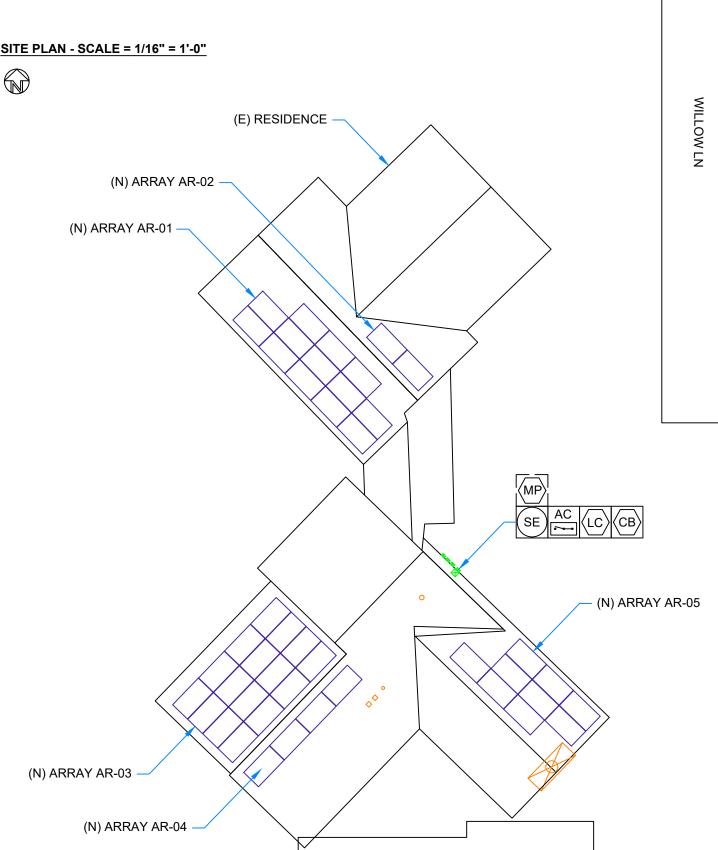
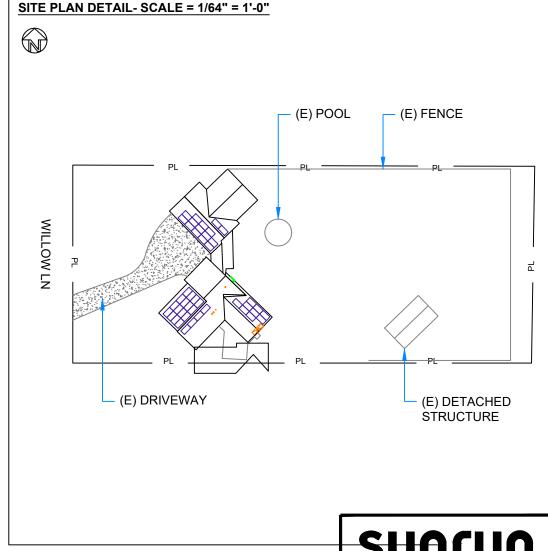
Inspect entire jobsite for hazards  Draw Sunrun vehicle locations on planset  Label Operations Safety Manual Location  Label fire extinguisher location  Label first aid kit location  Label eye wash bottle location  Label drinking water location  Draw hard hat zone around house  Draw fall protection anchor 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

