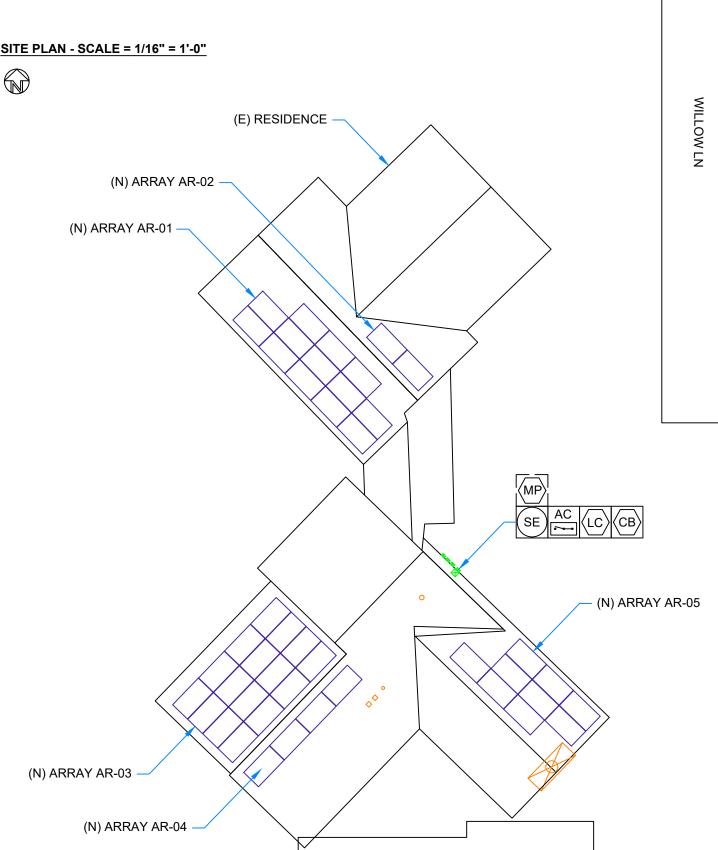
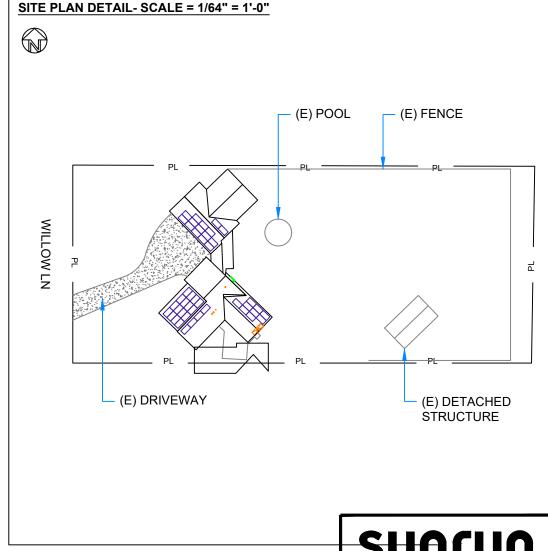
Inspect entire jobsite for hazards  Draw Sunrun vehicle locations on planset  Label Operations Safety Manual Location  Label fire extinguisher location  Label first aid kit location  Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points  Draw electrical hazard areas	H SV OSM FE FA EW DW HHZ
Label Operations Safety Manual Location  Label fire extinguisher location  Label first aid kit location  Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	OSM FE FA EW DW HHZ
Label fire extinguisher location  Label first aid kit location  Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	FE FA EW DW HHZ
Label first aid kit location  Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	FA EW DW HHZ
Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	EW DW HHZ
Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	DW HHZ
Draw hard hat zone around house  Draw fall protection anchor locations  Draw ladder & roof access points	HHZ
Draw fall protection anchor locations  Draw ladder & roof access points	
Draw ladder & roof access points	Х
·	, ,
Draw electrical hazard areas	L
	EH
Draw water & trip hazard locations	
Safaty Contact	
Safety Contact:	
Safety Contact:  Medical Clinic:	
•	
Medical Clinic:  Nearest Hospital:  Restroom Location:	
Medical Clinic:  Nearest Hospital:  Restroom Location:  Water Replenishment:	
Medical Clinic:  Nearest Hospital:  Restroom Location:  Water Replenishment:  Water Replenished by:	
Medical Clinic:  Nearest Hospital:  Restroom Location:	Design Feedback



page. I have added my initials next to the equipment locations and signed this document to note my agreement with the layout of the system.







# SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

**CUSTOMER RESIDENCE:** ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

CINDY SAN MIGUEL

SHEET

SAFETY PLAN

REV: B

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(415) 580-6920 ex3

PAGE

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JURISDICTION	IL-	VILLAGE WADSWORTH
		ELECTRICAL SOW
MAIN PANEL UPGRADE	No	
MAIN PANEL REPLACEMENT	No	
METER ADAPTER	No	
SERVICE REFEED	No	
NEW SUB-PANEL	No	
INTERCONNECTION	Supp	oly Side Tap: Meter Conductors
DESIGNER NOTES - ELECTRICAL	Exist Insta NOT - En	ST in Meter Conductors ing MSP: 200A/200A Il combiner box and ac disco to the right of meter. E: The following stringing details are only valid for Hanwha Q-Cells: Q.PEAK DUO BLK ML-G10+ 400 phase Energy: IQ8PLUS-72-2-US: Max Branch Size: 13; dules within branch are not required to be at the same orientation and pitch
		ROOF SOW
RELOCATE VENT	No	
RELOCATE SATELLITE DISH	No	
DORMER REPLACED W/ FLUSH VENT	No	
DESIGNER NOTES - ROOF	Com	p shingle is below 5 years old and in good condition.
		STRUCTURAL SOW
SISTERING	No	
DESIGNER NOTES - STRUCTURAL	Struc	cture looks good. Dip test done on roof 7 and 8. Plywood/OSB sheathing on non-vaulted structures.
		OTHER SOW
TRENCHING	No	
ANIMAL DETERRENT SYSTEM	No	
DESIGNER NOTES - MISC.		
		AHJ ELECTRICAL REQS
GROUND ROD	No	
EXTERNAL GEC	No	
VISIBLE BLADE AC DISCO	No	
WIRE SIZE REQUIREMENTS	No	
		UTILITY REQS
EQUIPMENT ORDER		
PRODUCTION METER	No	
WIRE SIZING REQUIREMENTS	No	
UTILITY CUSTOM GUIDELINES		
		OTHER REQS
AHJ COVER FLUSH VENTS	No	
AHJ COVER PVC VENTS		
UNPERMITTED	No	
PLACARDS	No	
AHJ CUSTOM GUIDELINES		
INSPECTION GUIDELINES		
PERMITTING GUIDELINES		
INVERTER 1 SPECIFICATIONS		
MAXIMUM MODULES		
MAXIMUM MODS/ STRING		
INVERTER 2 SPECIFICATIONS		
MAXIMUM MODULES		

UTILITY		ComEd		BRANCH	IL Chicago
		ADDITIONAL I	INFO	RMATION	
SYSTEM SIZE	17600W	DC, 12760W AC		BACKFEED	70 AMPS
MODULES	(44) HAI	NWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400	MAIN	MANUFACTURER	ITE Seimens
MODULE DIMS	73.98" x	41.14" x 1.26" (33mm)		RSD	
INVERTER(S)	Înv 2 (wi IQ8PLU:	PHASE ENERGY: IQ8PLUS-72-2-US nen applicable): ENPHASE ENERGY: S-72-2-US nen applicable):	E	ENERGY STORAGE	()
	• CONN FIELD IN • BRANG • BRANG • BRANG • BRANG • ADD 11 • ADD 4	TO INSTALLER: ECT SYSTEM VIA INSULATION PIERCING ON SUPPLINSTALLED. CH [A] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [B] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [C] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [D] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [E] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [E] MUST BE CENTER-FED. MAX SUB-BRANCH LE CH [E] MUST BE CENTER-FED. MAX SUB-BRANCH LE COAMP NEW PV LOAD CENTER. COAMP BREAKER TO PV LOAD CENTER (INV1).	ENGTH ENGTH ENGTH ENGTH	= 0 = 0   = 0	JTILITY METER ENCLOSURE. CONDUCTORS ARE

# SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

CUSTOMER RESIDENCE: ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

CINDY SAN MIGUEL

SHEET

**REQUIREMENTS** 

REV: B

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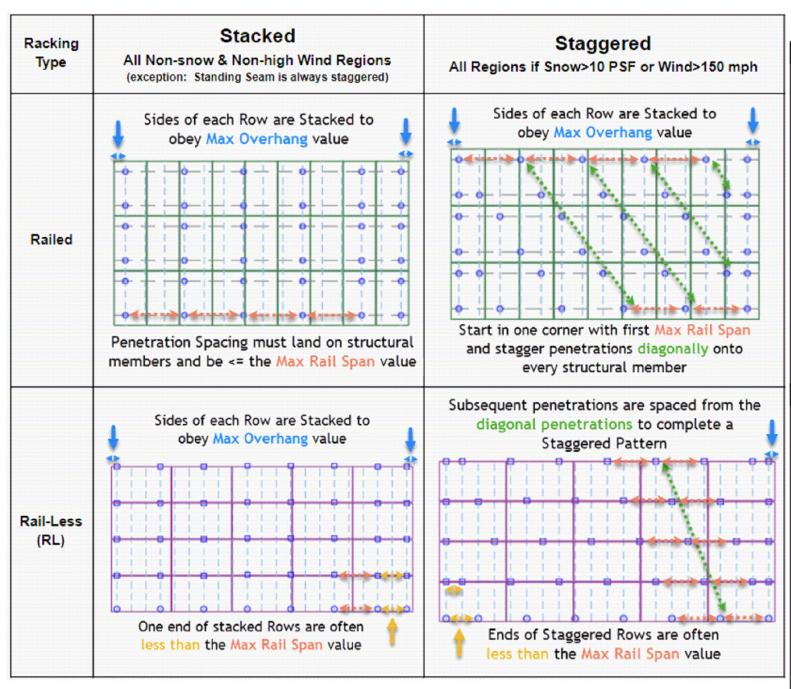
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	UCTURAL S	PECIFI	CATIONS	3				
	Structural In	formation						
SYSTEM SIZE	17600W DC, 12760W AC	RACKING		; RL UNIVERSAL, SI		Array		
MODULES	(44) HANWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400		TRACK ON COMP, SEE DETAIL SNR-DC-00436					Г
MODULE DIMS	73.98" x 41.14" x 1.26" (33mm)	ROOF TYPE	COMP SHINGLE -	RLU		Name	Max OC	_
MODULE CLAMPS	Portrait: 60, Landscape: 011-06607-ITC26	FRAME TYPE	2X4 PRE-FABRICA	ATED TRUSSES			Spacing	١
MAX ROOF HEIGHT	1 STORIES	OC SPACING	24" OC		AR-01	6' - 0"	Г	
LAG LENGTH	5/16": 2.5" MIN EMBEDMENT	COLUMN SPACING	0.75"	0.75"		6' - 0"		
		AR-02						
SISTERING	No					AR-03	6' - 0"	
DESIGNER NOTES	Structure looks good. Dip test done on roof 7 and 8. Plywood	/OSB sheathing on non	-vaulted structures.			AR-04	6' - 0"	
DESIGNER NOTES	Structure looks good. Dip test done on roof 7 and 8. Plywood	/OSB sheathing on non	-vaulted structures.			AR-04	6' - 0"	

