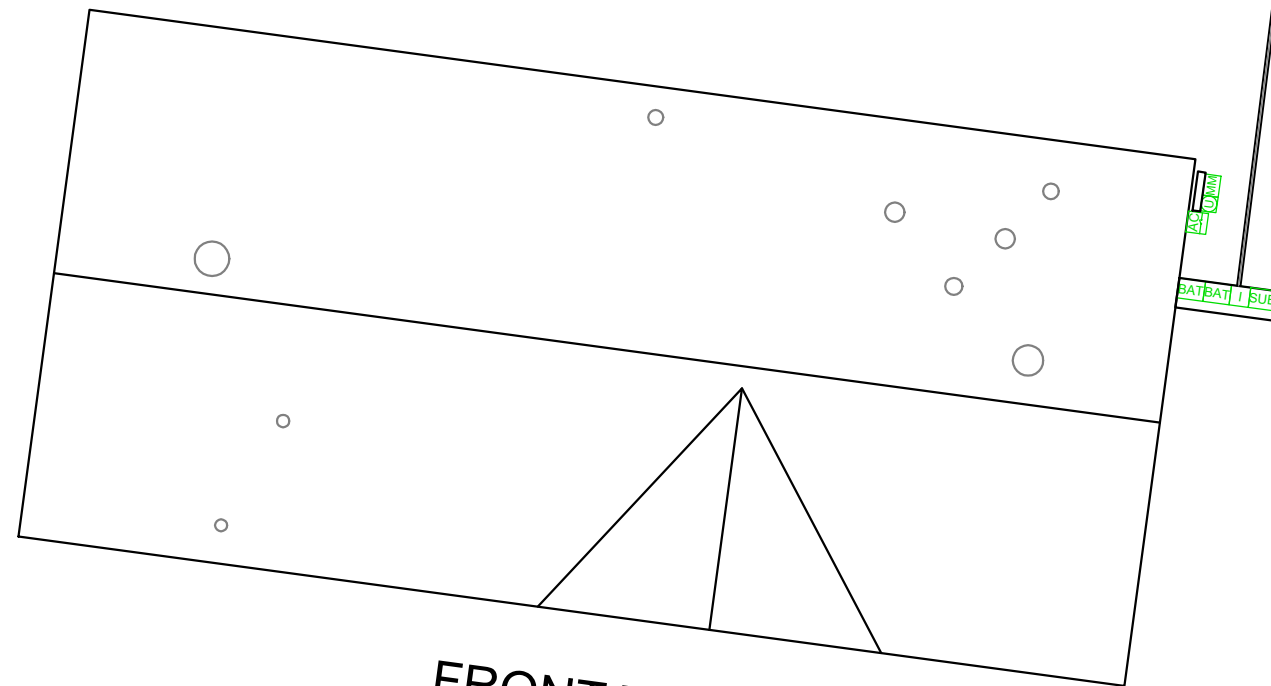
PHOTOVOLTAIC MODULES  
WERCHTAY SOLAR  
250524005 (100W)



REAR YARD



GROUND ARRAY #1  
TILT - 30°  
AZIMUTH - 180°



2" SCH 40/80 PVC CONDUIT

TRENCH ~46'-11"

STRING #	NO. OF MODULES IN STRING
STRING #1	10

LEGEND	
	UTILITY METER
	METER MAIN PANEL
	SUB PANEL
	INVERTER
	BATTERY
	TRENCH
	AC DISCONNECT
	VENT, ATTIC FAN (ROOF OBSTRUCTION)
	CONDUIT
	CHIMNEY

**NOTE** :AC DISCONNECT WILL BE VISIBLE, LOCKABLE, ADJACENT TO AND WITHIN 10' OF UTILITY METER

FRONT YARD  
SW INFINITY PL

SIGNATURE WITH SEAL

JOHN CORMIER

595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA

APN: 245S1603707010

UTILITY: CLAY ELECTRIC

AHJ: COUNTY OF COLUMBIA

REVISIONS

DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0

SHEET NAME  
GROUND MOUNT  
PLAN WITH  
MODULES

SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

PV-2

1 GROUND MOUNT PLAN WITH MODULES

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



REAR YARD

19'-7"

3'-4"

GROUND ARRAY #1  
(10) WERCHTAY SOLAR 250524005  
MODULES

FRONT YARD  
SW INFINITY PL

1 ARRAY PLAN WITH MODULES

PV-2.1

SCALE: 3/4" = 1'-0"



SIGNATURE WITH SEAL

**JOHN CORMIER**

595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA

**APN: 245S1603707010**

**UTILITY: CLAY ELECTRIC**

**AHJ: COUNTY OF COLUMBIA**

SHEET NAME

ARRAY PLAN  
WITH MODULES

SHEET SIZE

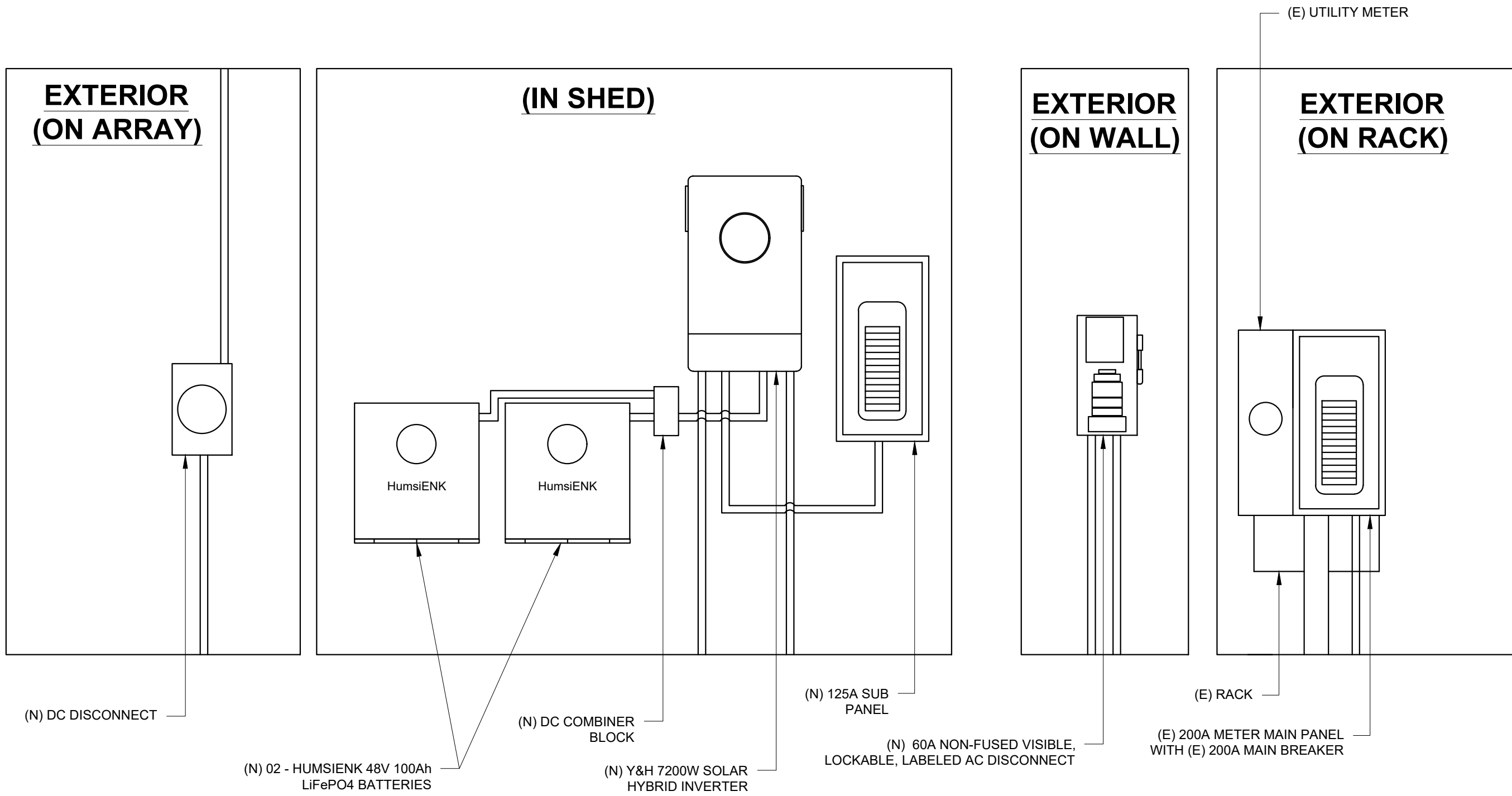
ANSI B  
11" X 17"

