



The City of  
**OKLAHOMA CITY**

# APPLICATION FOR CERTIFICATE OF APPROPRIATENESS

**Staff Only:**

Date Stamp

Zoning: HP or HL

District: EP

HPCA- 23 00019

Received by: Aug

2/22/23

NOTE: any relevant permits must be applied for and paid for separately in the Development Services Dept.

NOTE: Contact Historic Preservation Staff for final design inspection when work is complete.

Please select: ☒ New Project ☐ Revision ☐ Extension ☐ Violation Notice Issued

Location of Proposed Work (Address): 224 NW 33RD ST

Legal Description of Property (lot, block, addition): EDGEMERE PARK ADD Block 010 Lot 000

Year built: 1930 Exterior wall material: Brick Floor area: 2262 sq.ft.

Itemized Work Items (List EACH ITEM proposed. Work not listed here will NOT be reviewed):

☐ New Construction ☐ Addition ☐ Fence ☐ Demolition (specify structure) \_\_\_\_\_

☐ Paving (specify) \_\_\_\_\_ ☐ Renovation (specify) \_\_\_\_\_

☒ Work not specified above \_\_\_\_\_

Install 15.54 kW PV solar panel system on existing house rooftop. No street facing panels.

## Owner's Authorization

I hereby certify that all above statements and statements contained in all attached and transmitted exhibits are true to the best of my knowledge and belief. In the event this proposal is approved and begun, I agree to complete the changes in accordance with approved plans in a good and workmanlike manner. I authorize the City of Oklahoma City to enter the property for the purpose of observing and photographing the project for presentations and to ensure consistency between the approved proposal and the completed project.

☒ (If applicable): I authorize my representative to speak for me in matters regarding this application. Any agreement made by my representative regarding this proposal will be binding upon me.

## Owner's Signature

[Signature]

Date 2/21/23

Name (printed) Dwight Lawson

Organization Homeowner

Address 224 NW 33RD ST

Phone 4044934539

City, State, Zip OKLAHOMA CITY, OK 73118

Email DLawson@okczoo.org

I prefer to be: ☐ Mailed or ☒ Emailed.

## Representative Signature

[Signature]

Date 2/21/23

Name (printed) Cory Baitz

Organization EightTwenty

Address 1825 N Walnut Ave, Suite G

Phone 312-560-4180

City, State, Zip Oklahoma City, OK 73105

Email cory@eighttwenty.com

I prefer to be: ☐ Mailed or ☒ Emailed.

Contact: ☐ Owner ☒ Representative

Is Federal money, a federal license or a federal permit included/required for any part of this project? Yes / ☒ No

If yes, what Federal agency? \_\_\_\_\_

Is the property owner pursuing the Federal Tax Credits for Rehabilitation of income producing historic properties? Yes / ☒ No (For questions concerning the federal tax credit program, telephone the State Historic Preservation Office at (405) 522-4479).

NOTE: Specific deadlines apply to submission of additional documentation or requests for appeals. Should your project be continued or denied, you are responsible for compliance with those deadlines.