				ATTAC	HMENT SP	ECIFICATIO	NS		
Array		Land	dscape			Po	ortrait		Layout
Name	Max OC Spacing	Max Overhang	*Reduced Max OC Spacing	*Reduced Max Overhang	Max OC Spacing	Max Overhang	*Reduced Max OC Spacing	*Reduced Max Overhang	Configuration
AR-01	6' - 0"	2' - 4"	3'-0"	1'-2"	4' - 0"	1' - 10"	2'-0"	0'-10"	STAGGERED
AR-02	6' - 0"	2' - 4"	3'-0"	1'-2"	4' - 0"	1' - 10"	2'-0"	0'-10"	STAGGERED
AR-03	6' - 0"	2' - 4"	3'-0"	1'-2"	4' - 0"	1' - 10"	2'-0"	0'-10"	STAGGERED
AR-04	6' - 0"	2' - 4"	3'-0"	1'-2"	4' - 0"	1' - 10"	2'-0"	0'-10"	STAGGERED
AR-05	5' - 4"	2' - 1"	2'-6"	1'-0"	4' - 0"	1' - 10"	2'-0"	0'-10"	STAGGERED

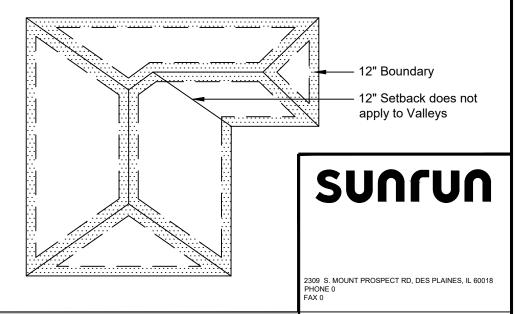
<sup>\*</sup>Reduced maximum spacings and overhangs apply only within the roof edge boundary regions (see sample illustration below).



#### PITCHED/SLOPED ROOFS - REDUCED SPACING AND OVERHANG DETAIL FOR 12" BOUNDARY REGION

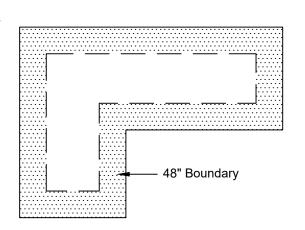
**NOTE:** If array (excluding skirt) is within 12" boundary region of any roof plane edges (except valleys), then attachments need to be added and overhang reduced within the 12" boundary region only as follows:

- Allowable attachment spacing indicated on plans to be reduced by 50% (refer to table above)
- Allowable overhang indicated on plans to be 1/5th of allowable attachment spacing indicated on plans (refer to table above)



#### FLAT ROOFS - REDUCED SPACING AND OVERHANG DETAIL FOR 48" BOUNDARY REGION

- Allowable attachment spacing indicated on plans to be reduced by 50% (refer to table above)
- Allowable overhang indicated on plans to be 1/5th of allowable attachment spacing indicated on plans (refer to table above)



CUSTOMER RESIDENCE: ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER: <sup>(415</sup> CINDY SAN MIGUEL

SHEET

STRUC. REQS.

(415) 580-6920 ex3

REV: B 12/9/2022

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ARRA PITCI  AR-01 23°  AR-02 23°  AR-03 23°  AR-04 23°  AR-05 23°	Mapping	1. Remove place neat numbered	2. Write th on the app array.	·	S	2309 S. MOI PHONE 0 FAX 0	ZBIGN 37135 60031	TEL. (77 APN: 07 PROJE 711R-	711R- DESIGN CINDN	SHEET	REV: B
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$											
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	<b>」</b> ┐	_ _ _	_ _ _		¬ ⅃ ¬	 	_ 			_ _	
						 	34				42 —
											41 — —

	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	23°	226°	229°	274.8
AR-02	23°	47°	50°	42.3
AR-03	23°	314°	317°	338.2
AR-04	23°	134°	137°	84.5
AR-05	23°	44°	47°	190.2

#### Instructions:

- ve the Enphase sticker and atly on the appropriate ed space.
- the corresponding number opropriate panel within the

# SUNTUN

MOUNT PROSPECT RD, DES PLAINES, IL 60018

TOMER RESIDENCE: GNIEW KOLENDA 35 WILLOW LN, GURNEE, IL,

773) 818-5867 07-03-303-023-0000

JECT NUMBER: R-135KOLE

(415) 580-6920 ex3 GNER:

DY SAN MIGUEL

MLPE MAP 1

12/9/2022

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43 — —	44	
<u>57</u>		
<u> </u>		
61		
<u> </u>		
<u></u>		
67		
<u> </u>	82	

	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	23°	226°	229°	274.8
AR-02	23°	47°	50°	42.3
AR-03	23°	314°	317°	338.2
AR-04	23°	134°	137°	84.5
AR-05	23°	44°	47°	190.2

#### **Mapping Instructions:**

- 1. Remove the Enphase sticker and place neatly on the appropriate numbered space.
- 2. Write the corresponding number on the appropriate panel within the array.

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2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

CUSTOMER RESIDENCE: ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

(415) 580-6920 ex3

**CINDY SAN MIGUEL** 

SHEET

MLPE MAP 2

REV: B

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CD-4.1

### **SCOPE OF WORK SYSTĚM SIZE:** 17600W ĎC, 12760W AC MODULES: (44) HANWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400 INVERTER(S): (44) ENPHASE ENERGY: IQ8PLUS-72-2-US

RACKING: SNAPNRACK RLU; RL UNIVERSAL, SPEEDSEAL

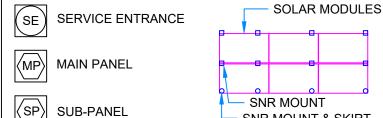
TRACK ON COMP, SEE DETAIL SNR-DC-00436

#### **GENERAL NOTES**

- ALL WORK SHALL COMPLY WITH 2006 IRC/IBC/IEBC, MUNICIPAL CODE, AND ALL MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS.
- PHOTOVOLTAIC SYSTEM WILL COMPLY WITH NEC 2005.
- ELECTRICAL SYSTEM GROUNDING WILL COMPLY WITH NEC 2005.
- PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35.
- MODULES CONFORM TO AND ARE LISTED UNDER UL 1703.
- INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741.
- RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.
- SNAPNRACK RACKING SYSTEMS, IN COMBINATION WITH TYPE I, OR TYPE II MODULES, ARE CLASS A FIRE RATED.
- RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1).
- CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G).
- ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT.
- 11.14 AMPS MODULE SHORT CIRCUIT CURRENT.
- 17.4 AMPS DERATED SHORT CIRCUIT CURRENT [690.8 (A) & 690.8 (B)].

## $^{\prime}\mathsf{B}^{\prime}$

### **LEGEND AND ABBREVIATIONS**



**SNR MOUNT & SKIRT** 

ATTIC VENT

PVC PIPE VENT

T-VENT

FLUSH ATTIC VENT

METAL PIPE VENT

SATELLITE DISH

FIRE SETBACKS

**HARDSCAPE** 

(LC) PV LOAD CENTER CHIMNEY

SUNRUN METER

(PM)DEDICATED PV METER

INVERTER(S) INV

(св)

AC DISCONNECT(S)

DC DISCONNECT(S)

IQ COMBINER BOX

**TONY DANG** 

INTERIOR EQUIPMENT SHOWN AS DASHED

- PL- PROPERTY LINE SCALE: NTS SUNTUN

ı								
	Α		AMPERE					
ı	AC	;	ALTERN.	ATING CURRE	NT			
ı	AF	CI	ARC FAL	JLT CIRCUIT IN	NTERRUPTER			
ı	ΑZ	ΊM	AZIMUTI	1				
ı	CC	MP	COMPOS	SITION				
ı	DC	;	DIRECT	CURRENT				
ı	(E)	)	EXISTING	G				
ı	ES	S	ENERGY	STORAGE SY	STEM			
ı	EX	T	EXTERIO	)R				
ı	INT	Γ	INTERIO	R				
ı	MA	۸G	MAGNET	TC				
ı	MS	-	MAIN SE	RVICE PANEL				
ı	(N)	)	NEW					
ı	NT	_	NOT TO	SCALE				
ı	OC	)	ON CEN	TER				
ı		E-FAB	PRE-FAE	BRICATED				
ı	PS	-		PER SQUARE	FOOT			
ı	PV		PHOTOV					
ı	RS	_		RAPID SHUTDOWN DEVICE				
ı	TL			TRANSFORMERLESS				
ı	TY	P	TYPICAL	-				
ı	V		VOLTS					
Į	W		WATTS					
	REV	N	IAME	DATE	COMMENTS			