SHEET NUMBER

PV-2.1

REVISIONS

DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0



1  
PV-2.2

**ELECTRICAL EQUIPMENT ELEVATION**

SCALE: NTS

SIGNATURE WITH SEAL	<b>JOHN CORMIER</b>		SHEET NAME <b>ELECTRICAL EQUIPMENT ELEVATION</b>
	595 SW INFINITY PL, LAKE CITY, FL 32024 USA		
	APN: 245S1603707010		
	UTILITY: CLAY ELECTRIC		
	AHJ: COUNTY OF COLUMBIA		
REVISIONS			SHEET SIZE <b>ANSI B 11" X 17"</b>
DESCRIPTION	DATE	REV	
INITIAL PLAN	05/28/2026	V0	SHEET NUMBER <b>PV-2.2</b>

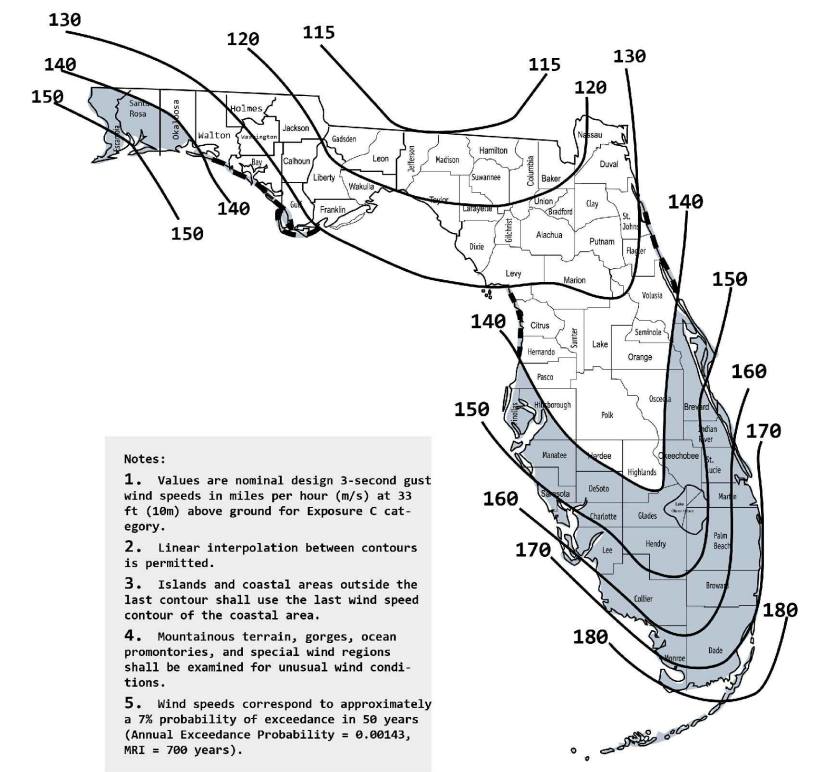
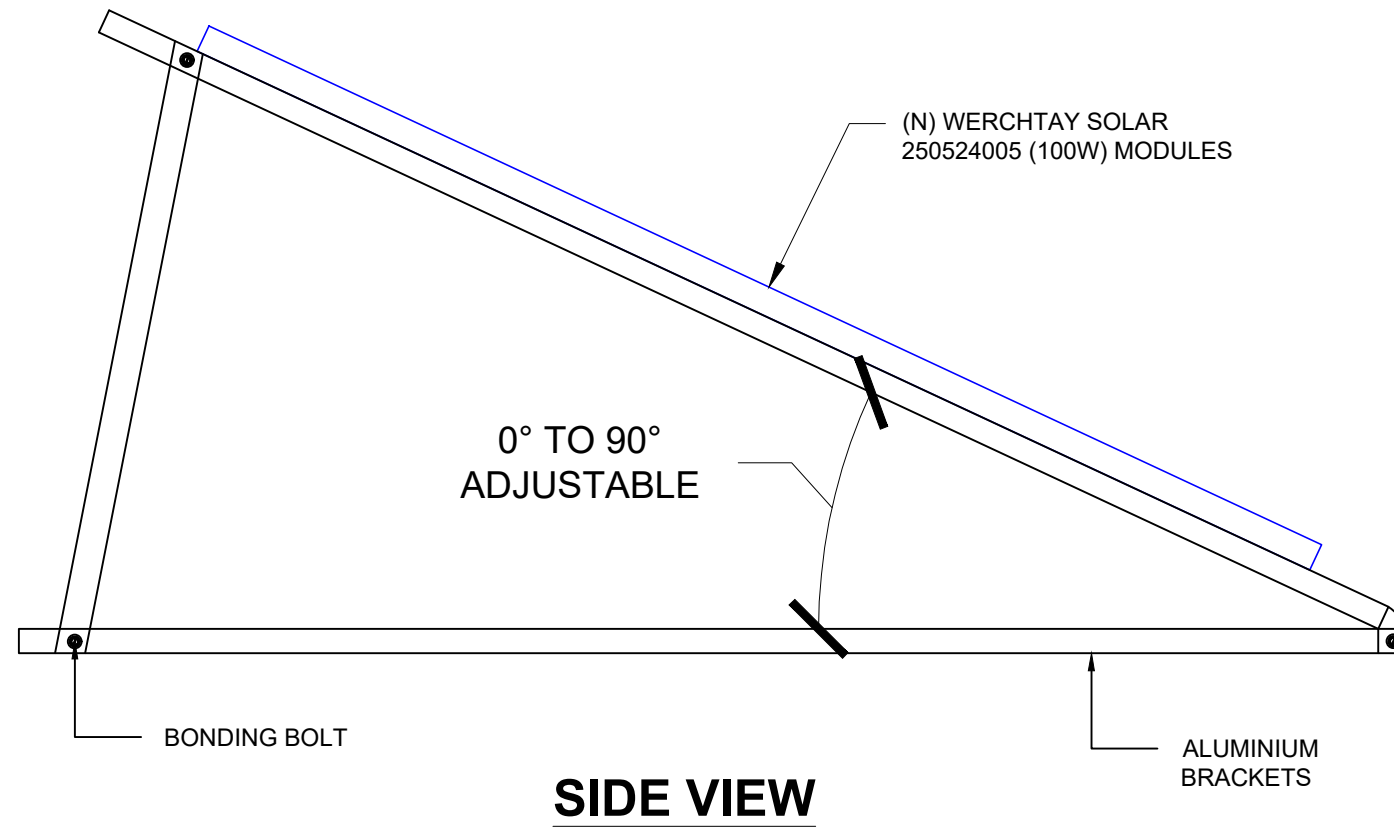
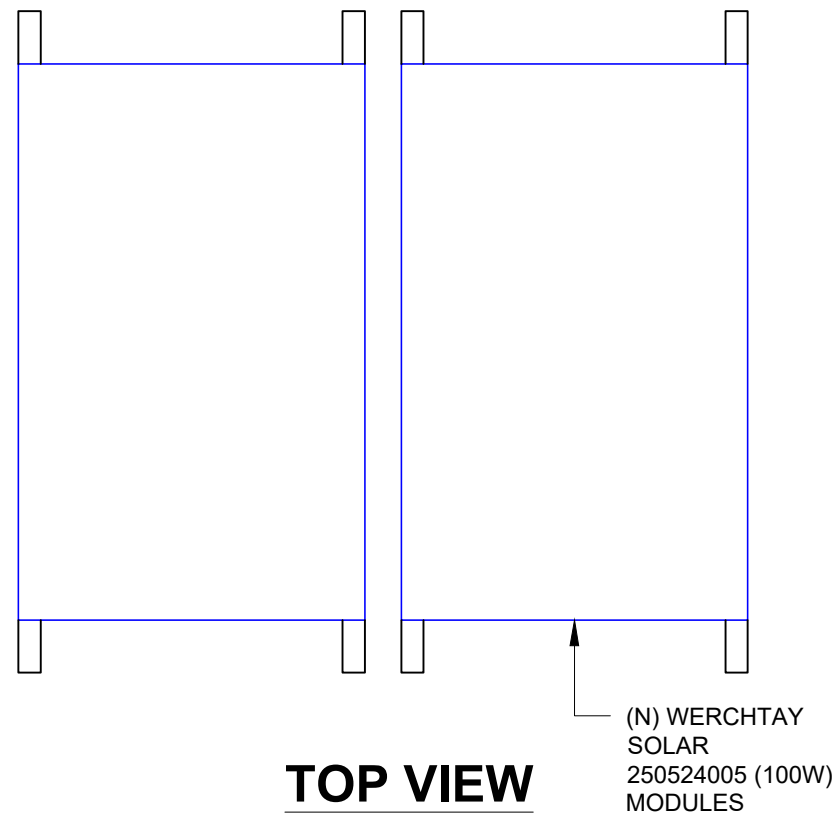


Figure 1609A Wind-Borne Debris Region, Category II and III Buildings and Structures except health care facilities