	A	B	C	D	E	F	G	H
1	2.1.1	<u>SITE NOTES:</u>		2.5.6	EACH MODULE WILL BE GROUNDED USING WEEB GROUNDING CLIPS AS SHOWN IN MANUFACTURER DOCUMENTATION AND APPROVED BY THE AHJ. IF WEEBS ARE NOT USED, MODULE GROUNDING LUGS MUST BE INSTALLED AT THE SPECIFIED GROUNDING LUG HOLES PER THE MANUFACTURERS' INSTALLATION REQUIREMENTS.			
	2.1.2	A LADDER WILL BE IN PLACE FOR INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS.			THE GROUNDING CONNECTION TO A MODULE SHALL BE ARRANGED SUCH THAT THE REMOVAL OF A MODULE DOES NOT INTERRUPT A GROUNDING CONDUCTOR TO ANOTHER MODULE.			
	2.1.3	THE PV MODULES ARE CONSIDERED NON-COMBUSTIBLE AND THIS SYSTEM IS A UTILITY INTERACTIVE SYSTEM WITH NO STORAGE BATTERIES.			GROUNDING AND BONDING CONDUCTORS, IF INSULATED, SHALL BE COLORED GREEN OR MARKED GREEN IF #4 AWG OR LARGER [NEC 250.119]			
	2.1.4	THE SOLAR PV INSTALLATION WILL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS.		2.5.7	THE GROUNDING ELECTRODE SYSTEM COMPLIES WITH NEC 690.47 AND NEC 250.50 THROUGH 250.106. IF EXISTING SYSTEM IS INACCESSIBLE, OR INADEQUATE, A GROUNDING ELECTRODE SYSTEM PROVIDED ACCORDING TO NEC 250, NEC 690.47 AND AHJ.			
	2.1.5	PROPER ACCESS AND WORKING CLEARANCE AROUND EXISTING AND PROPOSED ELECTRICAL EQUIPMENT WILL BE PROVIDED AS PER SECTION NEC 110.26.		2.5.8	GROUND-FAULT DETECTION SHALL COMPLY WITH NEC 690.41(B)(1) AND (2) TO REDUCE FIRE HAZARDS			
	2.1.6	ROOF COVERINGS SHALL BE DESIGNED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH THIS CODE AND THE APPROVED MANUFACTURER'S INSTRUCTIONS SUCH THAT THE ROOF COVERING SERVES TO PROTECT THE BUILDING OR STRUCTURE.		2.5.9				
2				2.5.10				
	2.2.1	<u>EQUIPMENT LOCATIONS:</u>			<u>DISCONNECTION AND OVER-CURRENT PROTECTION NOTES:</u>			
	2.2.2	ALL EQUIPMENT SHALL MEET MINIMUM SETBACKS AS REQUIRED BY NEC 110.26.			DISCONNECTING SWITCHES SHALL BE WIRED SUCH THAT WHEN THE SWITCH IS OPENED THE CONDUCTORS REMAINING ENERGIZED ARE CONNECTED TO THE TERMINALS MARKED "LINE SIDE" (TYPICALLY THE UPPER TERMINALS).			
	2.2.3	WIRING SYSTEMS INSTALLED IN DIRECT SUNLIGHT MUST BE RATED FOR EXPECTED OPERATING TEMPERATURE AS SPECIFIED BY NEC 690.31 (A),(C) AND NEC TABLE 310.15 (B)(2)(A).		2.6.1	DISCONNECTS TO BE ACCESSIBLE TO QUALIFIED UTILITY PERSONNEL, BE LOCKABLE, AND BE A VISIBLE-BREAK SWITCH			
				2.6.2	PV SYSTEM CIRCUITS INSTALLED ON OR IN BUILDINGS SHALL INCLUDE A RAPID SHUTDOWN FUNCTION TO REDUCE SHOCK HAZARD FOR EMERGENCY RESPONDERS IN ACCORDANCE WITH 690.12(A) THROUGH (D).			
	2.2.4	JUNCTION AND PULL BOXES PERMITTED INSTALLED UNDER PV MODULES ACCORDING TO NEC 690.34.			ALL OCPD RATINGS AND TYPES SPECIFIED ACCORDING TO NEC 690.8, 690.9, AND 240.			
3	2.2.5	ADDITIONAL AC DISCONNECT(S) SHALL BE PROVIDED WHERE THE INVERTER IS NOT WITHIN SIGHT OF THE AC SERVICING DISCONNECT.		2.6.3	MICROINVERTER BRANCHES CONNECTED TO A SINGLE BREAKER OR GROUPED FUSES IN ACCORDANCE WITH NEC 110.3(B).			
	2.2.6	ALL EQUIPMENT SHALL BE INSTALLED ACCESSIBLE TO QUALIFIED PERSONNEL ACCORDING TO NEC APPLICABLE CODES.		2.6.4	IF REQUIRED BY AHJ, SYSTEM WILL INCLUDE ARC-FAULT CIRCUIT PROTECTION ACCORDING TO NEC 690.11 AND UL1699B.			
	2.2.7	ALL COMPONENTS ARE LISTED FOR THEIR PURPOSE AND RATED FOR OUTDOOR USAGE WHEN APPROPRIATE.		2.6.5				
				2.6.6				
	2.3.1	<u>STRUCTURAL NOTES:</u>			<u>INTERCONNECTION NOTES:</u>			
	2.3.2	RACKING SYSTEM & PV ARRAY WILL BE INSTALLED ACCORDING TO CODE-COMPLIANT INSTALLATION MANUAL. TOP CLAMPS REQUIRE A DESIGNATED SPACE BETWEEN MODULES, AND RAILS MUST ALSO EXTEND A MINIMUM DISTANCE BEYOND EITHER EDGE OF THE ARRAY/SUBARRAY, ACCORDING TO RAIL MANUFACTURER'S INSTRUCTIONS.		2.6.7	LOAD-SIDE INTERCONNECTION SHALL BE IN ACCORDANCE WITH [NEC 705.12 (B)]			
4	2.3.3	JUNCTION BOX WILL BE INSTALLED PER MANUFACTURERS' SPECIFICATIONS. IF ROOF-PENETRATING TYPE, IT SHALL BE FLASHED & SEALED PER LOCAL REQUIREMENTS.		2.7.1	THE SUM OF 125 PERCENT OF THE POWER SOURCE(S) OUTPUT CIRCUIT CURRENT AND THE RATING OF THE OVERCURRENT DEVICE PROTECTING THE BUSBAR SHALL NOT EXCEED 120 PERCENT OF THE AMPACITY OF THE BUSBAR, PV DEDICATED BACKFEED BREAKERS MUST BE LOCATED OPPOSITE END OF THE BUS FROM THE UTILITY SOURCE OCPD [NEC 705.12(B)(2)(3)].			
	2.3.4	ROOFTOP PENETRATIONS FOR PV RACEWAY WILL BE COMPLETED AND SEALED W/ APPROVED CHEMICAL SEALANT PER CODE BY A LICENSED CONTRACTOR.		2.7.2	AT MULTIPLE ELECTRIC POWER SOURCES OUTPUT COMBINER PANEL, TOTAL RATING OF ALL OVERCURRENT DEVICES SHALL NOT EXCEED AMPACITY OF BUSBAR. HOWEVER, THE COMBINED OVERCURRENT DEVICE MAY BE EXCLUDED ACCORDING TO NEC 705.12 (B)(2)(3)(C).			
	2.3.5	ALL PV RELATED ROOF ATTACHMENTS TO BE SPACED NO GREATER THAN THE SPAN DISTANCE SPECIFIED BY THE RACKING MANUFACTURER.		2.7.3	FEEDER TAP INTERCONNECTION (LOAD SIDE) ACCORDING TO NEC 705.12 (B)(2)(1)			
	2.3.6	WHEN POSSIBLE, ALL PV RELATED RACKING ATTACHMENTS WILL BE STAGGERED AMONGST THE ROOF FRAMING MEMBERS.		2.7.4	SUPPLY SIDE TAP INTERCONNECTION ACCORDING TO NEC 705.12 (A) WITH SERVICE ENTRANCE CONDUCTORS IN ACCORDANCE WITH NEC 230.42			
				2.7.5	BACKFEEDING BREAKER FOR ELECTRIC POWER SOURCES OUTPUT IS EXEMPT FROM ADDITIONAL FASTENING [NEC 705.12 (B)(5)].			
				2.7.6				
5	2.4.1	<u>WIRING &amp; CONDUIT NOTES:</u>						
	2.4.2	ALL CONDUIT AND WIRE WILL BE LISTED AND APPROVED FOR THEIR PURPOSE. CONDUIT AND WIRE SPECIFICATIONS ARE BASED ON MINIMUM CODE REQUIREMENTS AND ARE NOT MEANT TO LIMIT UP-SIZING.		2.7.7				
	2.4.3	CONDUCTORS SIZED ACCORDING TO NEC 690.8, NEC 690.7.						
	2.4.4	VOLTAGE DROP LIMITED TO 1.5%.						
	2.4.5	DC WIRING LIMITED TO MODULE FOOTPRINT. MICROINVERTER WIRING SYSTEMS SHALL BE LOCATED AND SECURED UNDER THE ARRAY W/ SUITABLE WIRING CLIPS.						
	2.4.6	AC CONDUCTORS COLORED OR MARKED AS FOLLOWS:						
6		PHASE A OR L1- BLACK						
		PHASE B OR L2- RED, OR OTHER CONVENTION IF THREE PHASE						
		PHASE C OR L3- BLUE, YELLOW, ORANGE**, OR OTHER CONVENTION						
		NEUTRAL- WHITE OR GRAY						
		IN 4-WIRE DELTA CONNECTED SYSTEMS THE PHASE WITH HIGHER VOLTAGE TO BE MARKED ORANGE [NEC 110.15].						
	2.5.1	<u>GROUNDING NOTES:</u>						
	2.5.2	GROUNDING SYSTEM COMPONENTS SHALL BE LISTED FOR THEIR PURPOSE, AND GROUNDING DEVICES EXPOSED TO THE ELEMENTS SHALL BE RATED FOR SUCH USE.						
	2.5.3	PV EQUIPMENT SHALL BE GROUNDED ACCORDING TO NEC 690.43 AND MINIMUM NEC TABLE 250.122.						
	2.5.4	METAL PARTS OF MODULE FRAMES, MODULE RACKING, AND ENCLOSURES CONSIDERED GROUNDED IN ACCORD WITH 250.134 AND 250.136(A).						
	2.5.5	EQUIPMENT GROUNDING CONDUCTORS SHALL BE SIZED ACCORDING TO NEC 690.45 AND MICROINVERTER MANUFACTURERS' INSTRUCTIONS.						



CONTRACTOR

EIGHTTWENTY OKLAHOMA, LLC

PHONE: 405-256-2087

ADDRESS: 1825 N WALNUT AVENUE  
SUITE G  
OKLAHOMA CITY, OK 73105

LIC. NO.: 095963

HIC. NO.:

ELE. NO.:

UNAUTHORIZED USE OF THIS  
DRAWING SET WITHOUT WRITTEN  
PERMISSION FROM CONTRACTOR IS IN  
VIOLATION OF U.S. COPYRIGHT LAWS  
AND WILL BE SUBJECT TO CIVIL  
DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 15.540 kWp

LAWSON  
RESIDENCE

224 NW 33RD ST,  
OKLAHOMA CITY, OK 73118  
APN: 2681049163360

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

NOTES

DATE: 02.09.2023

DESIGN BY: K.P.