12/9/2022

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 6001 PHONE 0 FAX 0

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**DESCRIPTION** 

**COVER SHEET** 

SITE PLAN

LAYOUT

**ELECTRICAL** 

**SIGNAGE** 

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PV-3.0

PV-4.0

PV-5.0

**CUSTOMER RESIDENCE:** ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

(415) 580-6920 ex3 DESIGNER: **CINDY SAN MIGUEL** 

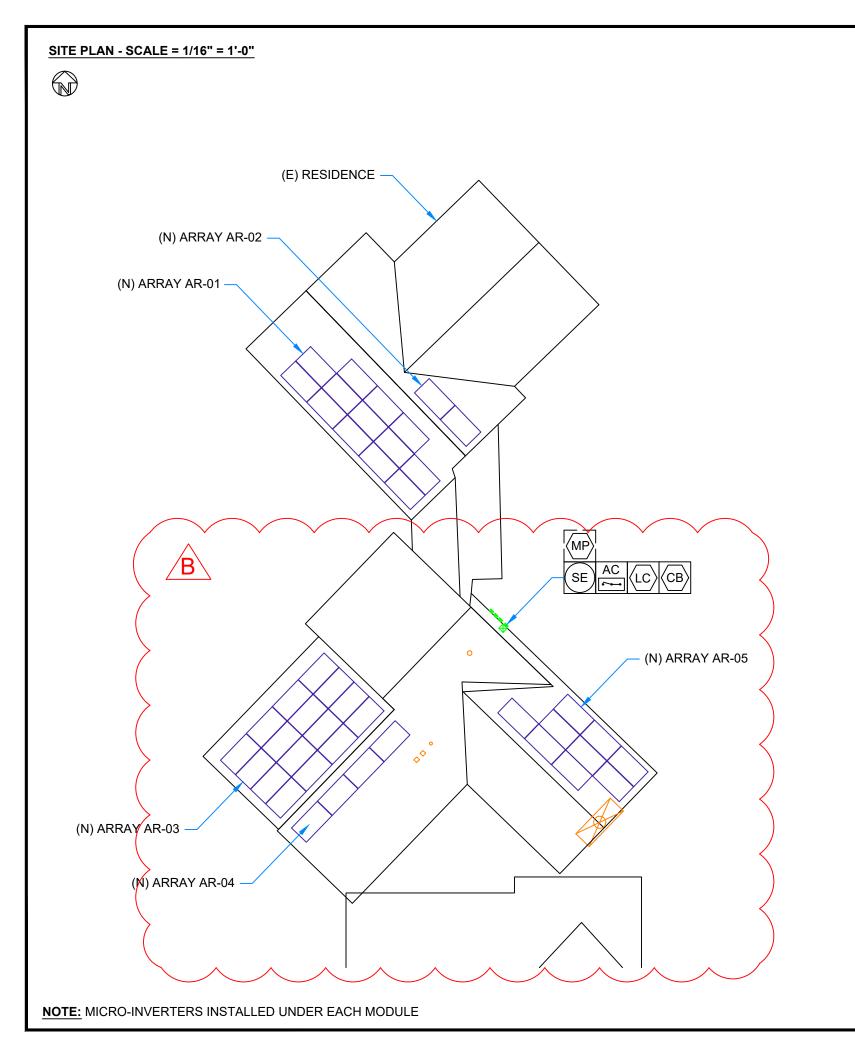
SHEET

**COVER SHEET** 

MOD SWAP/LAYOUT UPDATE REV: B 12/9/2022 PAGE PV-1.0

### **VICINITY MAP**

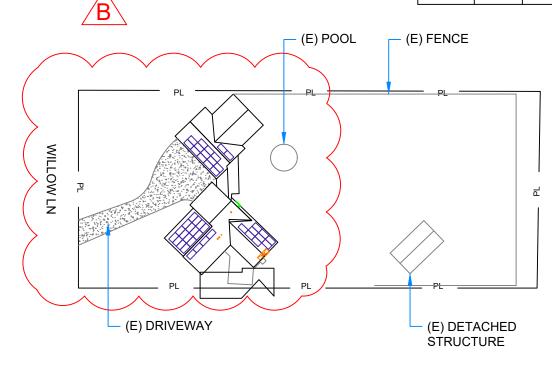




SITE PLAN DETAIL- SCALE = 1/64" = 1'-0"



	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	23°	226°	229°	274.8
AR-02	23°	47°	50°	42.3
AR-03	23°	314°	317°	338.2
AR-04	23°	134°	137°	84.5
AR-05	23°	44°	47°	190.2



# SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

CUSTOMER RESIDENCE: ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER: (415) 580-6920 ex3

CINDY SAN MIGUEL

SHEET

SITE PLAN

REV: B

12/9/2022

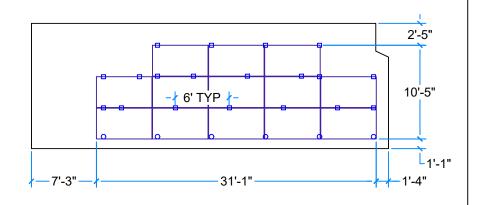
PAGE

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ROOF INFO FRAMING INFO							ATTACHMENT INFORMATION					
Name	Туре	Height	Туре	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration	MAX DISTRIBUTED LOAD: 3 PSF SNOW LOAD: 30 PSF
AR-01	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	5' - 5"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	WIND SPEED: 90 MPH 3-SEC GUST. S.S. LAG SCREW
AR-02	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	5' - 5"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	5/16": 2.5" MIN EMBEDMENT STRUCTURAL NOTES
AR-03	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	6' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	INSTALLERS SHALL NOTIFY     ENGINEER OF ANY     POTENTIAL STRUCTURAL
AR-04	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	6' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	ISSUES OBSERVED PRIOR TO PROCEEDING W/
AR-05	COMP SHINGLE - RLU	1-Story	2X6 RAFTERS	10' - 6"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	2' - 1"	4' - 0"	1' - 10"	STAGGERED	INSTALLATION. • IF ARRAY (EXCLUDING

#### D1 - AR-01 - SCALE: 3/32" = 1'-0"

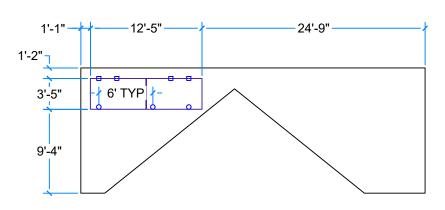
**AZIM:226°** PITCH: 23°



#### D2 - AR-02 - SCALE: 3/32" = 1'-0"

AZIM:47°

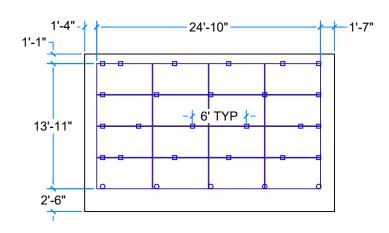
PITCH: 23°



#### D3 - AR-03 - SCALE: 3/32" = 1'-0"

**AZIM:**314°

PITCH: 23°



(EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG **REDUCED WITHIN THE 12" BOUNDARY REGION ONLY** 

AS FOLLOWS:

•• ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY

IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12"

**ROOF PLANE EDGES** 

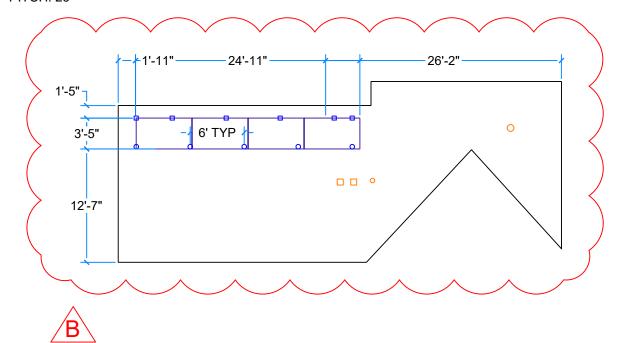
**BOUNDARY REGION OF ANY** 

•• ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

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D4 - AR-04 - SCALE: 3/32" = 1'-0"

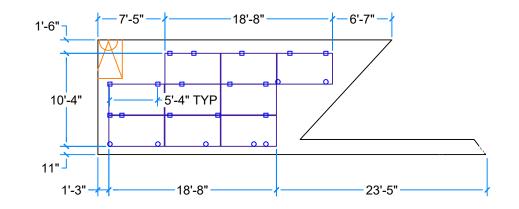
**AZIM:**134° PITCH: 23°



D5 - AR-05 - SCALE: 3/32" = 1'-0"

AZIM:44°

PITCH: 23°



2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

**CUSTOMER RESIDENCE:** ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

(415) 580-6920 ex3 CINDY SAN MIGUEL

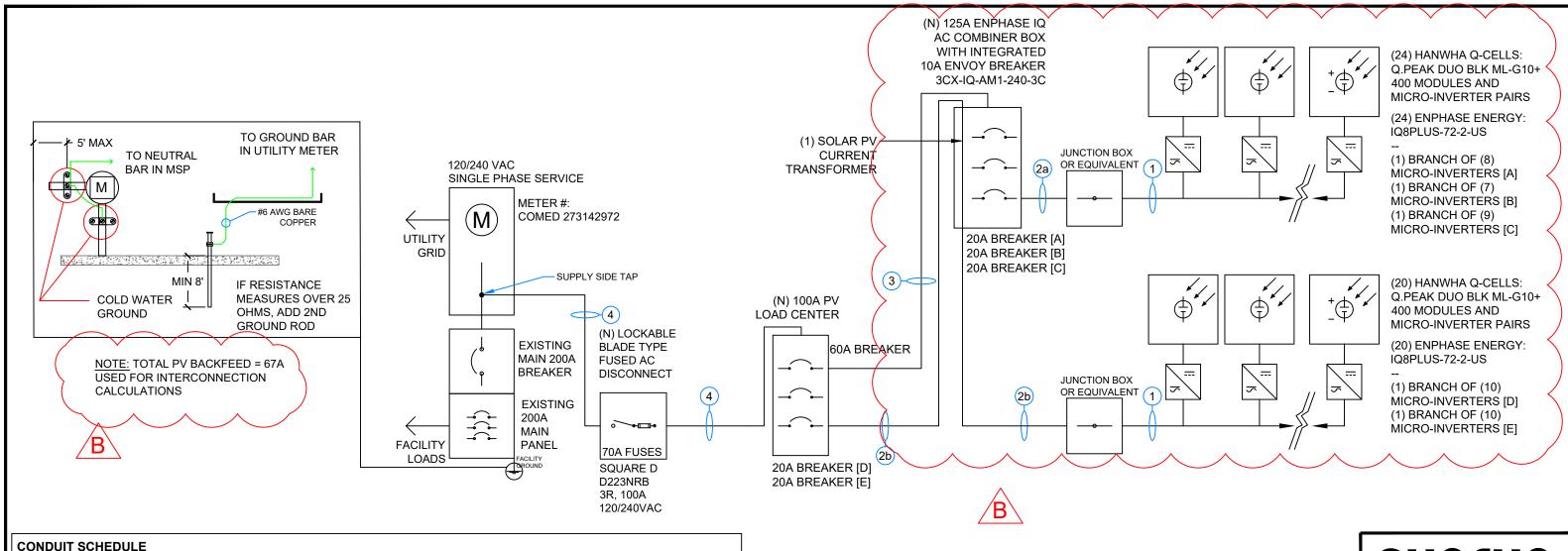
SHEET

LAYOUT

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CON	DUIT SCHEDULE				
#	CONDUIT	CONDUCTOR	NEUTRAL	GROUND	
1	NONE	(2) 12 AWG PER ENPHASE Q CABLE BRANCH	NONE	(1) 10 AWG BARE COPPER	
2a	3/4" IMC	(6) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2	
2b	3/4" IMC	(4) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2	
3	3/4" IMC	(2) 6 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	
4	1" IMC	(2) 4 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	

#### **MODULE CHARACTERISTICS**

HANWHA Q-CELLS: Q.PEAK DUO BLK

ML-G10+ 400: 400 W
OPEN CIRCUIT VOLTAGE: 45.3 V
MAX POWER VOLTAGE: 37.13 V
SHORT CIRCUIT CURRENT: 11.14 A



## SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

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PROJECT NUMBER: 711R-135KOLE

DESIGNER: (415) 580-6920 ex3

CINDY SAN MIGUEL

SHEET

ELECTRICAL

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**ELECTRICAL SHOCK HAZARD** 

DO NOT TOUCH TERMINALS.
TERMINALS ON LINE AND LOAD
SIDES MAY BE ENERGIZED IN
THE OPEN POSITION

LABEL LOCATION:

INVERTER(S), AC/DC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE). PER CODE(S): NEC 2014: 690.17(E), NEC 2011: 690.17(4)



**DUAL POWER SUPPLY** 

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:

UTILITY SERVICE METER AND MAIN SERVICE PANEL. PER CODE(S): NEC 2014: 705.12(D)(3), NEC 2011: 705.12(D)(4)



POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:
ADJACENT TO PV BREAKER (IF APPLICABLE).
PER CODE(S): NEC 2014:
705.12(D)(2)(3)(b), NEC 2011:
705.12(D)(7)

### **!WARNING**

PHOTOVOLTAIC SYSTEM COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION:
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).
PER CODE(S): NEC 2014:
705.12(D)(2)(3)(c), NEC 2011: 705.12(D)(4)

PHOTOVOLTAIC AC DISCONNECT

MAXIMUM AC OPERATING CURRENT: 53.17 AMPS NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:

AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.