SIGNATURE WITH SEAL	<b>JOHN CORMIER</b>		SHEET NAME <b>ATTACHMENT DETAILS</b>
	595 SW INFINITY PL, LAKE CITY, FL 32024 USA		
	APN: 245S1603707010		SHEET SIZE <b>ANSI B 11" X 17"</b>
	UTILITY: CLAY ELECTRIC AHJ: COUNTY OF COLUMBIA		
	REVISIONS		
	DESCRIPTION	DATE	REV
	INITIAL PLAN	05/28/2026	V0
			SHEET NUMBER <b>PV-3</b>

SYSTEM SIZE:- 1.000 kWDC & 7.200 kWAC	
10	WERCHTAY SOLAR 250524005 (100W) MODULES
01	Y&H 7200W SOLAR HYBRID INVERTER
(01) STRING OF 10 MODULES CONNECTED IN SERIES	

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	Y&H 7200W SOLAR HYBRID INVERTER
NOMINAL OUTPUT VOLTAGE	240 VAC
NOMINAL OUTPUT CURRENT	30.0A

AMBIENT TEMPERATURE SPECIFICATIONS			
RECORD LOW TEMP	AMBIENT TEMP (HIGH TEMP 2%)	CONDUIT HEIGHT	CONDUCTOR TEMPERATURE RATE
-4.6°C	32.7°C	7/8"	90°