12/9/2022

(415) 580-6920 ex3

PAGE

CD-1.0

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 COAMP NEW PV LOAD CENTER. OAMP 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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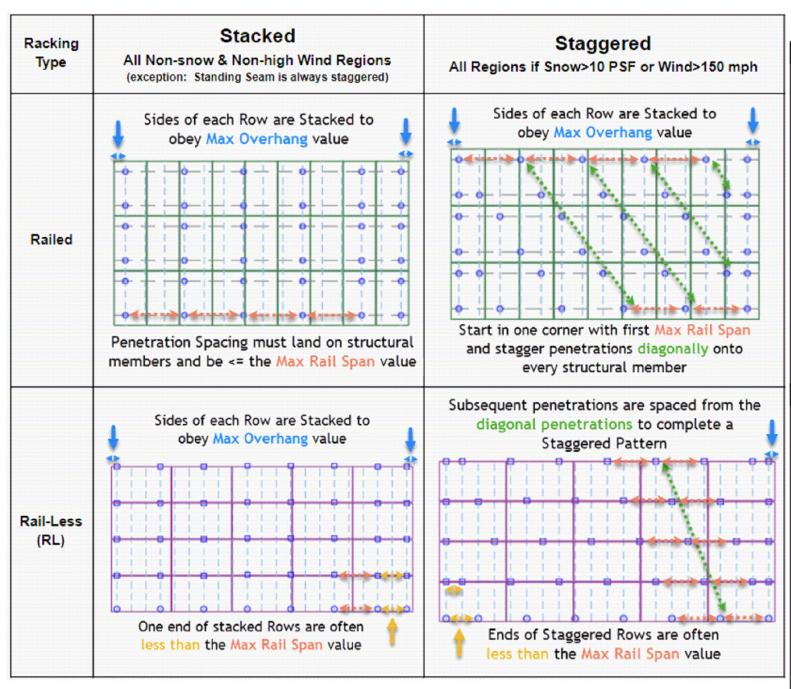
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	UCTURAL S	PECIFI	CATIONS	3				
	Structural In	formation						
SYSTEM SIZE	17600W DC, 12760W AC	RACKING		; RL UNIVERSAL, SI		Array		
MODULES	(44) HANWHA Q-CELLS: Q.PEAK DUO BLK ML-G10+ 400		TRACK ON COMP, SEE DETAIL SNR-DC-00436					Г
MODULE DIMS	73.98" 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

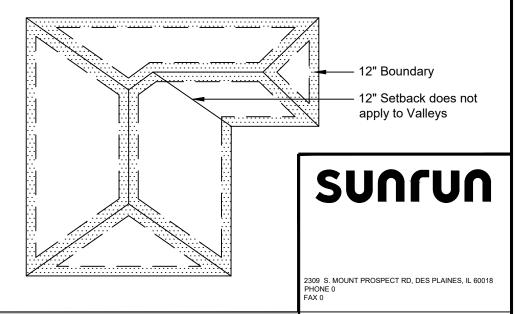
<sup>\*</sup>Reduced maximum spacings and overhangs apply only within the roof edge boundary regions (see sample illustration below).



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

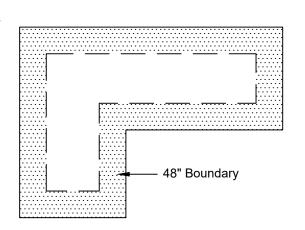
**NOTE:** If array (excluding skirt) is within 12" boundary region of any roof plane edges (except valleys), then attachments need to be added and overhang reduced within the 12" boundary region only as follows:

- 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

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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
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	<b>」</b> ┐	_ _ _	_ _ _		¬ ⅃ ¬	_ _	<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

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### **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