PER CODE(S): NEC 2014: 690.54, NEC 2011: 690.54

#### NOTES AND SPECIFICATIONS:

- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2005 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.

## SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

CUSTOMER RESIDENCE: ZBIGNIEW KOLENDA 37135 WILLOW LN, GURNEE, IL, 60031

TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

(415) 580-6920 ex3

**CINDY SAN MIGUEL** 

SHEET

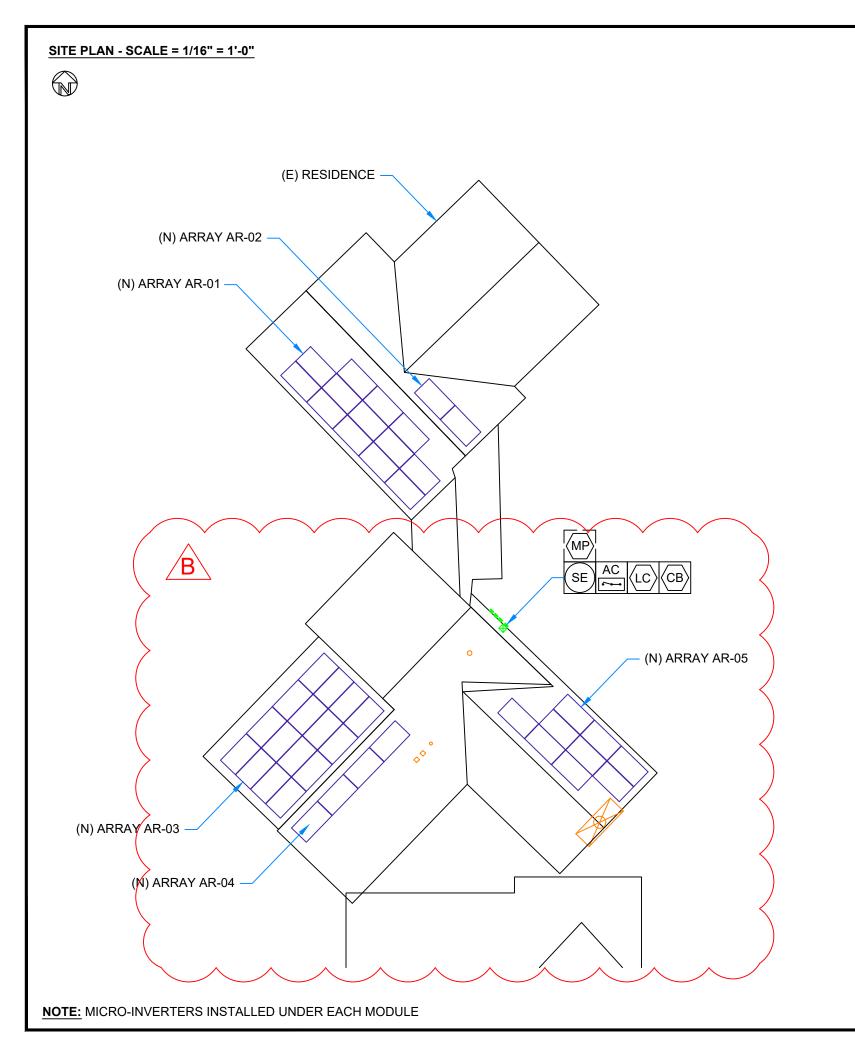
**SIGNAGE** 

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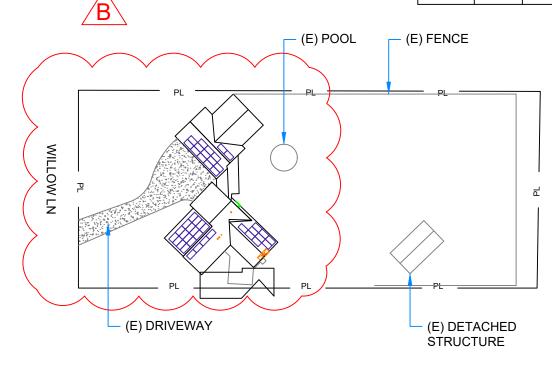
PV-5.0



SITE PLAN DETAIL- SCALE = 1/64" = 1'-0"



	ARRAY PITCH	TRUE AZIM	MAG AZIM	PV AREA (SQFT)
AR-01	23°	226°	229°	274.8
AR-02	23°	47°	50°	42.3
AR-03	23°	314°	317°	338.2
AR-04	23°	134°	137°	84.5
AR-05	23°	44°	47°	190.2



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TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER: (415) 580-6920 ex3

CINDY SAN MIGUEL

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SITE PLAN

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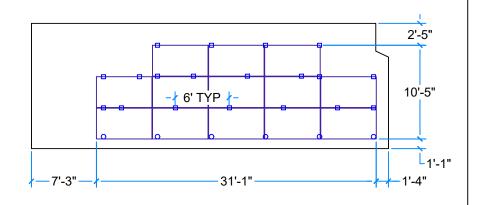
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PV-2.0

ROOF INFO FRAMING INFO							ATTACHMENT INFORMATION					
Name	Туре	Height	Туре	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration	MAX DISTRIBUTED LOAD: 3 PSF SNOW LOAD: 30 PSF
AR-01	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	5' - 5"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	WIND SPEED: 90 MPH 3-SEC GUST. S.S. LAG SCREW
AR-02	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	5' - 5"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	5/16": 2.5" MIN EMBEDMENT STRUCTURAL NOTES
AR-03	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	6' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	INSTALLERS SHALL NOTIFY     ENGINEER OF ANY     POTENTIAL STRUCTURAL
AR-04	COMP SHINGLE - RLU	1-Story	2X4 PRE-FABRICATED TRUSSES	6' - 7"	24"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	6' - 0"	2' - 4"	4' - 0"	1' - 10"	STAGGERED	ISSUES OBSERVED PRIOR TO PROCEEDING W/
AR-05	COMP SHINGLE - RLU	1-Story	2X6 RAFTERS	10' - 6"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	2' - 1"	4' - 0"	1' - 10"	STAGGERED	INSTALLATION. • IF ARRAY (EXCLUDING

#### D1 - AR-01 - SCALE: 3/32" = 1'-0"

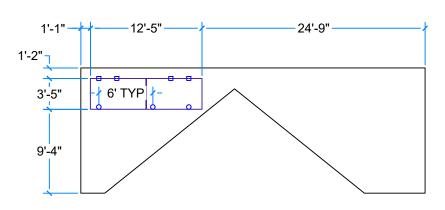
**AZIM:226°** PITCH: 23°



#### D2 - AR-02 - SCALE: 3/32" = 1'-0"

AZIM:47°

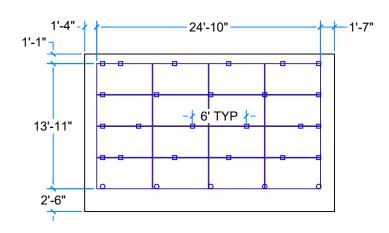
PITCH: 23°



#### D3 - AR-03 - SCALE: 3/32" = 1'-0"

**AZIM:**314°

PITCH: 23°



(EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG **REDUCED WITHIN THE 12" BOUNDARY REGION ONLY** 

AS FOLLOWS:

•• ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY

IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12"

**ROOF PLANE EDGES** 

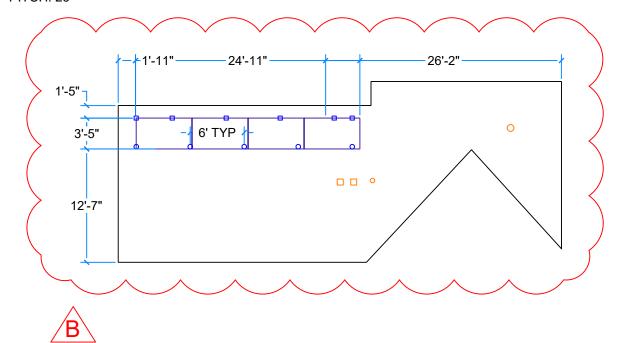
**BOUNDARY REGION OF ANY** 

•• ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

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D4 - AR-04 - SCALE: 3/32" = 1'-0"

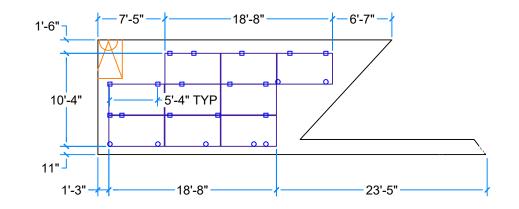
**AZIM:**134° PITCH: 23°



D5 - AR-05 - SCALE: 3/32" = 1'-0"

AZIM:44°

PITCH: 23°



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TEL. (773) 818-5867 APN: 07-03-303-023-0000

PROJECT NUMBER: 711R-135KOLE

DESIGNER:

(415) 580-6920 ex3 CINDY SAN MIGUEL

SHEET

LAYOUT

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SITE SPECIFIC SAFETY PLAN CHECKLIST	Abbr.
Inspect entire jobsite for hazards	Н
Draw Sunrun vehicle locations on planset	SV
Label Operations Safety Manual Location	OSM
Label fire extinguisher location	FE
Label first aid kit location	FA
Label eye wash bottle location	EW
Label drinking water location	DW
Draw hard hat zone around house	HHZ
Draw fall protection anchor locations	Х
Draw ladder & roof access points	L
Draw electrical hazard areas	EH
Draw water & trip hazard locations	
Daily weather forecast & HIPP measures:	
Foreman conducts daily safety briefing and reviews th checklist with crew. Sign and date:	is
Crew signatures:	

Safety Contact:	
Medical Clinic:	
Nearest Hospital:	
Restroom Location:	
Water Replenishment:	