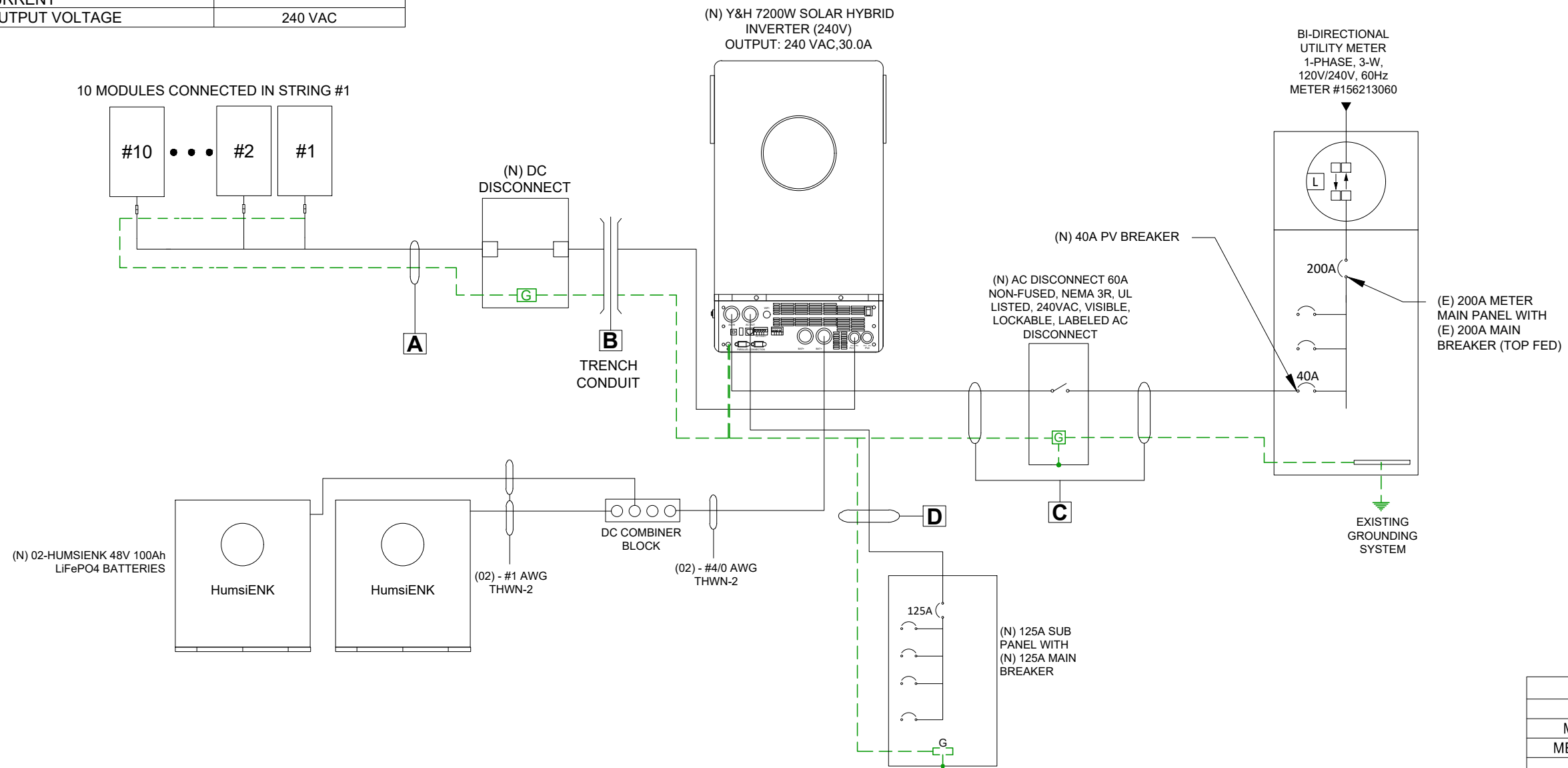
SOLAR MODULE SPECIFICATIONS	
MANUFACTURER / MODEL #	WERCHTAY SOLAR 250524005 (100W) MODULES
VMP	20.52 V
IMP	4.87 A
VOC	24.62 V
ISC	5.36 A
MODULE DIMENSION	39.76"L x 18.11"W x 1.18"D

BATTERY SPECIFICATIONS	
MANUFACTURER / MODEL #	HUMSIENK 48V 100Ah LiFePO4
NOMINAL BATTERY ENERGY	5.12 kWh
NOMINAL CAPACITY	100 AH
MAXIMUM CONTINUOUS CHARGE / DISCHARGE CURRENT	100 A
NOMINAL OUTPUT VOLTAGE	240 VAC

**NOTE** :AC DISCONNECT WILL BE VISIBLE, LOCKABLE, ADJACENT TO AND WITHIN 10' OF UTILITY METER

SOLAR PV CIRCUIT BREAKER MAIN SERVICE BUS RATING PER NEC 705.12(B)(3)(2)

$200A \times 120\% = 240A$   
TOTAL BUS LOAD =  $(30.00A \times 1.25) + 200A$



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SERVICE INFO.	
UTILITY PROVIDER	CLAY ELECTRIC
MAIN SERVICE VOLTAGE	240V
METER MAIN PANEL BRAND	N/A
METER MAIN PANEL	(E) 200A
MAIN BREAKER RATING	(E) 200A
MAIN SERVICE LOCATION	SOUTH-EAST

Δ TAG	CONDUIT	TYPICAL	#C. C. C.	WIRE SIZE	WIRE TYPE	TEMP. RATING	TEMP. DERATE	CONDUIT FILL DERATE	WIRE AMPACITY (A)	DERATED AMPACITY (A)	CONT. CURRENT X 125%	GROUNDING SIZE	GROUND WIRE TYPE
A	IN AIR	1	2	#10 AWG	PV-WIRE	90°C	0.96	N/A	40	38.40	8.38	#6 AWG	BARE CU
B	2" PVC	1	2	#10 AWG	THWN-2	90°C	0.96	1.0	40	38.40	8.38	#10 AWG	THWN-2
C	3/4" EMT	2	3	#8 AWG	THWN-2	90°C	0.96	1.0	55	52.80	37.50	#10 AWG	THWN-2
D	1-1/4" EMT	1	3	#1 AWG	THWN-2	90°C	0.96	1.0	145	139.20	125.00	#6 AWG	THWN-2

SIGNATURE WITH SEAL	<b>JOHN CORMIER</b> 595 SW INFINITY PL, LAKE CITY, FL 32024 USA APN: 245S1603707010 UTILITY: CLAY ELECTRIC AHJ: COUNTY OF COLUMBIA		SHEET NAME <b>ELECTRICAL LINE DIAGRAM WITH CALCULATION</b>
	REVISIONS		SHEET SIZE <b>ANSI B 11" X 17"</b>
	DESCRIPTION	DATE	REV
	INITIAL PLAN	05/28/2026	V0
			SHEET NUMBER <b>PV-4</b>

1  
PV-4

**ELECTRICAL LINE DIAGRAM WITH CALCULATION**

SCALE: NTS

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

LABEL LOCATION:  
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).  
PER CODE(S): NEC 2020: NEC 706.15 (C)(4) & NEC 690.13(B)

**PHOTOVOLTAIC  
AC DISCONNECT**

LABEL LOCATION:  
AC DISCONNECT  
NEC 690.13(B)

**⚠ WARNING DUAL POWER SOURCE  
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM**

LABEL LOCATION:  
POINT OF INTERCONNECTION  
PRODUCTION METER  
NEC 705.12(D)(3) & NEC 690.59

**⚠ WARNING**  
THE DISCONNECTION OF THE GROUNDED CONDUCTOR(S) MAY RESULT IN OVERVOLTAGE ON THE EQUIPMENT

LABEL LOCATION:  
INVERTER  
PER CODE: NEC 690.31(E)

NOTES AND SPECIFICATIONS:  
• SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE 2020 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.  
• SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.  
• LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.  
• LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.  
• SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.  
• DO NOT COVER EXISTING MANUFACTURER LABELS.