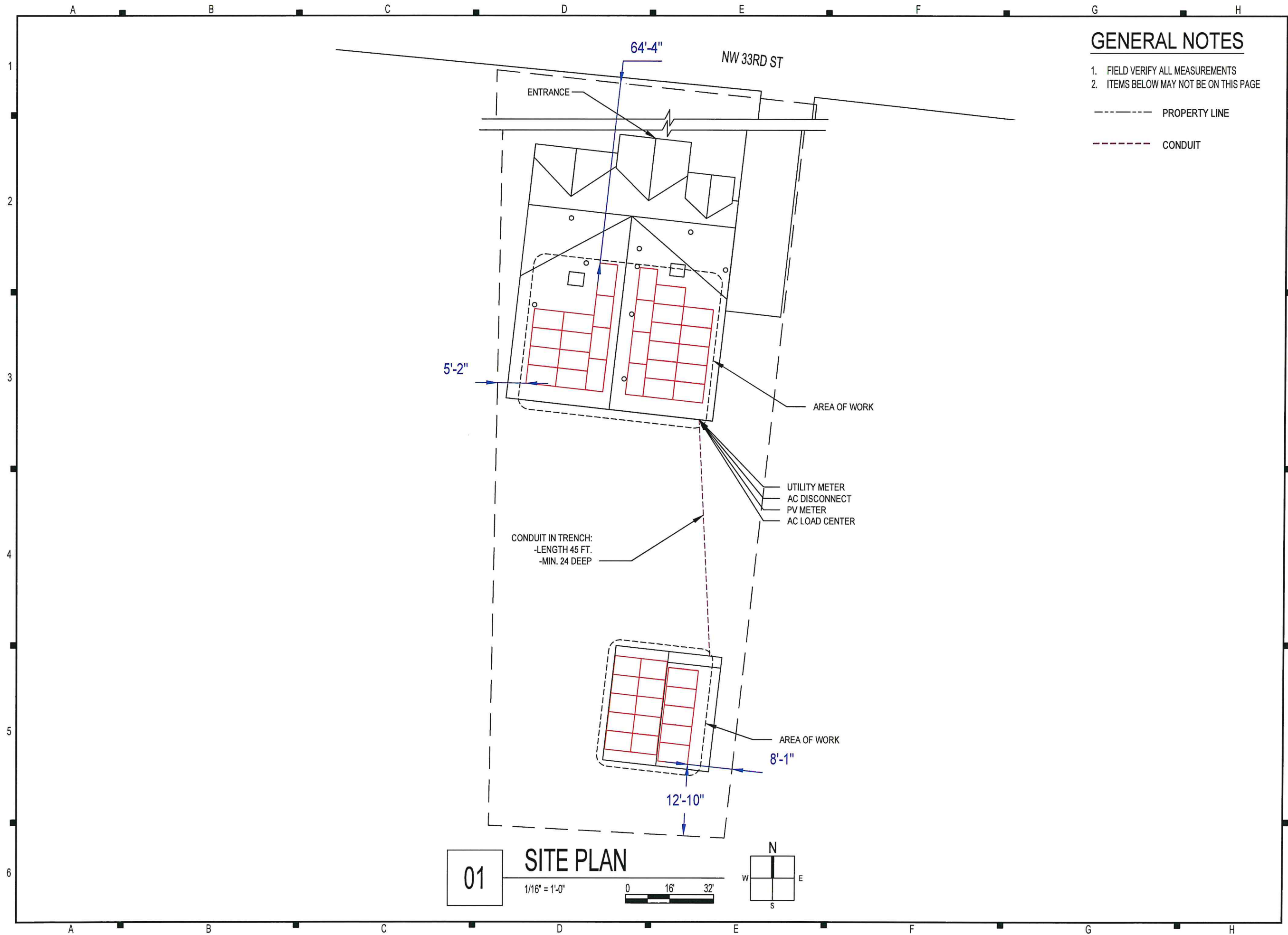
CHECKED BY: D.P.

REVISIONS

G-001.00

(SHEET 2)





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APN: 2681049163360

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### SITE PLAN

DATE: 02.09.2023

DESIGN BY: K.P.

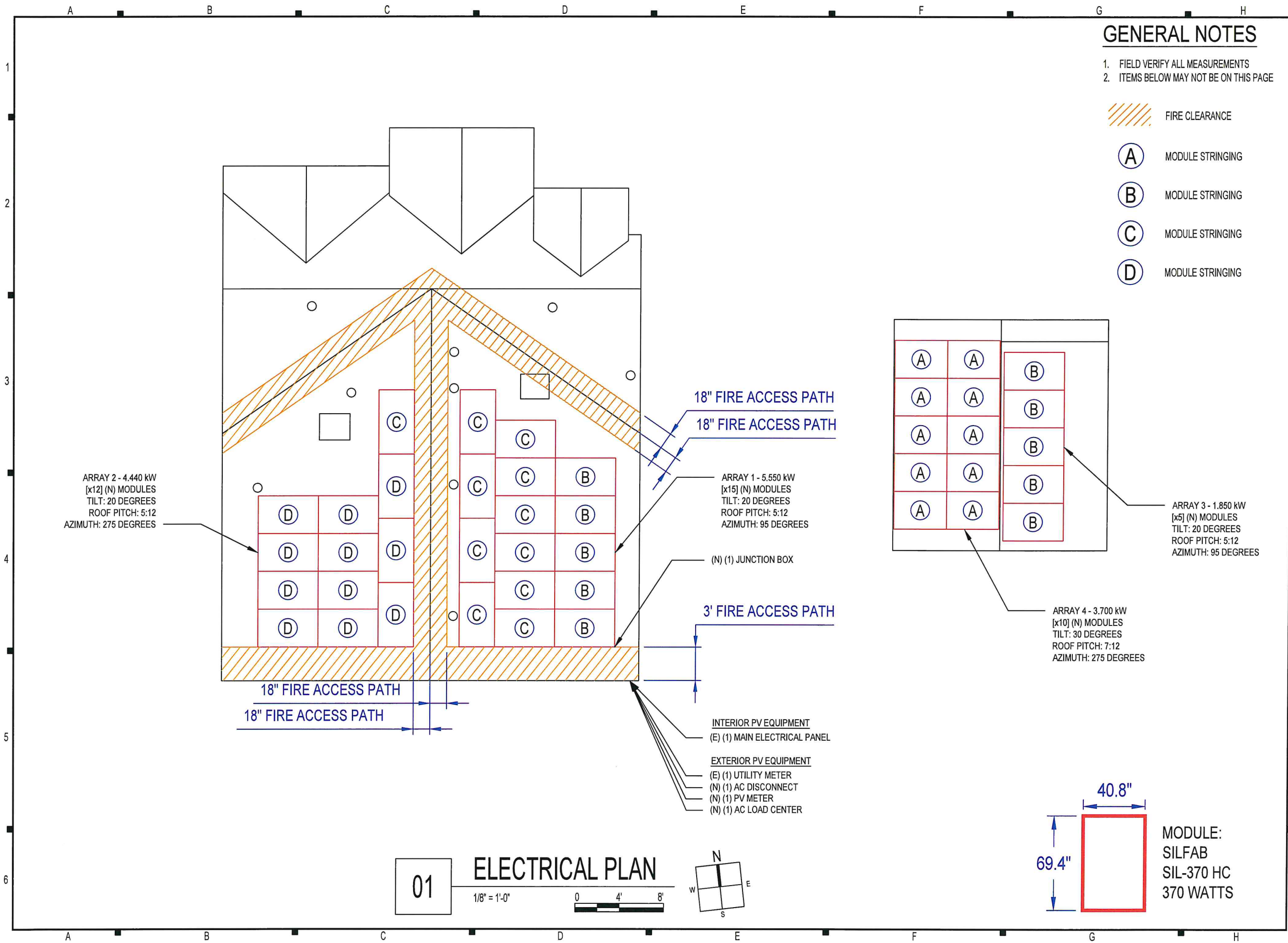
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REVISIONS

A-101.00

(SHEET 3)





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**ELECTRICAL PLAN**

DATE: 02.09.2023

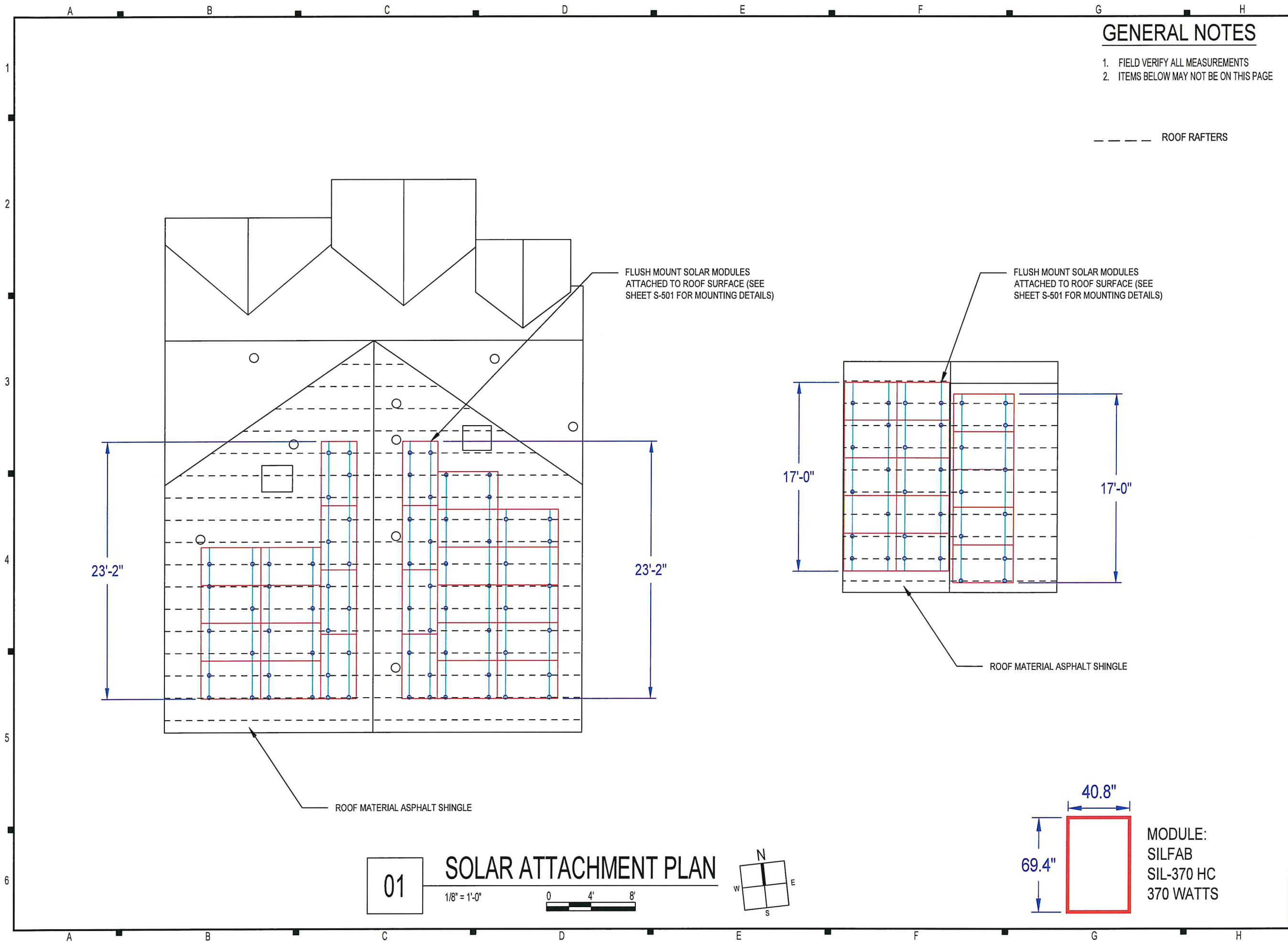
DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