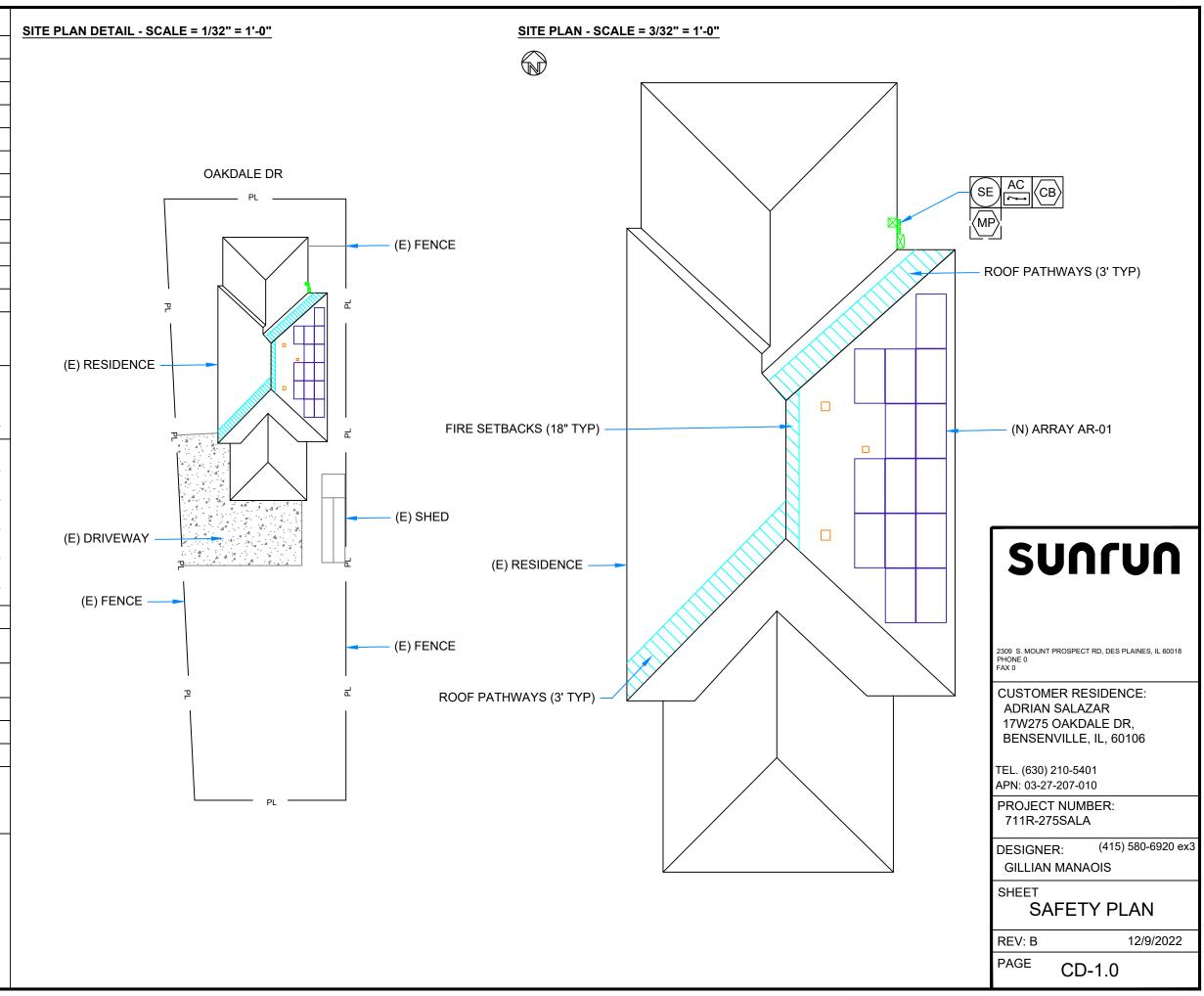
Note: For jobs that last longer than one day, conduct a safety briefing at the start of each day and initial this plan next to your signature.



#### **Customer Signature:**

Water Replenished by:

APPROVAL: I have reviewed the solar design and approve of the placement of solar panels and equipment identified on this page. I have added my initials next to the equipment locations and signed this document to note my agreement with the layout of the system.



### PAPEL LPGRADE   No	JURISDICTION	IL-COUNTY DUPAGE								
MAIN PANEL REPLACEMENT         No	ELECTRICAL SOW									
METER ADAPTER	MAIN PANEL UPGRADE	No								
SERVICE REFEED	MAIN PANEL REPLACEMENT	No	No							
NEW SUB-PANEL   No	METER ADAPTER	No	No							
NTERCONNECTION   Suppire   Suppir	SERVICE REFEED	Yes	Code Violations - Conductors undersized for 200 amp service refeed with 3/0 CU or 4/0 AL							
Cc. SST in Metar Conductor	NEW SUB-PANEL	No								
Continue	INTERCONNECTION	Supp	ly Side Tap: Meter Conductors							
Caphase Energy (28PLN5-722-42)5 Max Branch Size-13;   About 1995 Annih Size-13;   A	DESIGNER NOTES - ELECTRICAL	CB &	AC Disconnect are located on the left side of meter							
RELOCATE VENTE   DISH   No		- En	phase Energy: IQ8PLUS-72-2-US: Max Branch Size: 13;							
RELOCATE SATELLITE DISH   No			ROOF SOW							
DORMER REPLACED W/ FLUSH VENT   No	RELOCATE VENT	No								
DESIGNER NOTES - ROOF	RELOCATE SATELLITE DISH	No								
STRUCTURAL SOW   SISTERING   No	DORMER REPLACED W/ FLUSH VENT	No								
SISTERING         No         —           DESIGNER NOTES - STRUCTURAL         Structure in good condition           TRENCHING         No         ———————————————————————————————————	DESIGNER NOTES - ROOF	Roof	in good condition							
DESIGNER NOTES - STRUCTURAL         Structure in good condition           TRENCHING         No		STRUCTURAL SOW								
TRENCHING NO ANIMAL DETERRENT SYSTEM NO DESIGNER NOTES - MISC  *********************************	SISTERING	No								
TRENCHING	DESIGNER NOTES - STRUCTURAL	Struc	ture in good condition							
ANIMAL DETERRENT SYSTEM   No			OTHER SOW							
DESIGNER NOTES - MISC.	TRENCHING	No								
STATE   STAT	ANIMAL DETERRENT SYSTEM	No								
GROUND ROD         No	DESIGNER NOTES - MISC.									
GROUND ROD         No										
EXTERNAL GEC         No            VISIBLE BLADE AC DISCO         No            WIRE SIZE REQUIREMENTS         No            UTILITY REQS           EQUIPMENT ORDER            PRODUCTION METER         No            WIRE SIZING REQUIREMENTS         No            UTILITY CUSTOM GUIDELINES          OTHER REQS           AHJ COVER FLUSH VENTS         No            AHJ COVER PVC VENTS             UNPERMITTED         No            PLACARDS         No            AHJ CUSTOM GUIDELINES            HIS PECTION GUIDELINES			AHJ ELECTRICAL REQS							
VISIBLE BLADE AC DISCO         №            WIRE SIZE REQUIREMENTS         №            UTILITY REQS           EQUIPMENT ORDER            PRODUCTION METER         №            WIRE SIZING REQUIREMENTS         №            UTILITY CUSTOM GUIDELINES             AHJ COVER FLUSH VENTS         №            AHJ COVER PVC VENTS             UNPERMITTED         №            PLACARDS         №            AHJ CUSTOM GUIDELINES             INSPECTION GUIDELINES             INSPECTION GUIDELINES	GROUND ROD	No								
WIRE SIZE REQUIREMENTS  ***DUTILITY REQS**  ***EQUIPMENT ORDER  ***PRODUCTION METER  ***No  WIRE SIZING REQUIREMENTS  ***No  UTILITY CUSTOM GUIDELINES  ****THE REQS**  AHJ COVER FLUSH VENTS  AHJ COVER PVC VENTS  UNPERMITTED  No  PLACARDS  AHJ CUSTOM GUIDELINES  ****THE REQS**  ***AHJ CUSTOM GUIDELINES  ****THE REQS**  AHJ CUSTOM GUIDELINES  ****THE REQS**  ***THE RE	EXTERNAL GEC	No								
EQUIPMENT ORDER PRODUCTION METER No WIRE SIZING REQUIREMENTS No UTILITY CUSTOM GUIDELINES TOTHER REQS  AHJ COVER FLUSH VENTS AHJ COVER PVC VENTS UNPERMITTED No HO	VISIBLE BLADE AC DISCO	No								
EQUIPMENT ORDER PRODUCTION METER No WIRE SIZING REQUIREMENTS No UTILITY CUSTOM GUIDELINES  TOTHER REQS  AHJ COVER FLUSH VENTS No AHJ COVER PVC VENTS UNPERMITTED No PLACARDS No PLACARDS No  No  SHJ CUSTOM GUIDELINES  No  No  PLACARDS No  N	WIRE SIZE REQUIREMENTS	No								
EQUIPMENT ORDER PRODUCTION METER No WIRE SIZING REQUIREMENTS No UTILITY CUSTOM GUIDELINES  TOTHER REQS  AHJ COVER FLUSH VENTS No AHJ COVER PVC VENTS UNPERMITTED No PLACARDS No PLACARDS No  No  SHJ CUSTOM GUIDELINES  No  No  PLACARDS No  N			UTILITY REQS							
PRODUCTION METER No WIRE SIZING REQUIREMENTS No UTILITY CUSTOM GUIDELINES  *********************************	EQUIPMENT ORDER									
UTILITY CUSTOM GUIDELINES  OTHER REQS  AHJ COVER FLUSH VENTS No  AHJ COVER PVC VENTS  UNPERMITTED No  PLACARDS No  AHJ CUSTOM GUIDELINES  INSPECTION GUIDELINES	PRODUCTION METER	No								
OTHER REQS           AHJ COVER FLUSH VENTS         No            AHJ COVER PVC VENTS             UNPERMITTED         No            PLACARDS         No            AHJ CUSTOM GUIDELINES            INSPECTION GUIDELINES	WIRE SIZING REQUIREMENTS	No								
AHJ COVER FLUSH VENTS         No            AHJ COVER PVC VENTS             UNPERMITTED         No            PLACARDS         No            AHJ CUSTOM GUIDELINES            INSPECTION GUIDELINES	UTILITY CUSTOM GUIDELINES									
AHJ COVER FLUSH VENTS         No            AHJ COVER PVC VENTS             UNPERMITTED         No            PLACARDS         No            AHJ CUSTOM GUIDELINES            INSPECTION GUIDELINES			OTHER REQS							
UNPERMITTED No  PLACARDS No  AHJ CUSTOM GUIDELINES  INSPECTION GUIDELINES	AHJ COVER FLUSH VENTS	No								
PLACARDS No  AHJ CUSTOM GUIDELINES  INSPECTION GUIDELINES	AHJ COVER PVC VENTS									
AHJ CUSTOM GUIDELINES INSPECTION GUIDELINES	UNPERMITTED	No								
INSPECTION GUIDELINES	PLACARDS	No								
	AHJ CUSTOM GUIDELINES									
PERMITTING GUIDELINES	INSPECTION GUIDELINES									
	PERMITTING GUIDELINES									