**PHOTOVOLTAIC AC DISCONNECT**  
MAXIMUM AC OPERATING CURRENT: 30.00 AMPS  
NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:  
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.  
PER CODE(S): NEC 2020: 690.54

**PHOTOVOLTAIC POWER SOURCE**

LABEL LOCATION:  
EMT/CONDUIT RACEWAYS  
(PER CODE: NEC690.31(D)(2))

**MAIN PHOTOVOLTAIC SYSTEM DISCONNECT**

LABEL LOCATION:  
MAIN SERVICE DISCONNECT / UTILITY METER  
(PER CODE: NEC 690.13(B))

**RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM**

LABEL LOCATION:  
UTILITY SERVICE ENTRANCE/METER, INVERTER/DC DISCONNECT IF REQUIRED BY LOCAL AHJ, OR OTHER LOCATIONS AS REQUIRED BY LOCAL AHJ.  
PER CODE(S): NEC 2020: 690.56(C)(2)

**⚠ WARNING**  
POWER SOURCE OUTPUT CONNECTION  
DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:  
MAIN SERVICE PANEL IF SUM OF BREAKERS EXCEEDS PANEL RATING  
NEC 705.12 (B)(3)(2)

**EMERGENCY ENERGY STORAGE SYSTEM DISCONNECT**  
ESS SIZE: 10.24 kWh

LABEL LOCATION:  
ON BATTERY DISCONNECT

**ESS BACKUP PANEL. EQUIPMENT IS ENERGIZED FROM MULTIPLE SOURCES: UTILITY, SOLAR PV AND ENERGY STORAGE SYSTEM**

LABEL LOCATION:  
ON MAIN PANEL

**EMERGENCY DISCONNECT SERVICE DISCONNECT**

LABEL LOCATION:  
ON ESS TRANSFER SWITCH

4"  
5"  
**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.  
SOLAR ELECTRIC PV PANELS

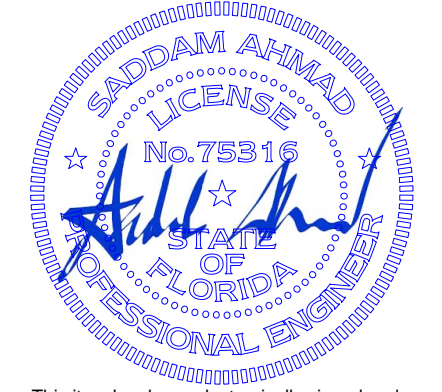
LABEL LOCATION:  
ON OR NO MORE THAN 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.  
PER CODE(S): NEC 2020: IFC 605.11.3.1(1) & 690.56(C)

**⚠ WARNING**  
THIS EQUIPMENT FED BY MULTIPLE SOURCES TOTAL RATING OF ALL OVERCURRENT DEVICES EXCLUDING MAIN POWER SUPPLY SHALL NOT EXCEED AMPACITY OF BUSBAR

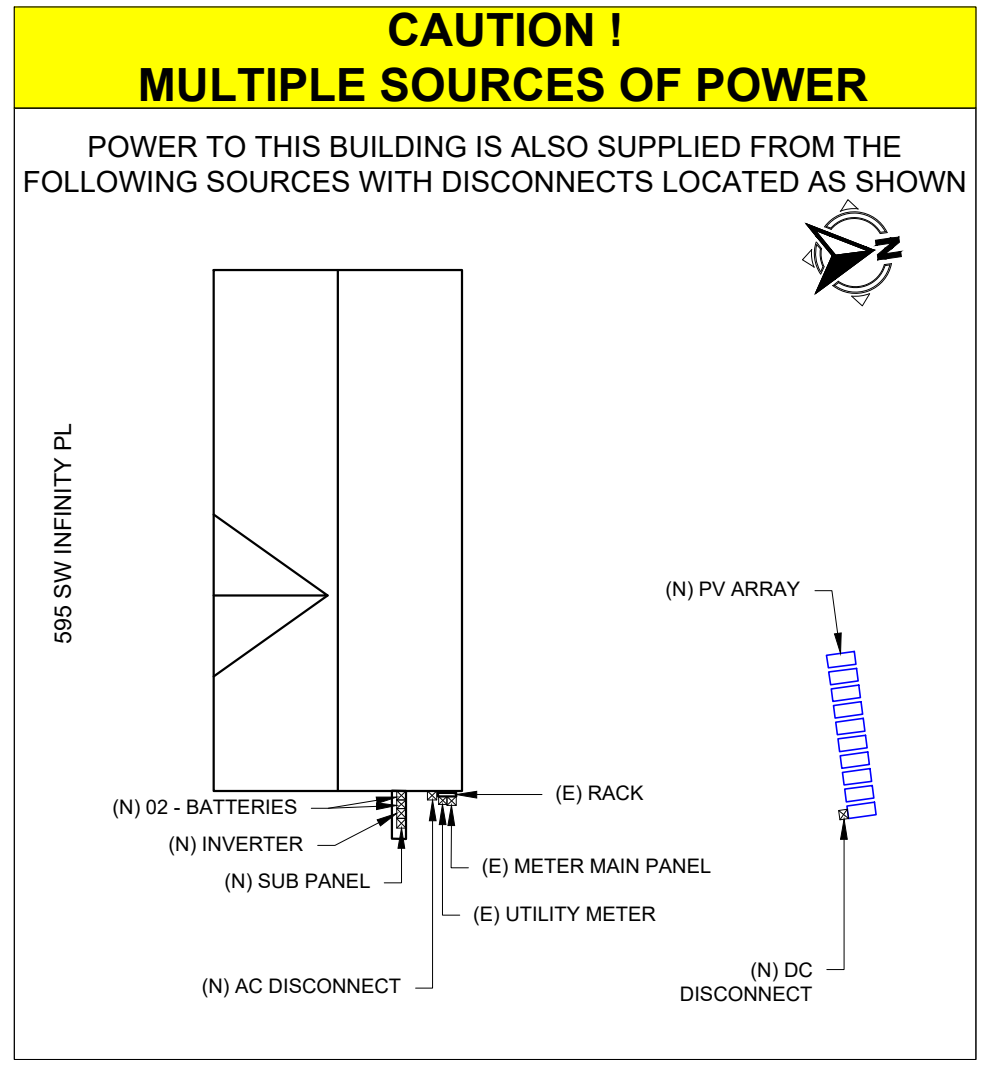
LABEL LOCATION:  
POINTS OF CONNECTION/BREAKER  
CODE: NEC 705.12(B)(3)(3)