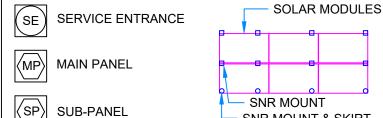
TRACK ON COMP, SEE DETAIL SNR-DC-00436

#### **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** 

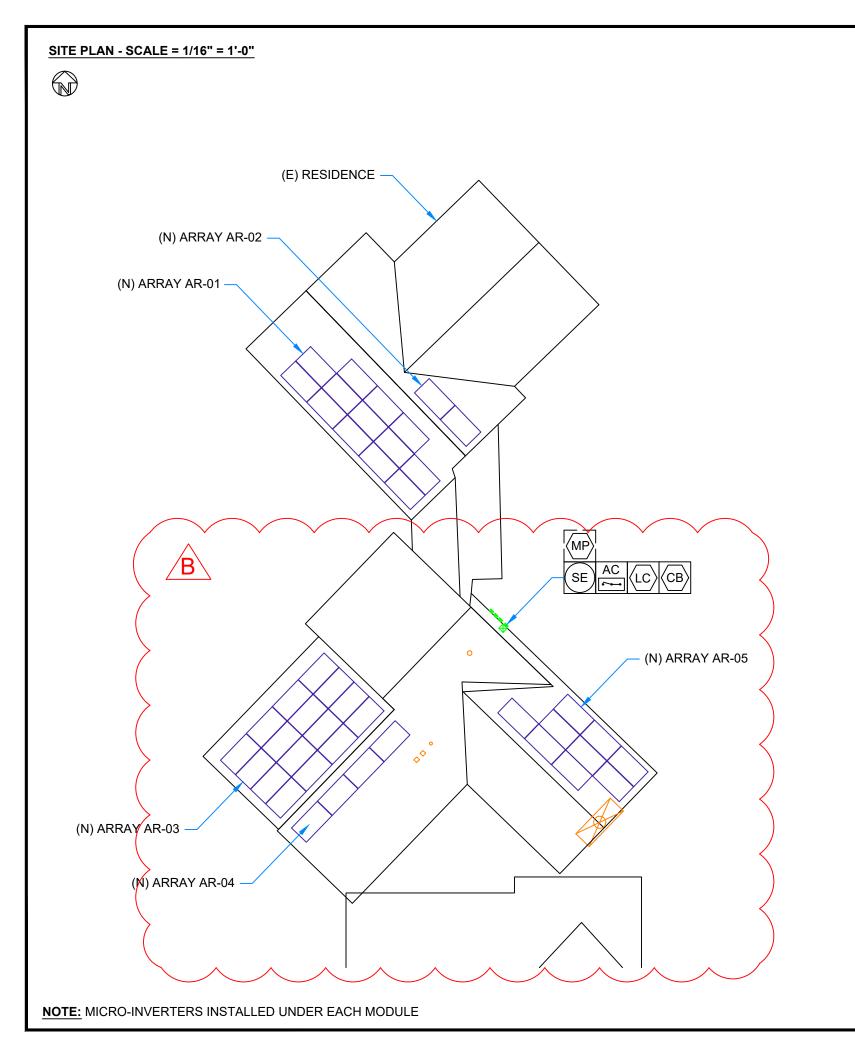
SHEET

**COVER SHEET** 

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

### **VICINITY MAP**

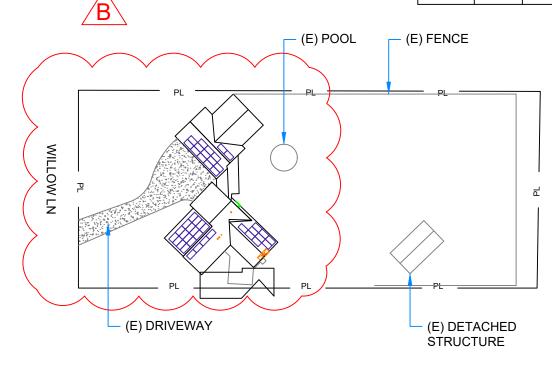




SITE PLAN DETAIL- SCALE = 1/64" = 1'-0"



	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

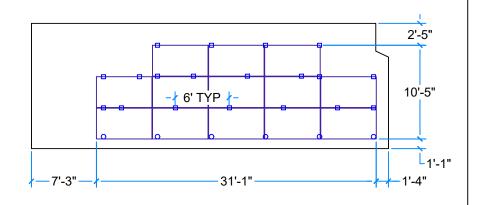
PAGE

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ROOF INFO FRAMING INFO					ATTACHMENT INFORMATION					DESIGN CRITERIA		
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"