**A-102.00**

(SHEET 4)



### CONTRACTOR

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APN: 2681049163360

### ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

### SOLAR ATTACHMENT PLAN

DATE: 02.09.2023

DESIGN BY: K.P.

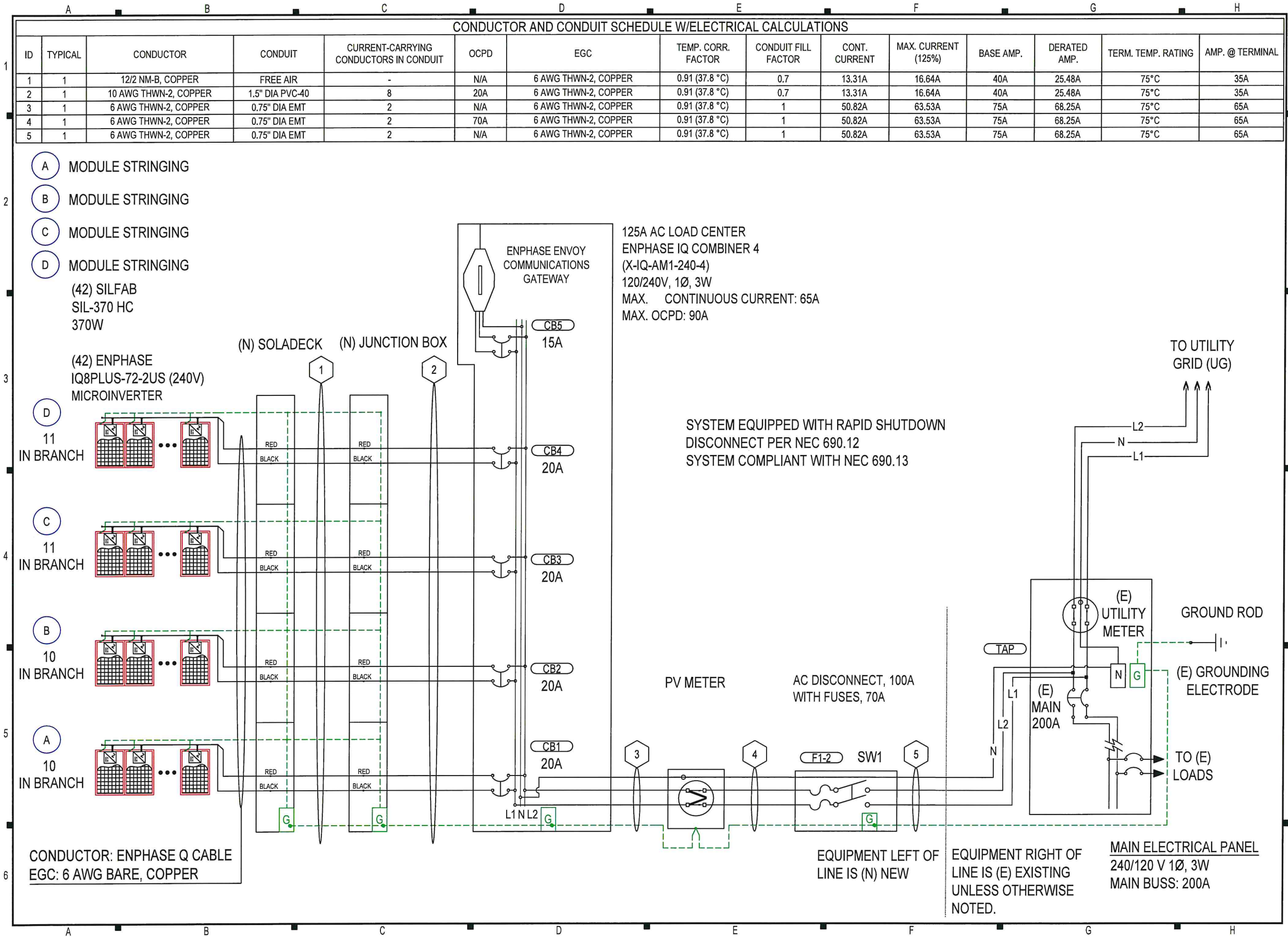
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REVISIONS

A-103.00

(SHEET 5)





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ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

LINE DIAGRAM

DATE: 02.09.2023

DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

E-601.00

(SHEET 6)