**⚠ CAUTION**  
PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LABEL LOCATION:  
MSP (PER CODE: NEC 705.12(D) & NEC 690.59



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SIGNATURE WITH SEAL

**JOHN CORMIER**  
595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA  
APN: 245S1603707010  
UTILITY: CLAY ELECTRIC  
AHJ: COUNTY OF COLUMBIA

REVISIONS		
DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0

SHEET NAME  
**WARNING LABELS & PLACARD**

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

SHEET NUMBER  
**PV-5**



SIGNATURE WITH SEAL		<b>JOHN CORMIER</b>			SHEET NAME
		595 SW INFINITY PL, LAKE CITY, FL 32024 USA			SPEC SHEETS
		APN: 245S1603707010			SHEET SIZE <b>ANSI B</b> 11" X 17"
		UTILITY: CLAY ELECTRIC AHJ: COUNTY OF COLUMBIA			
		REVISIONS			SHEET NUMBER <b>PV-6</b>
DESCRIPTION	DATE	REV			
INITIAL PLAN	05/28/2026	V0			

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## 7200W SINGLE / SPLIT PHASE SOLAR INVERTER

- Pure Sine Wave Hybrid Inverter built-in Dual MPPT
- Support Split-Phase and Single-Phase Output 120V/240V AC
- Compatible with Lead-acid, Lithium batteries and Batteryless
- Supports Solar, Utility, or Generator Power to Charge the Battery

**7200W** AC Output Power  
**150A** Max Hybrid Charging Current  
**120(L1/N, L2/N) 240Vac(L1/L2)** input voltage  
**500Vdc** Max PV open circuit voltage  
**50Hz/60Hz (Auto detection)** Frequency  
**UL STD.1741** Certification

### SPLIT-PHASE MODE

**MAINS / GENERATOR INPUT**  
 Input Voltage Range: 85Vac-140Vac  
 Frequency Range: 50Hz/60Hz (Auto detection)  
 Bypass Overload Current: 30A  
 AC Cable Diameter: 10 AWG

**PV INPUT**  
 Max. PV Array Power: 4500W+4500W  
 Max. Voltage of Open Circuit: 500V  
 Num. of MPPT Trackers: 2  
 Max. input current: 16A+16A  
 MPPT Voltage Range: 90Vdc-450Vdc  
 PV Cable Diameter: 12 AWG

**INVERTER OUTPUT**  
 Rated Output Power: 7200W  
 Rated AC Frequency: 50Hz/60Hz  
 Load Capacity of Motors: 4HP  
 AC Cable Diameter: 10 AWG  
 Rated Output Voltage: 120(L1/N, L2/N) 240Vac(L1/L2)

**BATTERY**  
 Battery Type: Lead-Acid, GEL (default), SLI or FLI  
 Max. Mains/Generator Charging Current: 120A  
 Max. MPPT Charging Current: 150A  
 Maximum charging current: 150A

Split-Phase L1+L2+N+PE  
 Mains Power  
 Split-Phase L1+L2+N+PE  
 48V Battery  
 Switch Time: 10ms Household appliances

**AC Output**  
**7200W**  
**(14400W Peak)**

Compatible with 95% of household appliances  
 Support single-phase and split-phase pure sine wave output

TV Coffee machine Refrigerator Light Washing Machines Microwave

Just one unit is needed to generate both 110Vac and 240Vac simultaneously

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## VS

**Y&H INVERTER**

- Supports 120V/208V/240V AC in Split-Phase/Three-Phase/Single-Phase pure sine wave output
- DUAL MPPT PV Input, Efficiency up to 99.9%
- Max. MPPT Charging Current up to 150A
- Only need 1 unit can output 110V/240V at same time
- Can work without batteries
- Temperature probe can be connected
- Equipped with 4 cooling fans
- Support CAN, USB, RS485 W-I FI communication

**OTHER INVERTER**

- off-grid Solar Inverter
- DUAL MPPT PV Input
- Max. MPPT Charging Current up to 80-120A
- At least two units can output 220Vac
- Battery must be connected
- Temperature probe cannot be connected
- Equipped with 2 cooling fans
- Fixed insect screen

### LOAD REDIRECTION

Electricity TOU Rate / Energy Supply Priority

On Peak  
 Mid Peak  
 Off Peak

Battery charging priority with PV

9PM-7AM 7AM-3AM 3AM-4PM 4PM-6PM 6PM-9PM

Grid Battery PV

### TIME-SLOT CHARGING / DISCHARGING FUNCTION

The POW SunSmart series is equipped with a time-slot charging and discharging function, which allows users to set different charging and discharging periods according to the local peak and valley tariffs so that the utility power and PV energy can be used rationally.

When mains electricity is expensive, the battery inverter is used to carry the load; when the mains electricity is cheap, the mains electricity is used to carry the load and charge, which can help customers to save electricity costs to the greatest extent.

### CERTIFIED

Listed and compliant with UL1741 standards for safe grid integration

**IEEE 1547** CSA22.21071  
**UL 1741SA** CA Rule 21  
**UL 1741SB** HECO Rule 14H

Meet the Y&H 48V 7200W Hybrid Inverter: rigorously validated for safety and performance to ensure full compliance with grid connection requirements. Rely on its robust design to meet your power needs.

### Technical parameters

Models	GES-7.2KW-U
Rated input voltage	120(L1/N, L2/N)/240Vac(L1/L2)
Frequency	50Hz/60Hz (Auto detection)
short circuit protection	Circuit breaker
Output voltage waveform	Pure sine wave
Rated output power (VA)	Split phase: 7200 / Single phase: 6000 (limited by the wiring terminals)
Peak power	Split phase: 10800VA / Single phase: 10800VA
Rated battery input voltage	51.2V (Minimum starting voltage 44V)
Battery type	Lead acid and lithium battery / (Supports battery-free operation)
Maximum charge current	150A
Temperature range	40-58.6Vdc

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Certification	UL 1741 /
Communication interface	USB/RS485(WiFi/GPRS)/ Dry node control
Size (L*W*D) / Weight (kg)	580mm*359mm*127mm / 18.9KG

SIGNATURE WITH SEAL	<b>JOHN CORMIER</b> 595 SW INFINITY PL, LAKE CITY, FL 32024 USA APN: 245S1603707010 UTILITY: CLAY ELECTRIC AHJ: COUNTY OF COLUMBIA		SHEET NAME <b>SPEC SHEETS</b>
	REVISIONS		SHEET SIZE <b>ANSI B 11" X 17"</b>
	DESCRIPTION	DATE	REV
	INITIAL PLAN	05/28/2026	V0
			SHEET NUMBER <b>PV-7</b>