UTILITY ComEd			BRANCH	IL Chicago								
	ADDITIONAL INFORMATION											
SYSTEM SIZE	5600W D	OC, 4060W AC		BACKFEED	25 AMPS							
MODULES	S (14) HANWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400			MANUFACTURER	Cutler Hammer							
MODULE DIMS	73.98" x 41.14" x 1.26" (33mm)			RSD								
` ,	lnv 2 (wh	PHASE ENERGY: IQ8PLUS-72-2-US en applicable): en applicable):	E	ENERGY STORAGE	()							
	• CONNE	TO INSTALLER: ECT SYSTEM VIA INSULATION PIERCING ON SUPPL STALLED.	Y SIDE	CONDUCTORS IN U	JTILITY METER ENCLOSURE. CONDUCTORS ARE							

# SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

CUSTOMER RESIDENCE: ADRIAN SALAZAR 17W275 OAKDALE DR, BENSENVILLE, IL, 60106

TEL. (630) 210-5401 APN: 03-27-207-010

PROJECT NUMBER: 711R-275SALA

DESIGNER:

(415) 580-6920 ex3

**GILLIAN MANAOIS** 

SHEET

REQUIREMENTS

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				STRU	JCTURAL S	PECIFI	CATIONS	S
	Structural In	formation						
SYSTEM SIZE	5600W DC, 4060W AC	RACKING		J; RL UNIVERSAL, SP		Array		
MODULES	(14) HANWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400		TRACK ON COMP	P, SEE DETAIL SNR-D	C-00436	-		$\top$
MODULE DIMS	73.98" x 41.14" x 1.26" (33mm)	ROOF TYPE	COMP SHINGLE - RLU			Name	Max OC	
MODULE CLAMPS	Portrait: 60, Landscape: 011-06607-ITC26	FRAME TYPE	2X6 RAFTERS				Spacing	10
MAX ROOF HEIGHT	1 STORIES	OC SPACING	16" OC			AR-01	5' - 4"	Т
LAG LENGTH	5/16"x 5.5": 2.5" MIN EMBEDMENT	COLUMN SPACING	0.75"	ROW SPACING	0.75"		ed maximur	
	Structura	SOW				Reduct	eu maximui	
SISTERING	No							
DESIGNER NOTES	Structure in good condition							

ATTACHMENT SPECIFICATIONS											
Array		Land	dscape			Po	Layout				
Name	Max OC Spacing	Max Overhang	*Reduced Max OC Spacing	*Reduced Max Overhang	Max OC Spacing	Max Overhang	*Reduced Max OC Spacing	*Reduced Max Overhang	Configuration		
AR-01	5' - 4"	2' - 1"	2'-6"	1'-0"	4' - 0"	1' - 9"	2'-0"	0'-10"	STAGGERED		

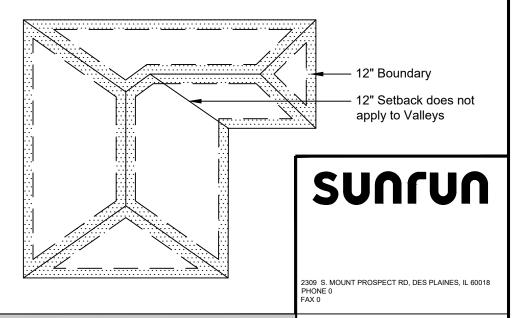
\*Reduced maximum spacings and overhangs apply only within the roof edge boundary regions (see sample illustration below).

Racking Type	Stacked All Non-snow & Non-high Wind Regions (exception: Standing Seam is always staggered)	Staggered All Regions if Snow>10 PSF or Wind>150 mph				
Railed	Sides of each Row are Stacked to obey Max Overhang value  Penetration Spacing must land on structural members and be <= the Max Rail Span value	Sides of each Row are Stacked to obey Max Overhang value  Start in one corner with first Max Rail Span and stagger penetrations diagonally onto every structural member				
Rail-Less (RL)	Sides of each Row are Stacked to obey Max Overhang value  One end of stacked Rows are often less than the Max Rail Span value	Subsequent penetrations are spaced from the diagonal penetrations to complete a Staggered Pattern  Ends of Staggered Rows are often less than the Max Rail Span value				

#### PITCHED/SLOPED ROOFS - REDUCED SPACING AND OVERHANG DETAIL FOR 12" BOUNDARY REGION

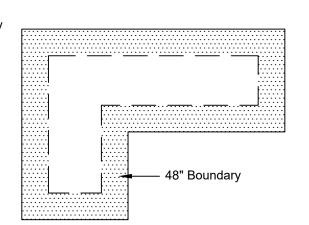
**NOTE:** If array (excluding skirt) is within 12" boundary region of any roof plane edges (except valleys), then attachments need to be added and overhang reduced within the 12" boundary region only as follows:

- Allowable attachment spacing indicated on plans to be reduced by 50% (refer to table above)
- Allowable overhang indicated on plans to be 1/5th of allowable attachment spacing indicated on plans (refer to table above)



#### FLAT ROOFS - REDUCED SPACING AND OVERHANG DETAIL FOR 48" BOUNDARY REGION

- Allowable attachment spacing indicated on plans to be reduced by 50% (refer to table above)
- Allowable overhang indicated on plans to be 1/5th of allowable attachment spacing indicated on plans (refer to table above)



CUSTOMER RESIDENCE: ADRIAN SALAZAR 17W275 OAKDALE DR, BENSENVILLE, IL, 60106

TEL. (630) 210-5401 APN: 03-27-207-010

PROJECT NUMBER: 711R-275SALA

DESIGNER: (415) 580-6920 ex3 GILLIAN MANAOIS

SHEET

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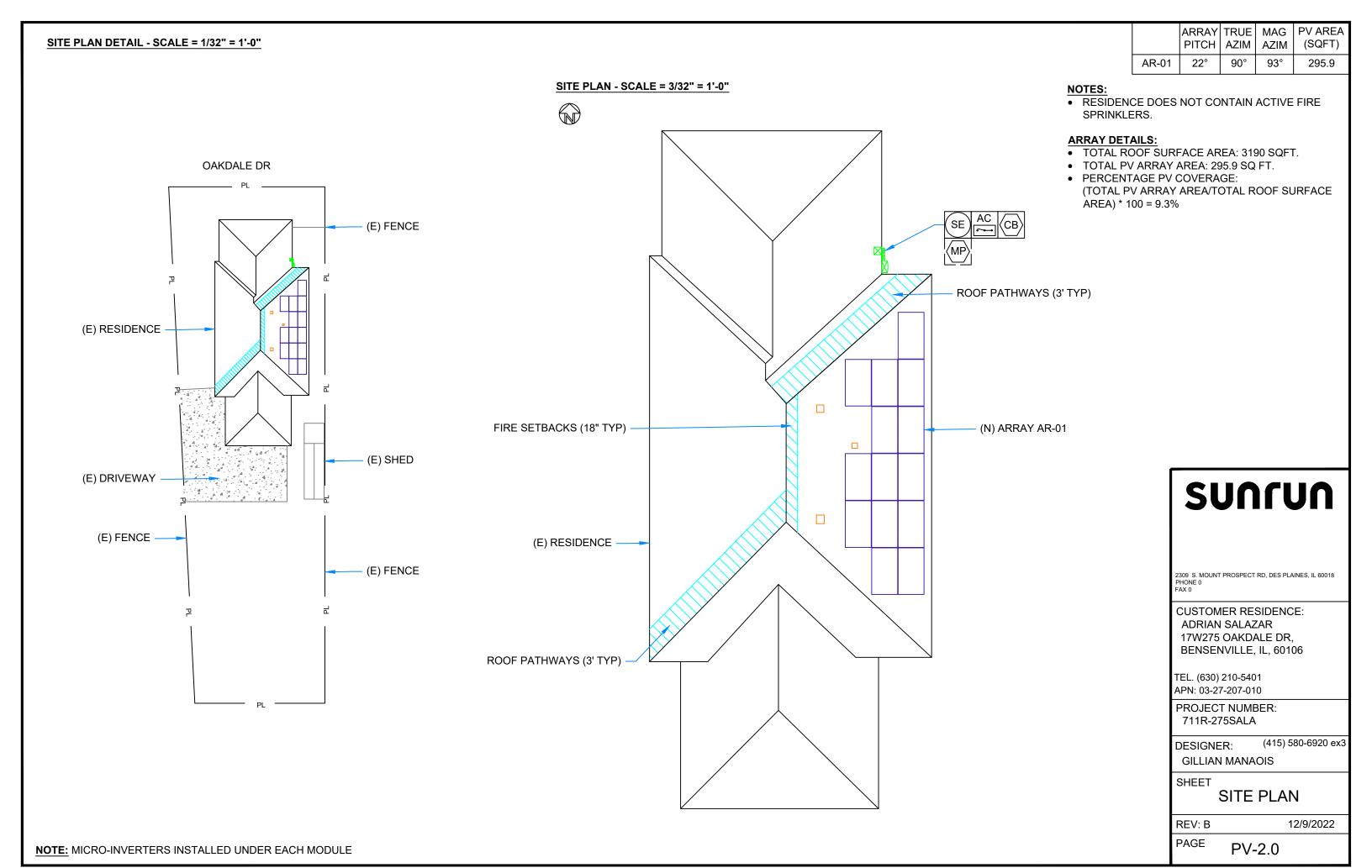
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				ARRAY TRUE MAG PV AREA PITCH AZIM AZIM (SQFT)
				AR-01 22° 90° 93° 295.9
	9 - 10			14
				Mapping Instructions:
				Remove the Enphase sticker and place neatly on the appropriate numbered space.
				Write the corresponding number
				on the appropriate panel within the array.
	<u></u>			
				SUNTUN
				30111 011
$\begin{bmatrix} & 31 & \\ & \end{bmatrix}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$			2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0
33	34			CUSTOMER RESIDENCE: ADRIAN SALAZAR 17W275 OAKDALE DR, BENSENVILLE, IL, 60106
				TEL. (630) 210-5401 APN: 03-27-207-010
				PROJECT NUMBER: 711R-275SALA
$\overline{}$ $\overline{}$ $\overline{}$ $\overline{}$ $\overline{}$	38			DESIGNER: (415) 580-6920 ex3 GILLIAN MANAOIS
39	40 —			SHEET MLPE MAP
<u> </u>	<u> 42</u>			REV: B 12/9/2022
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#### **TABLE OF CONTENTS** SCOPE OF WORK **GENERAL NOTES** LEGEND AND ABBREVIATIONS PAGE# **DESCRIPTION** • ALL WORK SHALL COMPLY WITH 2021 IRC/IBC/IEBC, MUNICIPAL CODE, AND ALL SYSTEM SIZE: 5600W DC, 4060W AC **SOLAR MODULES** PV-1.0 **COVER SHEET** SERVICE ENTRANCE SE) MODULES: (14) HANWHA Q-CELLS: Q.PEAK DUO BLK MANUFACTURERS' LISTINGS AND INSTALLATION INSTRUCTIONS. ML-G10+ 400 • PHOTOVOLTAIC SYSTEM WILL COMPLY WITH NEC 2020. PV-2.0 SITE PLAN INVERTER(S): MP PV-3.0 LAYOUT MAIN PANEL (14) ENPHASE ENERGY: IQ8PLUS-72-2-US • ELECTRICAL SYSTEM GROUNDING WILL COMPLY WITH NEC 2020. RACKING: SNAPNRACK RLU; RL UNIVERSAL, SPEEDSEAL **ELECTRICAL** PV-4.0 TRACK ON COMP. SEE DETAIL SNR-DC-00436 • PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY SNR MOUNT $\langle \mathsf{SP} \rangle$ PV-5.0 **SIGNAGE** GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35. SUB-PANEL **SNR MOUNT & SKIRT** SERVICE ENTRANCE CONDUCTORS TO BE REPLACED. MODULES CONFORM TO AND ARE LISTED UNDER UL 1703. (LC) PV LOAD CENTER CHIMNEY INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741. • RACKING CONFORMS TO AND IS LISTED UNDER UL 2703. (SM) SUNRUN METER ATTIC VENT SNAPNRACK RACKING SYSTEMS, IN COMBINATION WITH TYPE I, OR TYPE II FLUSH ATTIC VENT DEDICATED PV METER MODULES, ARE CLASS A FIRE RATED. (PM) PVC PIPE VENT • RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL METAL PIPE VENT INVERTER(S) CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1). INV T-VENT • CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G). AC DISCONNECT(S) SATELLITE DISH • ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT. DC DISCONNECT(S) • 11.14 AMPS MODULE SHORT CIRCUIT CURRENT. FIRE SETBACKS • 17.4 AMPS DERATED SHORT CIRCUIT CURRENT [690.8 (A) & 690.8 (B)]. (св) **HARDSCAPE** IQ COMBINER BOX - PL- PROPERTY LINE INTERIOR EQUIPMENT BSHOWN AS DASHED SCALE: NTS SUNTUN Α AMPERE AC ALTERNATING CURRENT ARC FAULT CIRCUIT INTERRUPTER AFCI AZIM **AZIMUTH VICINITY MAP** COMP COMPOSITION DC DIRECT CURRENT Laps Track Days (E) **EXISTING** 2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 ESS **ENERGY STORAGE SYSTEM** EXT **EXTERIOR** Rodeck Ln **CUSTOMER RESIDENCE:** INT INTERIOR MAG **MAGNETIC ADRIAN SALAZAR** MAIN SERVICE PANEL MSP 17W275 OAKDALE DR, (N) NEW BENSENVILLE, IL, 60106 NOT TO SCALE NTS OC ON CENTER TEL. (630) 210-5401 PRE-FAB PRE-FABRICATED APN: 03-27-207-010 E Oak St PSF POUNDS PER SQUARE FOOT PROJECT NUMBER: Sunny Place PV **PHOTOVOLTAIC** 711R-275SALA Church of God **RSD** RAPID SHUTDOWN DEVICE 17W275 Oakdale Dr. Bensenville, IL TL **TRANSFORMERLESS** (415) 580-6920 ex3 DESIGNER: TYP **TYPICAL GILLIAN MANAOIS VOLTS** W WATTS SHEET REV **COVER SHEET** NAME DATE COMMENTS **TONY DANG** 12/9/2022 **MOD SWAP** S & F Painting REV: B 12/9/2022