	A	B	C	D	E	F	G	H											
1	SYSTEM SUMMARY				MODULES														
		BRANCH #1	BRANCH #2	BRANCH #3	BRANCH #4	REF.	QTY.	MAKE AND MODEL			PMAX	PTC	ISC	IMP	VOC	VMP	TEMP. COEFF. OF VOC	FUSE RATING	
		INVERTERS PER BRANCH	10	10	11	11	PM1-42	42	SILFAB SIL-370 HC			370W	339.4W	11.25A	10.6A	41.75V	34.95V	-0.117V/°C (-0.28%/°C)	20A
		MAX AC CURRENT	12.1A	12.1A	13.31A	13.31A													
		MAX AC OUTPUT POWER	3,000W	3,000W	3,300W	3,300W													
		ARRAY STC POWER	15,540W																
		ARRAY PTC POWER	14,255W																
		MAX AC CURRENT	50.82A																
		MAX AC POWER	12,600W																
		DERATED (CEC) AC POWER	12,600W																
2					INVERTERS														
		REF.	QTY.	MAKE AND MODEL			AC VOLTAGE	GROUND	OCPD RATING	RATED POWER	MAX OUTPUT CURRENT	MAX INPUT CURRENT	MAX INPUT VOLTAGE	CEC WEIGHTED EFFICIENCY					
		I1-42	42	ENPHASE IQ8PLUS-72-2-US			240V	FLOATING	20A	290W	1.21A	15A	60V	97.0%					
					DISCONNECTS						OCPDS								
		REF.	QTY.	MAKE AND MODEL			RATED CURRENT	MAX RATED VOLTAGE											
		SW1	1	EATON DG223NRB OR EQUIV.			100A	240VAC											
					ASHRAE EXTREME LOW						ASHRAE 2% HIGH								
					-17.3°C (0.9°F), SOURCE: OKLAHOMA CITYW. RO (35.39°; -97.6°)														
					37.8°C (100°F), SOURCE: OKLAHOMA CITYW. RO (35.39°; -97.6°)														
3	BILL OF MATERIALS																		
	CATEGORY	MAKE	MODEL NUMBER	REF	QTY	UNIT	QTY/UNIT	DESCRIPTION											
	MODULE	SILFAB	SIL-370 HC	PM1-42	42	PIECES	1	SILFAB SIL-370 HC 370W 120 HALF-CUT CELLS, MONOCRYSTALLINE SILICON											
	INVERTER	ENPHASE	IQ8PLUS-72-2-US	I1-42	42	PIECES	1	ENPHASE IQ8PLUS-72-2-US 290W INVERTER											
	DISCONNECT	EATON	DG223NRB	SW1	1	PIECE	1	EATON DG223NRB, FUSED, 2-POLE, 100A, 240VAC OR EQUIVALENT											
	PRODUCTION METER	GENERIC MANUFACTURER	GEN-METER-80A	M1	1	PIECE	1	ELECTRICAL METER, OWNER APPROVED											
	MISC ELECTRICAL EQUIPMENT		GEN-CABLE-CLIP	HDWR45-255	210	PIECES	1	GENERIC CABLE CLIP											
	AC COMBINER PANEL		ENPHASE-IQ4-PANEL	EP1	1	PIECE	1	ENPHASE IQ COMBINER 4 (X-IQ-AM1-240-4)											
	WIRING	ENPHASE	Q-12-10-240	EN1-42	42	PIECES	1	ENPHASE ENGAGE (TM) TRUNK CABLE											
	WIRING	ENPHASE	Q-TERM-10	EN43	1	BUNDLE	10	ENPHASE ENGAGE (TM) BRANCH TERMINATOR											
	WIRING	ENPHASE	Q-SEAL-10	EN44	1	BUNDLE	10	ENPHASE ENGAGE (TM) WATERTIGHT SEALING CAP											
	WIRING		GEN-12/2-AWG-NM-B-CU	WR1	180	FEET	1	12/2 NM-B, COPPER (LINE 1, LINE 2)											
	WIRING		GEN-10-AWG-THWN-2-CU-RD	WR2	180	FEET	1	10 AWG THWN-2, COPPER, RED (LINE 1)											
	WIRING		GEN-10-AWG-THWN-2-CU-BLK	WR2	180	FEET	1	10 AWG THWN-2, COPPER, BLACK (LINE 2)											
	WIRING		GEN-6-AWG-THWN-2-CU-RD	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, RED (LINE 1)											
	WIRING		GEN-6-AWG-THWN-2-CU-BLK	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, BLACK (LINE 2)											
	WIRING		GEN-6-AWG-THWN-2-CU-WH	WR3-5	30	FEET	1	6 AWG THWN-2, COPPER, WHITE (NEUTRAL)											
	WIRING		GEN-6-AWG-THWN-2-CU-GR	WR2-5	75	FEET	1	6 AWG THWN-2, COPPER, GREEN (GROUND)											
	WIREWAY	ENPHASE	ET-SPLK-05	EN7	1	BUNDLE	5	ENPHASE ENGAGE (TM) ENGAGE COUPLER											
	WIREWAY		GEN-EMT-0.75" DIA	WW3-5	30	FEET	1	EMT CONDUIT, 0.75" DIA											
	WIREWAY		GEN-PVC-40-1.5" DIA	WW2	45	FEET	1	PVC-40 CONDUIT, 1.5" DIA											
	OCPD	GENERIC MANUFACTURER	GEN-CB-20A-240VAC	CB1-4	4	PIECES	1	CIRCUIT BREAKER, 20A, 240VAC											
	OCPD	GENERIC MANUFACTURER	GEN-CB-15A-240VAC	CB5	1	PIECE	1	CIRCUIT BREAKER, 15A, 240VAC											
	OCPD	GENERIC MANUFACTURER	GEN-FU-70A-240VAC	F1-2	2	PIECES	1	FUSE, 70A, 240VAC											
	TRANSITION BOX	GENERIC MANUFACTURER	GEN-AWB-TB-4-4X	JB1	1	PIECE	1	TRANSITION/PASS-THROUGH BOX, WITH 4 TERMINAL BLOCKS											
4																			
5																			
6																			
	A	B	C	D	E	F	G	H											



CONTRACTOR

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NEW PV SYSTEM: 15.540 kWp

LAWSON  
RESIDENCE

224 NW 33RD ST,  
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APN: 2681049163360

ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

DESIGN TABLES

DATE: 02.09.2023

DESIGN BY: K.P.

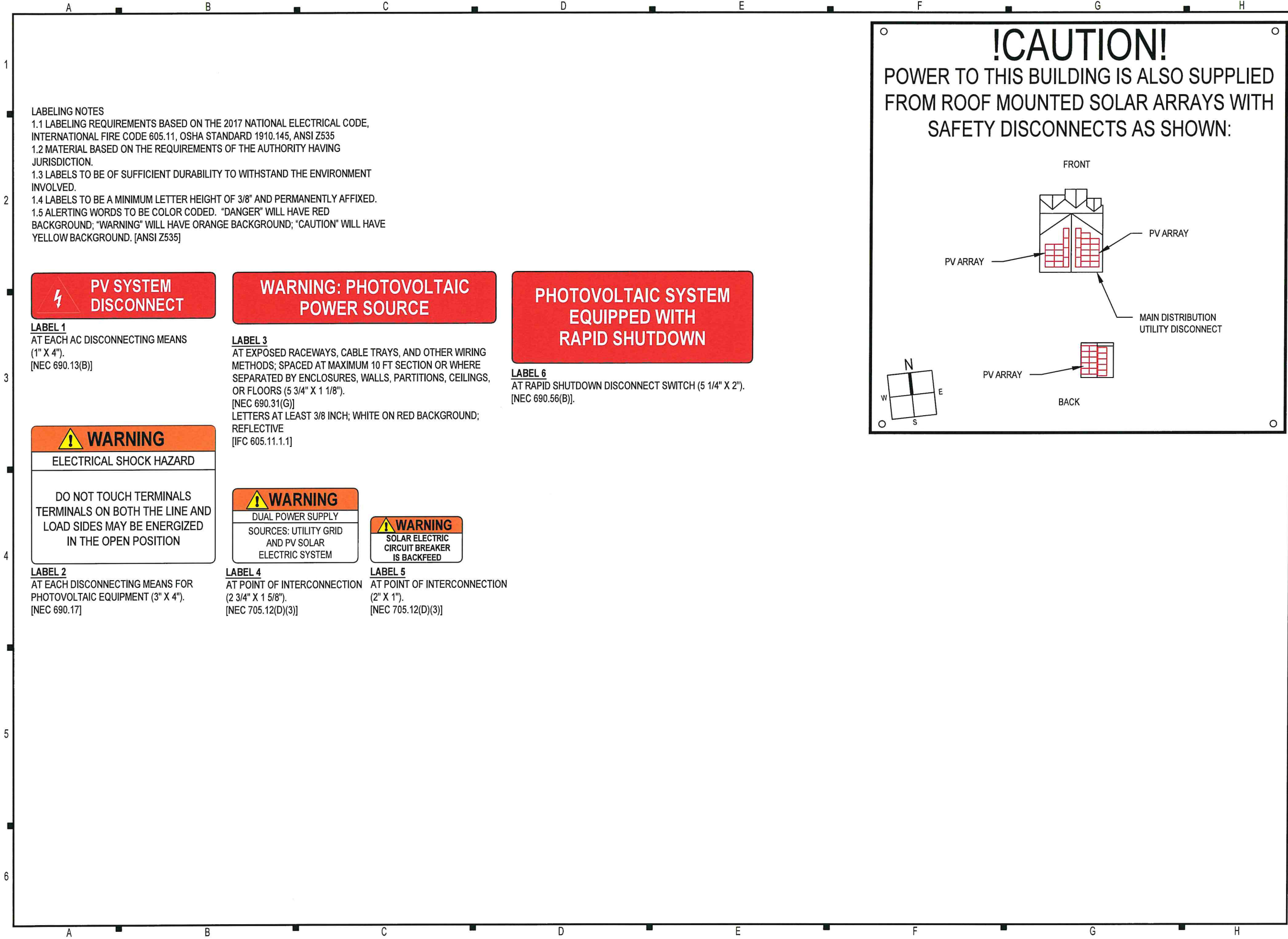
CHECKED BY: D.P.