# HUMSIENK

## USER MANUAL HOME ENERGY STORAGE SERIES

### LiFePO<sub>4</sub> DEEP CYCLE BATTERY

-  48V 100Ah Smart Home Storage
-  48V 300Ah Smart Home Storage
-  48V 314Ah Smart Home Storage
-  48V 400Ah Smart Home Storage

# HUMSIENK

www.humsienk.com



Register Warranty

 service@humsienk.com

### Product Parameters

#### 1. Specifications

Model	48V 100Ah	48V 300Ah	48V 314Ah	48V 400Ah
Battery Type	LiFePO <sub>4</sub> /LFP			
Configuration	16S1P			
Rated Energy	5.12kWh	15.36kWh	16kWh	20.48kWh
Nominal Voltage	51.2V			
Working Voltage	40~58.4V			
Capacity	100Ah	300Ah	314Ah	400Ah
Recommended Charge Current	≤20A	≤60A	≤62.8A	≤80A
Max. Continuous Charge Current	100A	200A		200A
Max. Continuous Discharge Current	100A	200A		200A
Cycle Life (@25°C)	>6000@DOD80%			
Extensibility	Up to 15 Batteries in Parallel			
Working Temperature (Charge)	0~55°C/32~131°F			
Working Temperature (Discharge)	-20~60°C/-4~140°F			
Storage Temperature	0~45°C/32~113°F			
Max. Altitude	≤3000m			
Humidity	5%~95%			
Communication	CAN/RS485/RS232/Bluetooth			
Dimensions (L×W×H)	550×485×185.5mm/ 21.65×19.09×7.30inch	890×620×218mm/ 35.04×24.41×8.58inch	890×620×218mm/ 35.04×24.41×8.58inch	1251.29×200.2×740.8mm/ 49.26×7.88×29.17inch
Weight	44.9kg±3%/ 98.99lb±3%	129.95kg±5%/ 286.49lb±5%	130.5kg±5%/ 287.70lb±5%	186kg±5%/ 410.06lb±5%
Mounting	Wall-Mounted Installation			
Ingress Protection Rating	IP54			IP20

SIGNATURE WITH SEAL

**JOHN CORMIER**

595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA

APN: 245S1603707010

UTILITY: CLAY ELECTRIC

AHJ: COUNTY OF COLUMBIA

REVISIONS

DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0

SHEET NAME

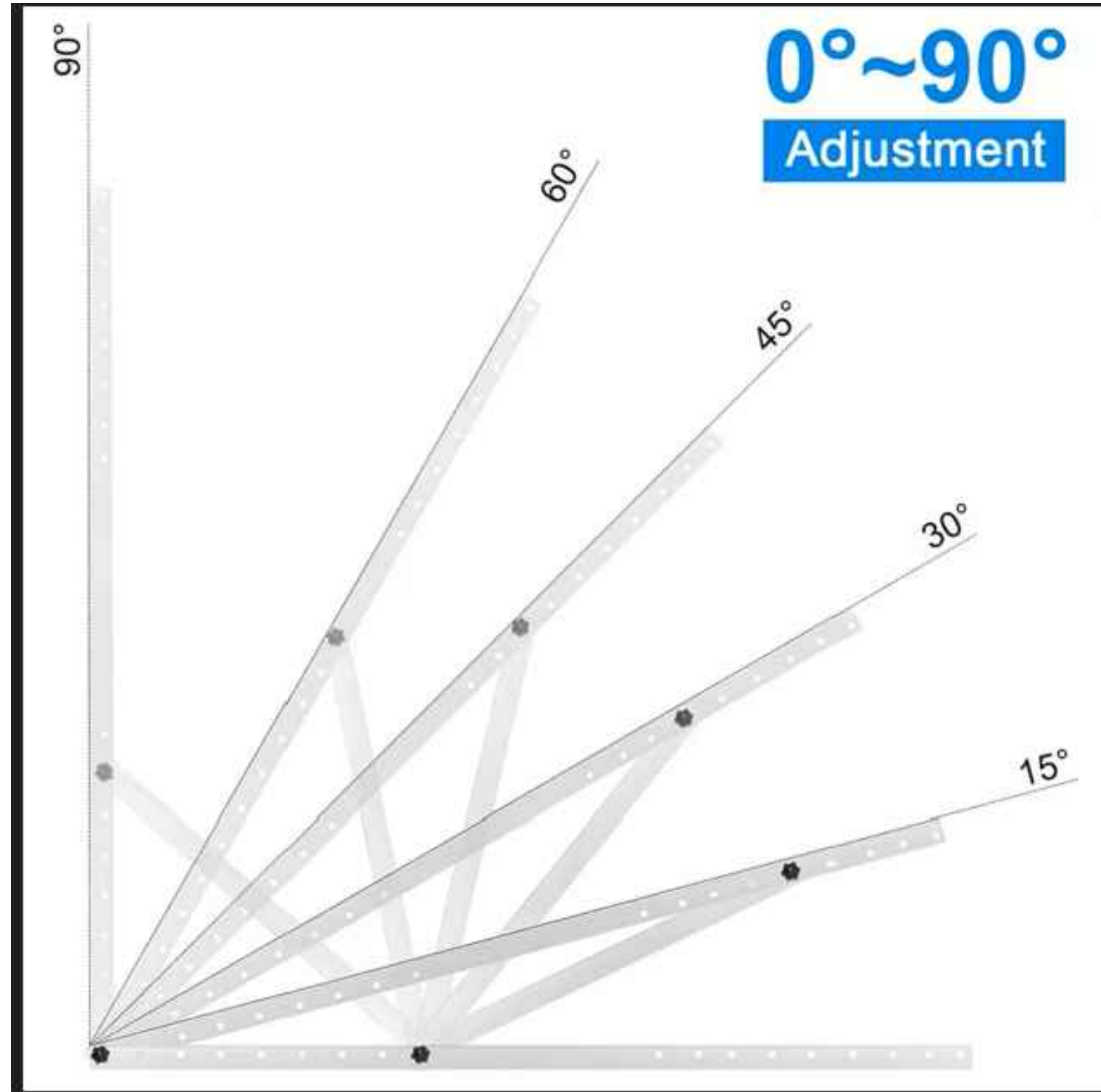
SPEC SHEETS

SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

PV-8



SIGNATURE WITH SEAL		<b>JOHN CORMIER</b> 595 SW INFINITY PL, LAKE CITY, FL 32024 USA <b>APN: 245S1603707010</b> <b>UTILITY: CLAY ELECTRIC</b> <b>AHJ: COUNTY OF COLUMBIA</b>			SHEET NAME												
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		REVISIONS <table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>DATE</th> <th>REV</th> </tr> </thead> <tbody> <tr> <td>INITIAL PLAN</td> <td>05/28/2026</td> <td>V0</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>			DESCRIPTION	DATE	REV	INITIAL PLAN	05/28/2026	V0							SHEET SIZE
		DESCRIPTION	DATE	REV													
		INITIAL PLAN	05/28/2026	V0													
			ANSI B 11" X 17"														
			SHEET NUMBER														
			PV-9														