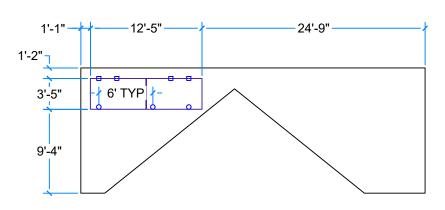
**AZIM:226°** PITCH: 23°



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

AZIM:47°

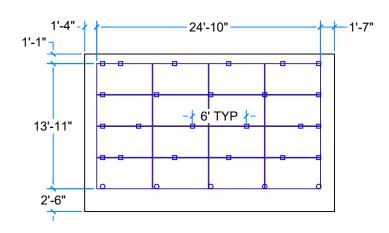
PITCH: 23°



#### 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** 

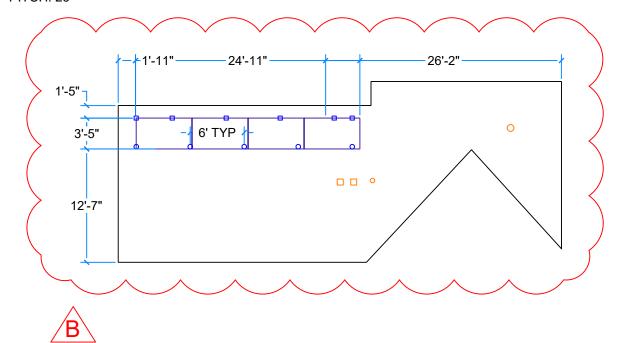
**BOUNDARY REGION OF ANY** 

•• 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"