REVISIONS

E-602.00

(SHEET 7)





**CONTRACTOR**

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PHONE: 405-256-2087

ADDRESS: 1825 N WALNUT AVENUE  
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NEW PV SYSTEM: 15.540 kWp

**LAWSON RESIDENCE**

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OKLAHOMA CITY, OK 73118  
APN: 2681049163360

**ENGINEER OF RECORD**

PAPER SIZE: 11" x 17" (ANSI B)

**PLACARDS**

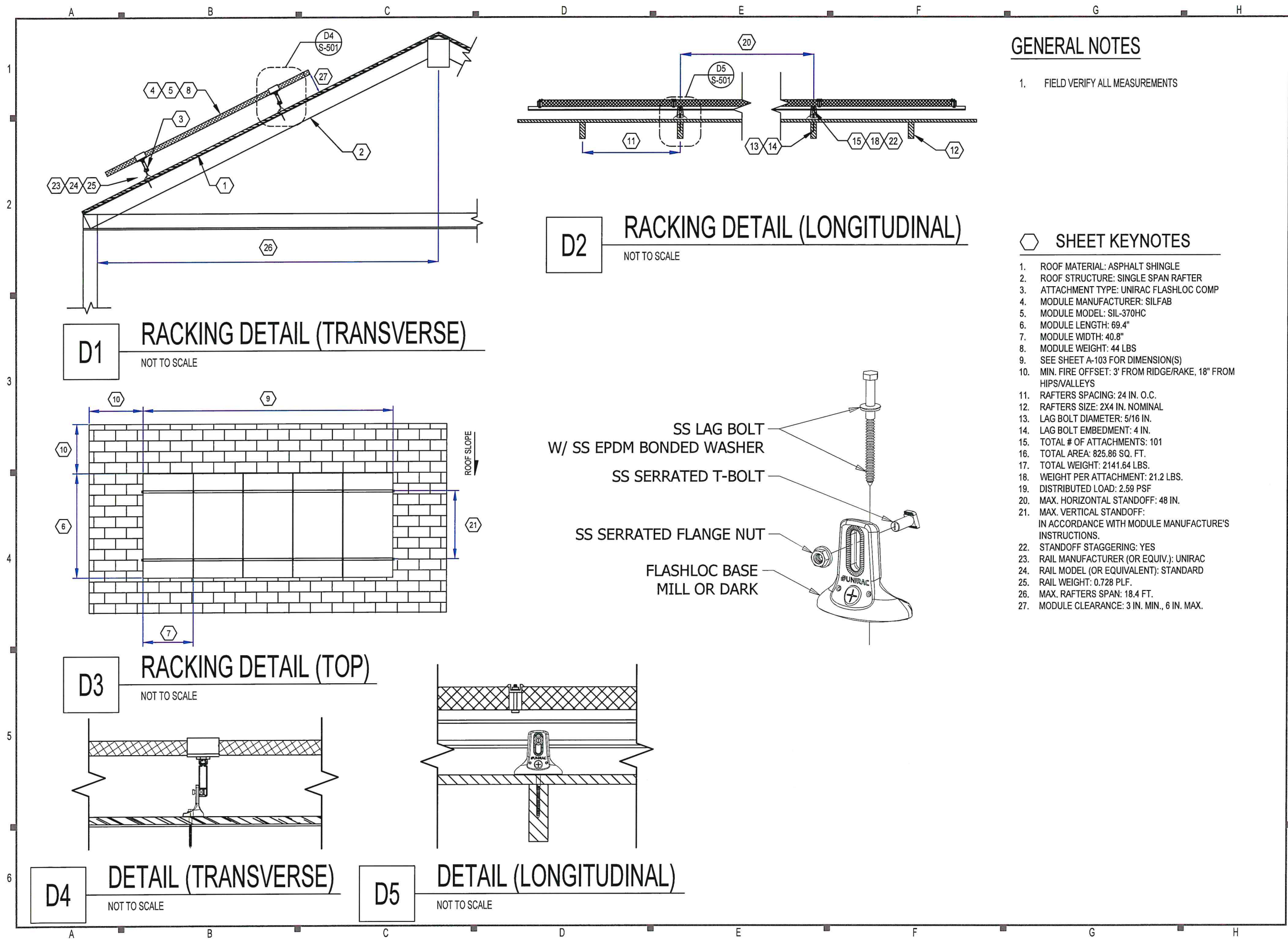
DATE: 02.09.2023

DESIGN BY: K.P.

CHECKED BY: D.P.

**REVISIONS**

**E-603.00**  
(SHEET 8)



## CONTRACTOR

EIGHTTWENTY OKLAHOMA, LLC

PHONE: 405-256-2087

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## ENGINEER OF RECORD

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## ASSEMBLY DETAILS

DATE: 02.09.2023

DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

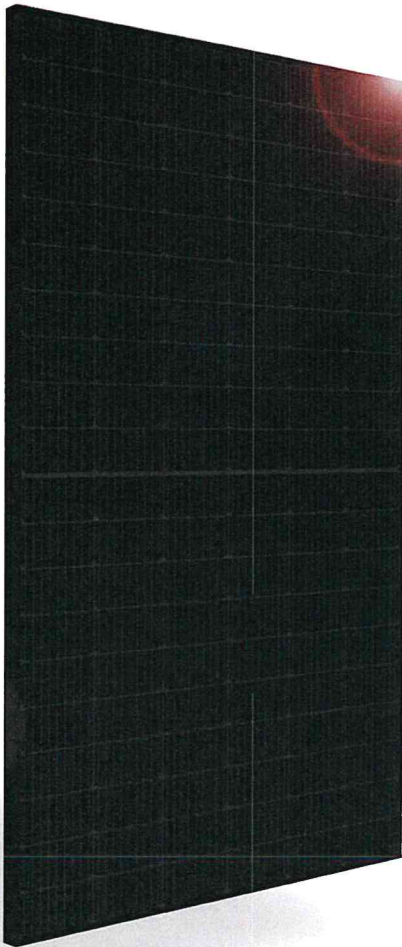
**S-501.00**

(SHEET 9)



SILFAB PRIME

SIL-370 HC



RELIABLE ENERGY.  
DIRECT FROM THE SOURCE.


Introducing Silfab Prime.


Designed to outperform.


Dependable, durable, high-performance solar panels  
engineered for North American homeowners.


SILFABSOLAR.COM


CE











CHUBB

Chubb provides error and omission insurance to Silfab Solar Inc.

ELECTRICAL SPECIFICATIONS

		STC	NOCT
Test Conditions	Wp	370	276
Module Power (Pmax)	V	34.95	32.48
Maximum power voltage (Vpmax)	A	10.60	8.50
Open circuit voltage (Voc)	V	41.75	39.16
Short circuit current (Isc)	A	11.25	9.07
Module efficiency	%	20.2%	18.9%
Maximum system voltage (VDC)	V	1000	
Series fuse rating	A	20	
Power Tolerance	Wp	0 to +10	

Measurement conditions: STC 1000 W/m² • AM 1.5 • Temperature 25 °C • NOCT 800 W/m² • AM 1.5 • Measurement uncertainty ± 3%  
Sun simulator calibration reference modules from Fraunhofer Institute. Electrical characteristics may vary by ±5% and power by 0 to +10W.