# EASY INSTALLATION

ANGLE AND HEIGHT CAN BE SWITCHED OVER AS DESIRED



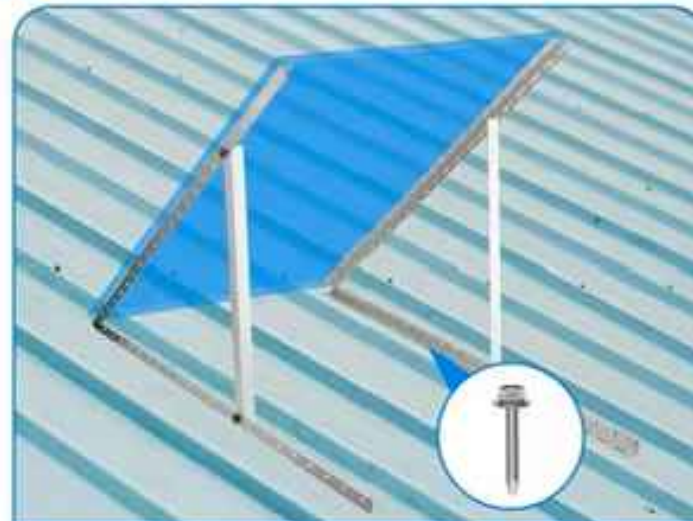
PUT THE SUPPORT LEGS AS PERFECT ANGLE FOR YOUR SOLAR PANEL



ATTACH THE RAILS WITH THE SCREWS SUPPLIED TO THE LEGS



ASSEMBLE THE SOLAR MODULE WITH M6 SCREWS ON THE BRACKET



BEFESTIGEN SIE DIE MONTAGEFÜßE SICHER AN DER GEWÜNSCHTEN OBERFLÄCHE



SIGNATURE WITH SEAL

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595 SW INFINITY PL,  
LAKE CITY, FL 32024 USA

APN: 245S1603707010

UTILITY: CLAY ELECTRIC

AHJ: COUNTY OF COLUMBIA

SHEET NAME

SPEC SHEETS

SHEET SIZE

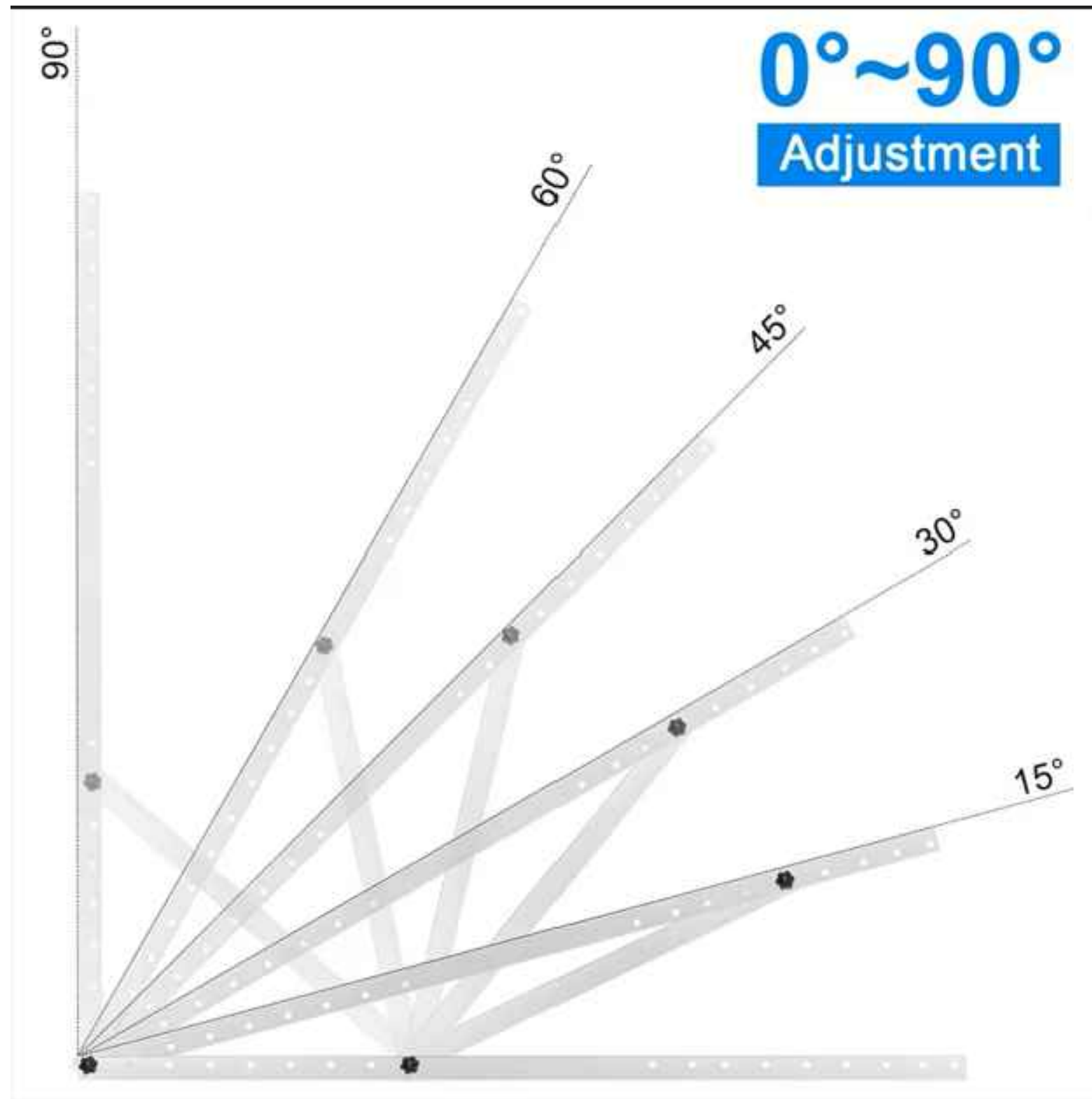
ANSI B  
11" X 17"

SHEET NUMBER

PV-10

REVISIONS

DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0



SIGNATURE WITH SEAL

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APN: 245S1603707010		
UTILITY: CLAY ELECTRIC		
AHJ: COUNTY OF COLUMBIA		
REVISIONS		
DESCRIPTION	DATE	REV
INITIAL PLAN	05/28/2026	V0

SHEET NAME
SPEC SHEETS
SHEET SIZE
ANSI B 11" X 17"
SHEET NUMBER
PV-11