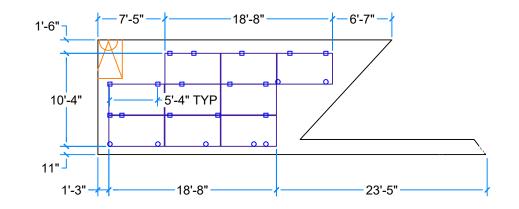
**AZIM:**134° PITCH: 23°



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

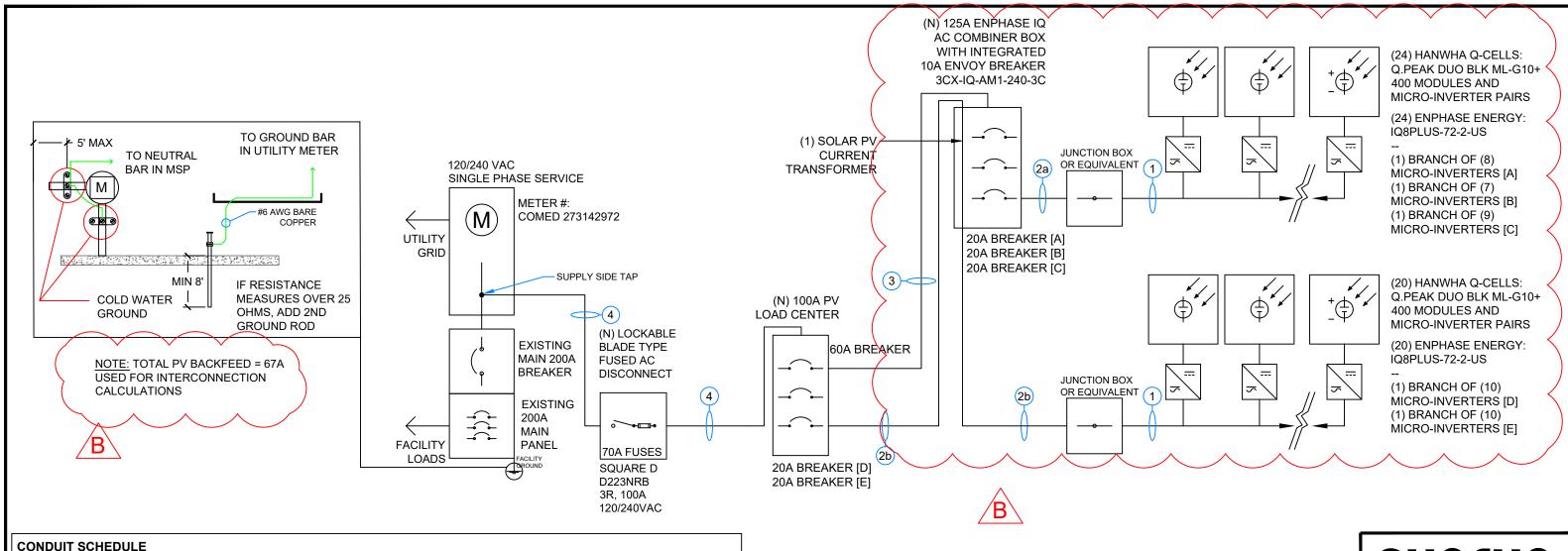
LAYOUT

REV: B

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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 (1) 8 AWG THHN/THWN-2			
4	1" IMC	(2) 4 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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TEL. (773) 818-5867 APN: 07-03-303-023-0000