MECHANICAL PROPERTIES / COMPONENTS

METRIC	IMPERIAL	
Module weight	19.5kg ±0.2kg	43lbs ±0.4lbs
Dimensions (H x L x D)	1762 mm ± 1037 mm x 35 mm	69.4 in x 40.8 in x 1.37 in
Maximum surface load (wind/snow)*	5400 Pa rear load / 5400 Pa front load	112.8 lbf/ft² rear load / 112.8 lbf/ft² front load
Hail impact resistance	ø 25 mm at 83 km/h	ø 1 in at 51.6 mph
Cells	120 Half cells - Si mono PERC	120 Half cells - Si mono PERC
Glass	9 busbar - 63 x 166 mm	9 busbar - 3.26 x 6.53 in
Cables and connectors (refer to installation manual)	3.2 mm high transmittance, tempered, DSM antireflective coating	0.126 in high transmittance, tempered, DSM antireflective coating
Backsheet	1350 mm, ø 5.7 mm, MC4 from Staubli	53.15 in, ø 0.22 in (12AWG), MC4 from Staubli
Frame	High durability, superior hydrolysis and UV resistance, multi-layer dielectric film, fluorine-free PV backsheet	
Bypass diodes	Anodized Aluminum (Black)	
Junction Box	3 diodes 30VQB45T (4W max 0V blocking voltage, 10A max forward rectified current)	
	UL 3730 Certified, IEC 62790 Certified, IP67 rated	

TEMPERATURE RATINGS

Temperature Coefficient Isc	+0.064 %/°C
Temperature Coefficient Voc	-0.28 %/°C
Temperature Coefficient Pmax	-0.36 %/°C
NOCT (± 2°C)	45 °C
Operating temperature	-40; +85 °C

WARRANTIES

Module product workmanship warranty	25 years**
Linear power performance guarantee	30 years
	≥ 97.1% end 1st yr
	≥ 91.6% end 12th yr
	≥ 85.1% end 25th yr
	≥ 82.6% end 30th yr

CERTIFICATIONS

Product	ULC ORD C1703, UL1703, CEC listed, UL 61215-1/-1-1/-2, UL 61730-1/-2, IEC 61215-1/-1-1/-2***, IEC 61730-1/-2***, CSA C22.2-M61730-1/-2, IEC 62716
Factory	Ammonia Corrosion: IEC 61701-2011 Salt Mist Corrosion Certified, UL Fire Rating: Type 2
	ISO 9001:2015

SHIPPING SPECS

Modules Per Pallet	26 or 26 (California)
Pallets Per Truck	34 or 32 (California)
Modules Per Truck	884 or 832 (California)

Warning: Read the Safety and Installation Manual for mounting specifications and before handling, installing and operating modules.  
12 year extendable to 25 years subject to registration and conditions outlined under "Warranty" at [silfab.com](http://silfab.com)  
Certification in progress.  
PWA files generated from 3rd party performance data are available for download at: [silfab.com/open/links](http://silfab.com/open/links)

Side

Back View

69.4" [1762mm]

14" [356mm]

41.3" [1050mm]

14" [356mm]

1.4" [35mm]

0.5" [12mm]

0.3" [7mm]

0.6" [15mm]

1.4" [35mm]

0.06" [1.5mm]

53.15" [1350mm]

0.0 17" [44.2mm] (x2)

8" [203mm]

2.4" [60mm]

Drainage Hole (x8)

Mounting Hole (x4)

Grounding Hole

SILFAB SOLAR INC.

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info@silfab.com  
SILFABSOLAR.COM

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Mississauga ON L5T 2Y3 Canada  
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NEW PV SYSTEM: 15.540 kWp

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APN: 2681049163360

## ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

## RESOURCE DOCUMENT

DATE: 02.09.2023

DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

R-001.00

(SHEET 10)





## IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

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IQ8SP-DS-0002-01-EN-US-2021-10-19

DATA SHEET

## IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings <sup>1</sup>	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current <sup>2</sup> [module Isc]	A		15
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range <sup>3</sup>	V		240 / 211 – 264
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz		60
Extended frequency range	Hz		50 – 68
Max units per 20 A (L-L) branch circuit <sup>4</sup>		16	13
Total harmonic distortion			<5%
Overvoltage class AC port			III
AC port backfeed current	mA		30
Power factor setting			1.0
Grid-tied power factor (adjustable)			0.85 leading – 0.85 lagging
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW		60

MECHANICAL DATA	
Ambient temperature range	-40°C to +60°C (-40°F to +140°F)
Relative humidity range	4% to 100% (condensing)
DC Connector type	MC4
Dimensions (HxWxD)	212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection – no fans
Approved for wet locations	Yes
Acoustic noise at 1 m	<60 dBA
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environ. category / UV exposure rating	NEMA Type 6 / outdoor

COMPLIANCE	
Certifications	CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01
	This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.

(1) No enforced DC/AC ratio. See the compatibility calculator at <https://link.enphase.com/module-compatibility> (2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2021-10-19



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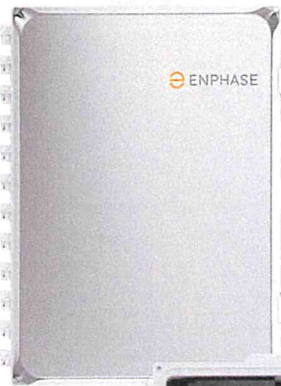
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(SHEET 11)



# Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4  
X-IQ-AM1-240-4C



X-IQ-AM1-240-4C



X-IQ-AM1-240-4

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

### Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

### Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

### Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed

## Enphase IQ Combiner 4/4C

### MODEL NUMBER

IQ Combiner 4 (X-IQ-AM1-240-4)

IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.

IQ Combiner 4C (X-IQ-AM1-240-4C)

IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.

### ACCESSORIES AND REPLACEMENT PARTS

(not included, order separately)

Ensemble Communications Kit  
COMMS-CELLMODEM-M1-06  
CELLMODEM-M1-06-SP-05  
CELLMODEM-M1-06-AT-05

- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites  
- 4G based LTE-M1 cellular modem with 5-year Sprint data plan  
- 4G based LTE-M1 cellular modem with 5-year AT&T data plan

Circuit Breakers  
BRK-10A-2-240V  
BRK-15A-2-240V  
BRK-20A-2P-240V  
BRK-15A-2P-240V-B  
BRK-20A-2P-240V-B

Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers.  
Circuit breaker, 2 pole, 10A, Eaton BR210  
Circuit breaker, 2 pole, 15A, Eaton BR215  
Circuit breaker, 2 pole, 20A, Eaton BR220  
Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support  
Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support

EPLC-01

Power line carrier (communication bridge pair), quantity - one pair

XA-SOLARSHIELD-ES

Replacement solar shield for IQ Combiner 4/4C

XA-PLUG-120-3

Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)

XA-ENV-PCBA-3

Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C

X-IQ-NA-HD-125A

Hold down kit for Eaton circuit breaker with screws.

### ELECTRICAL SPECIFICATIONS

Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers

### MECHANICAL DATA

Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)

### INTERNET CONNECTION OPTIONS

Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)

### COMPLIANCE

Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit [enphase.com](https://enphase.com)

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DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

R-003.00

(SHEET 12)



To learn more about Enphase offerings, visit [enphase.com](https://enphase.com)



UL Product iQ™



QIJW.E341165 - Photovoltaic Rapid Shutdown System Equipment

Photovoltaic Rapid Shutdown System Equipment

ENPHASE ENERGY INC

1420 N McDowell Blvd  
Petaluma, CA 94954-6515 United States

E341165

Model(s): C250IQ7-2LN, IQ7PD-72-2-US, IQ6IQ7-US, IQ6PLUSIQ7-US, IQ7PD-84-2-US, M175IQ7-208, M175IQ7-240, M190-60, -72, M190IQ7-208, M190IQ7-240, M200IQ7-208, M200IQ7-240, M210-84, M210IQ7-208, M210IQ7-240, M215-60, M215IQ7-208, M215IQ7-240, M250-60, -72, M250IQ7-208, M250IQ7-240, S230IQ7-208, S230IQ7-240, S280IQ7-208, S280IQ7-240

Model(s): IQ6-60-ACM-US\*(b) (b) - Where \* may be any combination of letters or numbers or hyphen or none

Model(s): IQ6-60-X-US\*(a)(b) (a) - Where x may be 2, 5, or B. (b) - Where \* may be any combination of letters or numbers or hyphen or none

Model(s): IQ6PLUS-72-ACM\*(b) (b) - Where \* may be any combination of letters or numbers or hyphen or none

Model(s): IQ6PLUS-72-X-US\*(a)(b) (a) - Where x may be 2, 5, or B. (b) - Where \* may be any combination of letters or numbers or hyphen or none

Model(s): IQ7-60 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

Model(s): IQ7A, may be f/b S, may be f/b 66 or -72 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

Model(s): IQ7A-72 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

Model(s): IQ7PLUS-72 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

Model(s): IQ7X-96 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

Model(s): IQ7XS-96 (c) (c) - May be f/b -2, 5, -E, or -ACM, f/b US, may be f/b -NM, may be f/b -RMA&, where "&" may be optional alphanumeric characters.

**IQ8PV**, Model(s): IQ7GPLUS-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8-60 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8A-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8H-208-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8H-240-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8M-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

**IQ8PV**, Model(s): IQ8PLUS-72 may be f/b -2, -5, -E or -M, may be f/b -ACM, f/b -US, may be f/b -NM, may be f/b -RMA, may be f/b -&, where "&" designates additional characters.