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PV-1.0

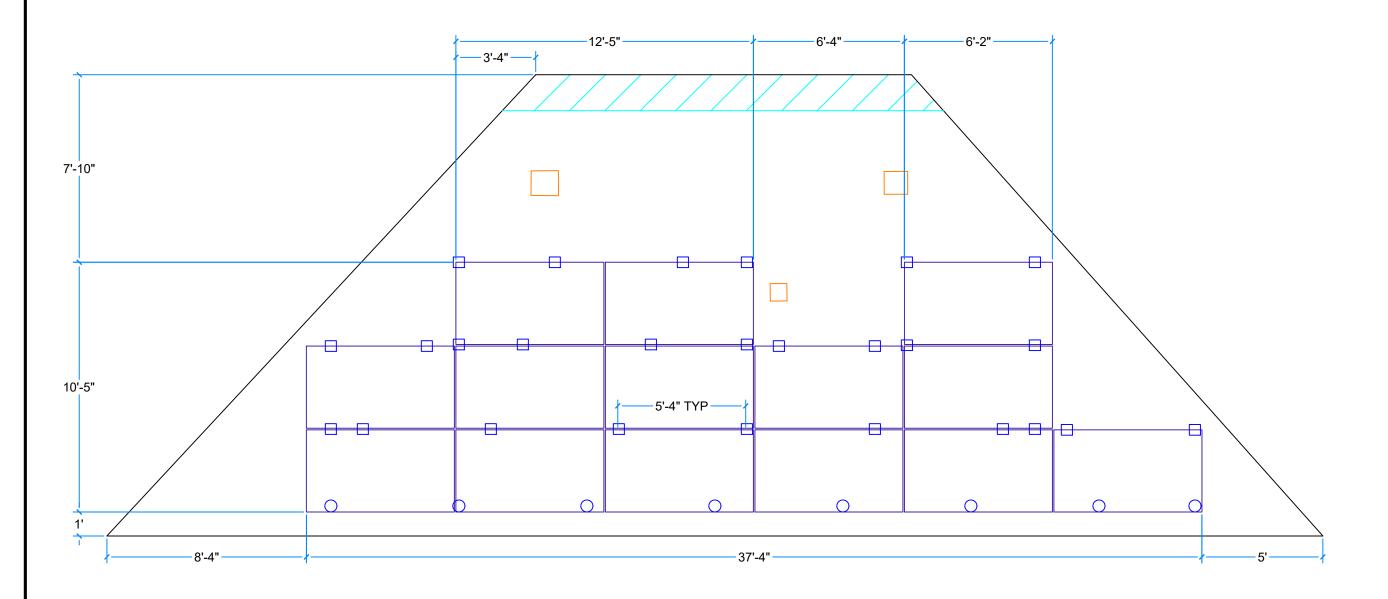


ROOF INFO			FRAMING INFO			ATTACHMENT INFORMATION						Т
Name	Туре	Height	Туре	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration	M S
AR-01	COMP SHINGLE - RLU	1-Story	2X6 RAFTERS	15' - 11"	16"	RL UNIVERSAL, SPEEDSEAL TRACK ON COMP, SEE DETAIL SNR-DC-00436	5' - 4"	2' - 1"	4' - 0"	1' - 9"	STAGGERED	10 <b>S</b> .

D1 - AR-01 - SCALE: 1/4" = 1'-0"

AZIM:90°

PITCH: 22°



#### **DESIGN CRITERIA**

MAX DISTRIBUTED LOAD: 3 PSF SNOW LOAD: 30 PSF WIND SPEED: 107 MPH 3-SEC GUST.

S.S.LAG SCREWS:

5/16"x 5.5": 2.5" MIN EMBEDMENT **STRUCTURAL NOTES:** 

- INSTALLERS SHALL NOTIFY ENGINEER OF ANY POTENTIAL STRUCTURAL ISSUES OBSERVED PRIOR TO PROCEEDING W/ INSTALLATION.
- IF ARRAY (EXCLUDING SKIRT) IS WITHIN 12" BOUNDARY REGION OF ANY ROOF PLANE EDGES (EXCEPT VALLEYS), THEN ATTACHMENTS NEED TO BE ADDED AND OVERHANG REDUCED WITHIN THE 12" BOUNDARY REGION ONLY AS FOLLOWS:
- •• ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS TO BE REDUCED BY
- •• ALLOWABLE OVERHANG INDICATED ON PLANS TO BE 1/5TH OF ALLOWABLE ATTACHMENT SPACING INDICATED ON PLANS

## SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

**CUSTOMER RESIDENCE:** ADRIAN SALAZAR 17W275 OAKDALE DR, BENSENVILLE, IL, 60106

TEL. (630) 210-5401 APN: 03-27-207-010

PROJECT NUMBER: 711R-275SALA

DESIGNER:

(415) 580-6920 ex3

**GILLIAN MANAOIS** 

SHEET

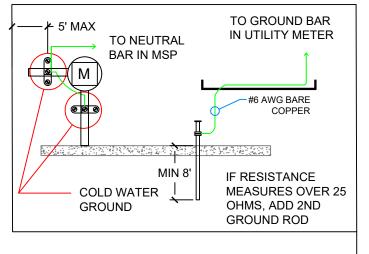
**LAYOUT** 

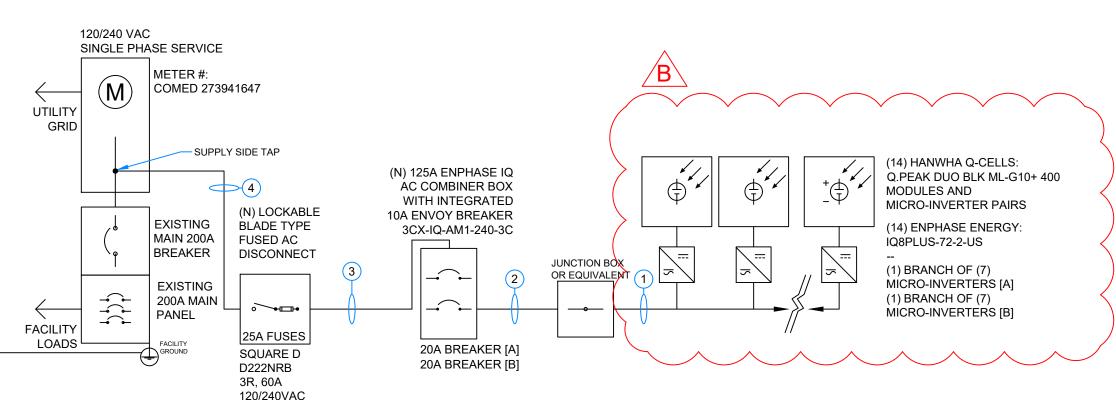
REV: B

12/9/2022

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#### IL PV ONLY - GROUNDING DETAIL





CONDUIT SCHEDULE									
#	CONDUIT	CONDUCTOR	NEUTRAL	GROUND					
1	NONE	(2) 12 AWG PER ENPHASE Q CABLE BRANCH	NONE	(1) 10 AWG BARE COPPER					
2	3/4" IMC	(4) 10 AWG THHN/THWN-2	NONE	(1) 8 AWG THHN/THWN-2					
3	3/4" IMC	(2) 10 AWG THHN/THWN-2	(1) 10 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2					
4	3/4" IMC	(2) 6 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2	(1) 8 AWG THHN/THWN-2					

#### **MODULE CHARACTERISTICS**

HANWHA Q-CELLS: Q.PEAK DUO BLK

ML-G10+ 400: 400 W
OPEN CIRCUIT VOLTAGE: 45.3 V
MAX POWER VOLTAGE: 37.13 V
SHORT CIRCUIT CURRENT: 11.14 A



## SUNTUN

2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 PHONE 0 FAX 0

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PROJECT NUMBER: 711R-275SALA

DESIGNER: (415) 580-6920 ex3

**GILLIAN MANAOIS** 

SHEET

ELECTRICAL

REV: B

12/9/2022

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PV-4.0

### WARNING

**ELECTRICAL SHOCK HAZARD** 

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

LABEL LOCATION:

INVERTER(S), AC/DC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE). PER CODE(S): NEC 2020: 690.13(B)

### WARNING

**DUAL POWER SUPPLY** 

**SOURCES: UTILITY GRID** AND PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:

UTILITY SERVICE METER AND MAIN SERVICE PANEL

PER CODE(S): NEC 2020: 705.12(C)

### WARNING

POWER SOURCE OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:

ADJACENT TO PV BREAKER AND ESS OCPD (IF APPLICABLE). PER CODE(S): NEC 2020: 705.12(B)(3)(2)



PHOTOVOLTAIC SYSTEM **COMBINER PANEL** 

DO NOT ADD LOADS

LABEL LOCATION:

PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).