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

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SHEET

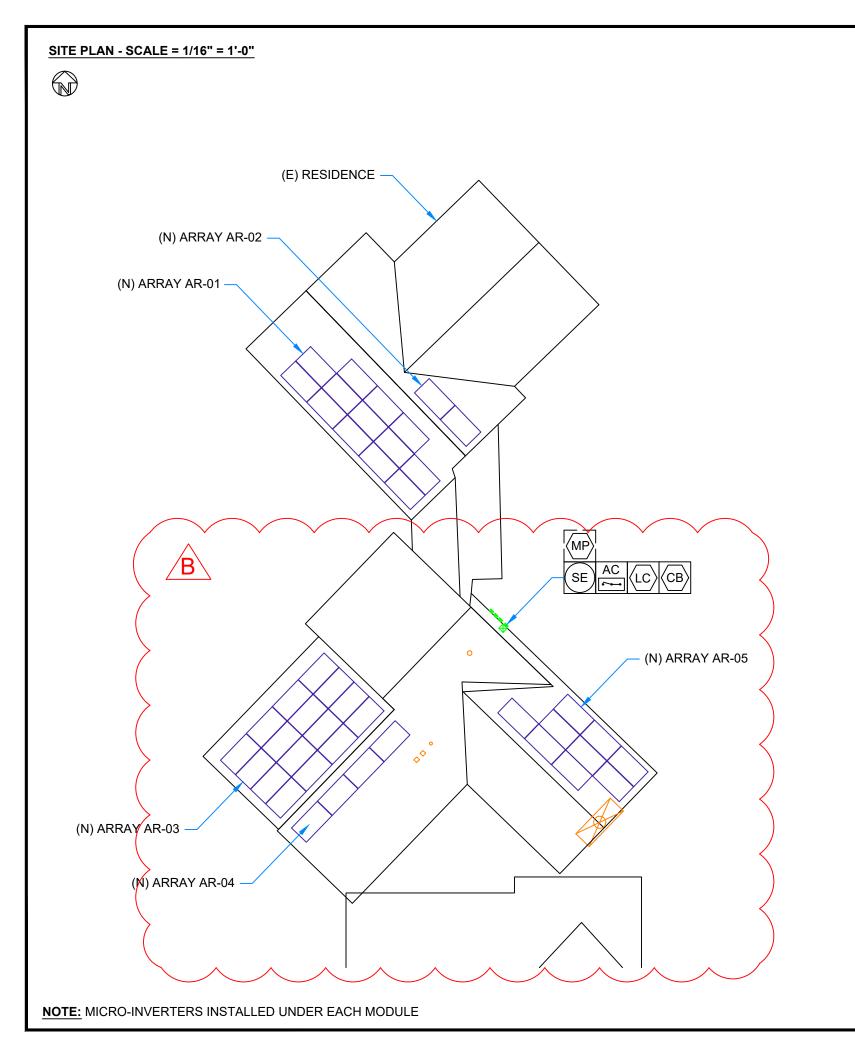
**SIGNAGE** 

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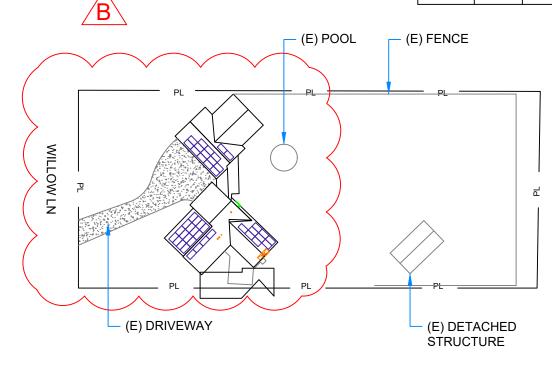
PV-5.0



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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SITE PLAN

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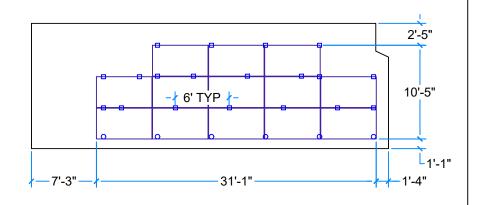
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ROOF INFO FRAMING INFO					ATTACHMENT INFORMATION					DESIGN CRITERIA		
Name	Туре	Height	Туре	Max Span	OC Spacing	Detail	Max Landscape OC Spacing	Max Landscape Overhang	Max Portrait OC Spacing	Max Portrait Overhang	Configuration	MAX DISTRIBUTED LOAD: 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"

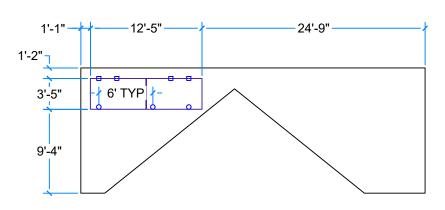
**AZIM:226°** PITCH: 23°



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

AZIM:47°

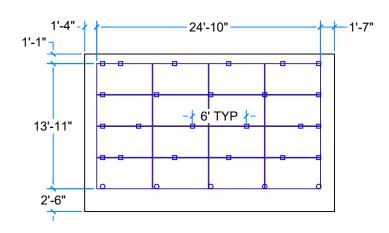
PITCH: 23°



#### 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** 

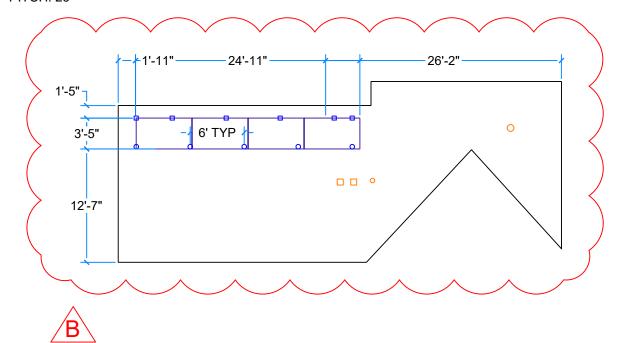
**BOUNDARY REGION OF ANY** 

•• 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"

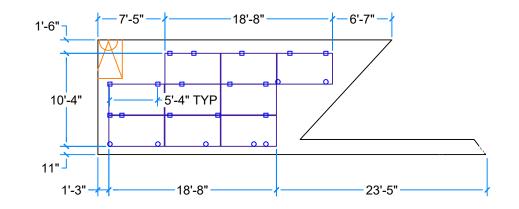
**AZIM:**134° PITCH: 23°



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

AZIM:44°

PITCH: 23°



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