Last Updated on 2021-11-10

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# SOLARMOUNT



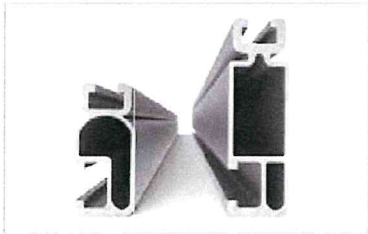
**SOLARMOUNT** defined the standard in solar racking. Features are designed to get installers off the roof faster. Our grounding & bonding process eliminates copper wire and grounding straps to reduce costs. Systems can be configured with standard or light rail to meet your design requirements at the lowest cost possible. The superior aesthetics package provides a streamlined clean edge for enhanced curb appeal, with no special brackets required for installation.



Now Featuring:  
**THE NEW FACE OF SOLAR RACKING**  
Superior Aesthetics Package



**LOSE ALL OF THE COPPER & LUGS**  
System grounding through Enphase microinverters and trunk cables



**SMALL IS THE NEXT NEW BIG THING**  
Light Rail is Fully Compatible with all SM Components



**ENHANCED DESIGN & LAYOUT TOOLS**  
Featuring Google Map Capabilities within U-Builder

## FAST INSTALLATION. SUPERIOR AESTHETICS

OPTIMIZED COMPONENTS • VERSATILITY • DESIGN TOOLS • QUALITY PROVIDER

# SOLARMOUNT



## OPTIMIZED COMPONENTS

### INTEGRATED BONDING & PRE-ASSEMBLED PARTS

Components are pre-assembled and optimized to reduce installation steps and save labor time. Our new grounding & bonding process eliminates copper wire and grounding straps or bonding jumpers to reduce costs. Utilize the microinverter mount with a wire management clip for an easier installation.

## VERSATILITY

### ONE PRODUCT - MANY APPLICATIONS

Quickly set modules flush to the roof or at a desired tilt angle. Change module orientation to portrait or landscape while securing a large variety of framed modules on flat, low slope or steep pitched roofs. Available in mill, clear and dark anodized finishes to outperform your projects financial and aesthetic aspirations.

## AUTOMATED DESIGN TOOL

### DESIGN PLATFORM AT YOUR SERVICE

Creating a bill of materials is just a few clicks away with U-Builder, a powerful online tool that streamlines the process of designing a code compliant solar mounting system. Save time by creating a user profile, and recall preferences and projects automatically when you log in. You will enjoy the ability to share projects with customers; there's no need to print results and send to a distributor, just click and share.



## UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT



### TECHNICAL SUPPORT

Unirac's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.



### CERTIFIED QUALITY PROVIDER

Unirac is the only PV mounting vendor with ISO certifications for 9001:2015, 14001:2015 and OHSAS 18001:2007, which means we deliver the highest standards for fit, form and function. These certifications demonstrate our excellence and commitment to first class business practices.

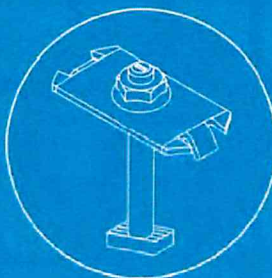


### BANKABLE WARRANTY

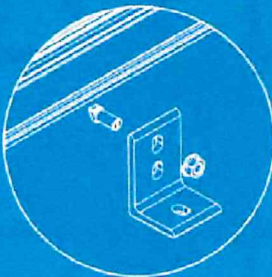
Don't leave your project to chance. Unirac has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are receiving products of exceptional quality. SOLARMOUNT is covered by a twenty five (25) year limited product warranty and a five (5) year limited finish warranty.

PROTECT YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

PLR20170729, PRINTED



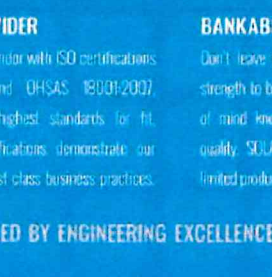
INTEGRATED BONDING MIDCLAMP



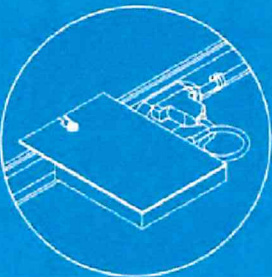
INTEGRATED BONDING SPLICE BAR



INTEGRATED BONDING L-FOOT w/ T-BOLT



INTEGRATED BONDING MICROINVERTER MOUNT w/ WIRE MANAGEMENT



### CONTRACTOR

EIGHTTWENTY OKLAHOMA, LLC

PHONE: 405-256-2087  
ADDRESS: 1825 N WALNUT AVENUE  
SUITE G  
OKLAHOMA CITY, OK 73105

LIC. NO.: 095963  
HIC. NO.:  
ELE. NO.:

UNAUTHORIZED USE OF THIS  
DRAWING SET WITHOUT WRITTEN  
PERMISSION FROM CONTRACTOR IS IN  
VIOLATION OF U.S. COPYRIGHT LAWS  
AND WILL BE SUBJECT TO CIVIL  
DAMAGES AND PROSECUTIONS.

NEW PV SYSTEM: 15.540 kWp

## LAWSON RESIDENCE

224 NW 33RD ST,  
OKLAHOMA CITY, OK 73118  
APN: 2681049163360

### ENGINEER OF RECORD

PAPER SIZE: 11" x 17" (ANSI B)

### RESOURCE DOCUMENT

DATE: 02.09.2023

DESIGN BY: K.P.

CHECKED BY: D.P.

REVISIONS

R-005.00

(SHEET 14)



# FLASH LOC

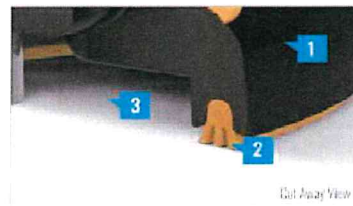


FLASHLOC is the ultimate attachment for composition shingle and rolled comp roofs. The all-in-one mount installs fast — no kneeling on hot roofs to install flashing, no prying or cutting shingles, no pulling nails. Simply drive the lag bolt and inject sealant into the base. FLASHLOC's patented TRIPLE SEAL technology preserves the roof and protects the penetration with a permanent pressure seal. Kitted with lag bolts, sealant, and hardware for maximum convenience. Don't just divert water, **LOC it out!**



## PROTECT THE ROOF

Install a high-strength waterproof attachment without lifting, prying or damaging shingles.



## LOC OUT WATER

With an outer shield **1** contour-conforming gasket **2** and pressurized sealant chamber **3** the Triple-Loc Seal delivers a 100% waterproof connection



## HIGH-SPEED INSTALL

Simply drive lag bolt and inject sealant into the port **4** to create a permanent pressure seal

# FLASH LOC

## INSTALLATION GUIDE



## PRE-INSTALL

Snap chalk lines for attachment rows. On shingle roofs, snap lines 1-3/4" below upslope edge of shingle course. Locate rafters and mark attachment locations.

At each location, drill a 7/32" pilot hole. Clean roof surface of dirt, debris, snow, and ice, then fill pilot hole with sealant.

NOTE: Space mounts per racking system install specifications. When down pressure is ≥34 psf, span may not exceed 2 ft.



## STEP 1: SECURE

Place FLASHLOC over pilot hole with lag on down-slope side. Align indicator marks on sides of mount with chalk line. Pass included lag bolt and sealing washer through FLASHLOC into pilot hole. Drive lag bolt until mount is held firmly in place.

NOTE: The EPDM in the sealing washer will expand beyond the edge of the metal washer when proper torque is applied.



## STEP 2: SEAL

Insert tip of UNIRAC provided sealant into port. Inject until sealant exits both vents.

Continue array installation, attaching rails to mounts with provided T-bolts.

NOTE: When FLASHLOC is installed over gap between shingle or tabs or vertical joints, fill gap/joint with sealant between mount and upslope edge of shingle course.

Use only provided sealant.

FASTER INSTALLATION. 25-YEAR WARRANTY.

FOR QUESTIONS OR CUSTOMER SERVICE VISIT UNIRAC.COM OR CALL (505) 248-2702

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