PER CODE(S): NEC 2020: 705.12(D)(2)(3)(c)

MAXIMUM AC OPERATING CURRENT: 16.92 AMPS

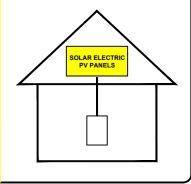
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF

PER CODE(S): NEC 2020: 690.54

### **SOLAR PV SYSTEM EQUIPPED** WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" **POSITION TO SHUT DOWN PV SYSTEM AND REDUCE** 

> SHOCK HAZARD IN THE ARRAY.



LABEL LOCATION:

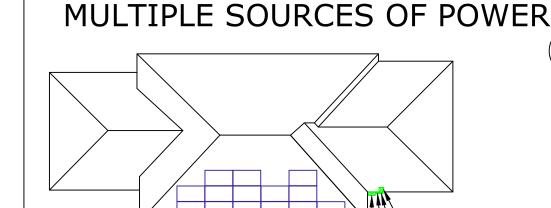
ON OR NO MORE THAT 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.

PER CODE(S): NEC 2020: 690.56(C)

# FOR SOLAR PV SYSTEM

INSTALLED WITHIN 3' OF RAPID SHUT DOWN SWITCH PER CODE(S): NEC 2020: 690.56(C)(2), IFC 2012: 605.11.1. IFC 2018: 1204.5.3

# RAPID SHUTDOWN SWITCH



CAUTION:

SOLAR PANELS AND MICROINVERTERS ON ROOF

IQ COMBINER BOX (EXT) □

17W275 OAKDALE DR, BENSENVILLE, IL, 60106

- MAIN PANEL (INT) 2309 S. MOUNT PROSPECT RD, DES PLAINES, IL 60018 SERVICE

NOTES AND SPECIFICATIONS:

IF REQUESTED BY THE LOCAL AHJ.

WORDS, COLORS AND SYMBOLS.

**ENTRANCE** 

─ AC DISCONNECT

METHOD AND SHALL NOT BE HAND WRITTEN.

SIGNS AND LABELS. UNLESS OTHERWISE SPECIFIED.

• DO NOT COVER EXISTING MANUFACTURER LABELS.

• SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE NEC 2020 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR

• SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE

• LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT • SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY

• LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING

**CUSTOMER RESIDENCE: ADRIAN SALAZAR** 17W275 OAKDALE DR. BENSENVILLE, IL, 60106

SUNTUN

TEL. (630) 210-5401 APN: 03-27-207-010

PROJECT NUMBER: 711R-275SALA

DESIGNER: **GILLIAN MANAOIS** 

SHEET

SIGNAGE

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(415) 580-6920 ex3

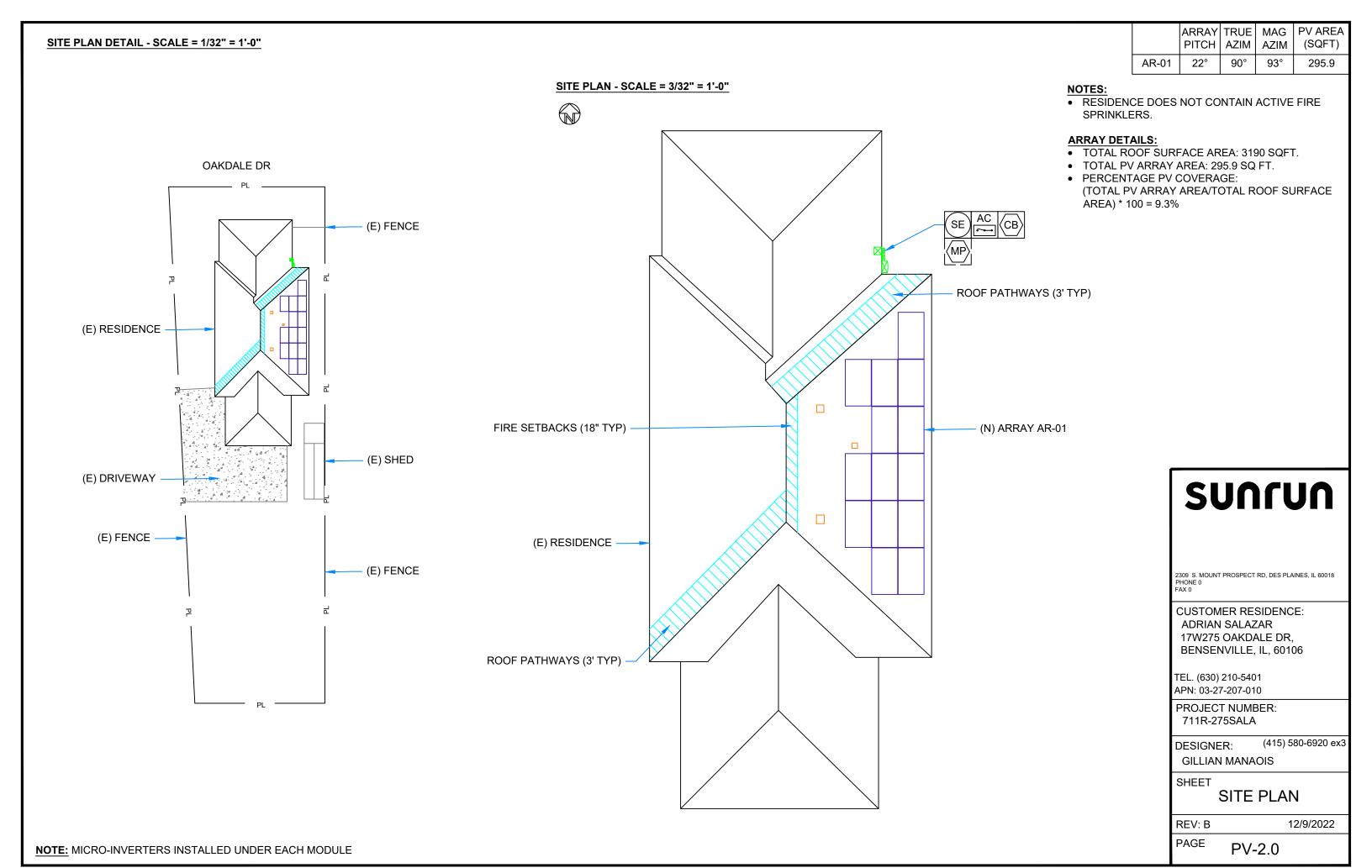
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**PV SYSTEM DISCONNECT** 

NOMINAL OPERATING AC VOLTAGE: 240 VAC

## INTERCONNECTION.

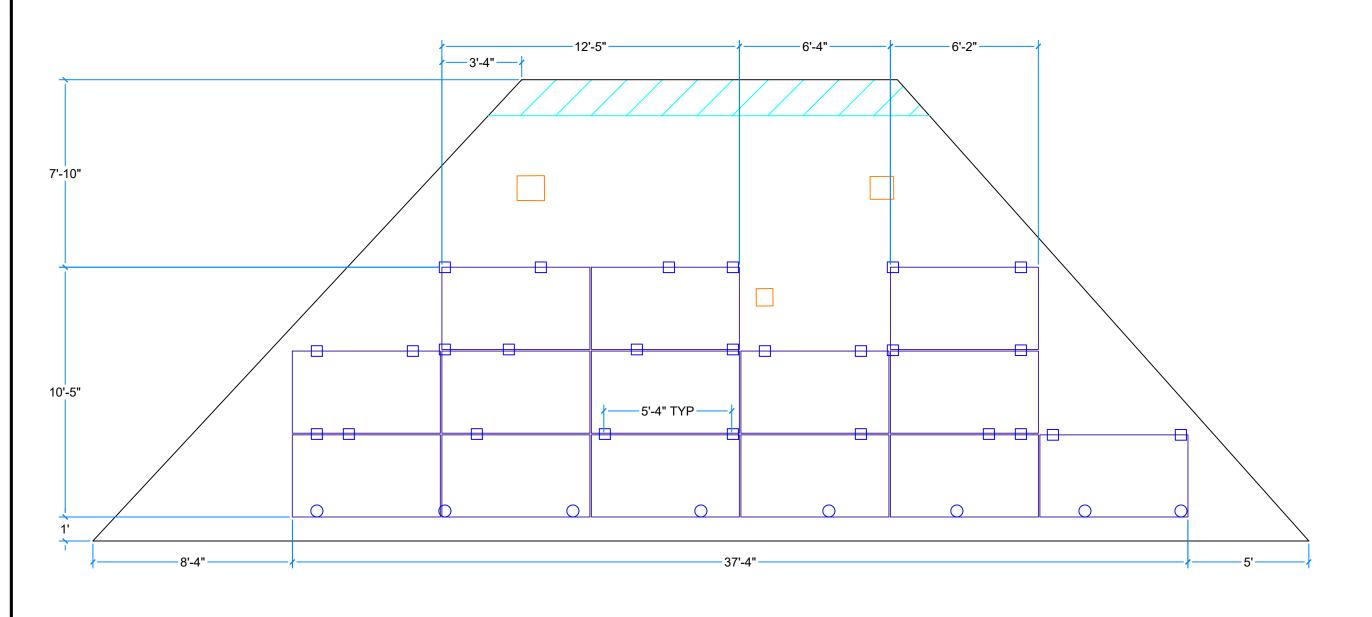
PER CODE(S): NEC 2020: 705.10, 710.10



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**LAYOUT** 

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