### CODE INFORM **ROOF MOUNT SOLAR PERMIT PACKAGE** THE INSTALLATION OF SOLAR ARRAYS AND PHO POWER SYSTEMS SHALL COMPLY WITH THE FOL CUSTOMER NAME 2018 INTERNATIONAL FIRE CODE (IFC) 2018 INTERNATIONAL BUILDING CODE (IBC) 2018 INTERNATIONAL RESIDENTIAL CODE (IRC) 2018 INTERNATIONAL MECHANICAL CODE (IMC) 5.130KW DC GRID TIED PHOTOVOLTAIC SYSTEM 2018 INTERNATIONAL FUEL GAS CODE (IFGC) 2018 INTERNATIONAL ENERGY CONSERVATION CO 2018 INTERNATIONAL EXISTING BUILDING CODE (IE 6916 W PATRIOT WAY ALL ELECTRICAL WORK SHALL BE DESIGNED PER AHJ: CITY OF FLORENCE FLORENCE, AZ 85132 **PV SYSTEM SUMMARY:** SYSTEM SIZE (DC) : STC: 285 x 18 = 5.130kW DC : PTC: 261.2 x 18 = 4.7016kW DC SYSTEM SIZE (AC) : 5.000kW AC @ 240V **BUILDING INFOR** $\cdot$ (18) HANIWHA O PEAK BLK -G4 1 285

MODULES	•	(10) HANWHA Q.PEAN BLN -64.1 200
OPTIMIZERS	:	(18) SOLAR EDGE: P320
INVERTER	:	SOLAR EDGE: SE10000H-USGRM[SI1]
TILT	:	20°, 20°, 30°
AZIMUTH	:	0°, 0°, 0°
ROOF	:	W-TILE
RAFTER/TRUSS SIZE	:	2" X 4" RAFTER @ 24"" O.C.
ATTACHMENT TYPE	:	UNIRAC CT5 SOLARHOOK WITH UNIRAC SOLARMOUNT LIGHT RAIL
MAIN SERVICE PANEL	:	EXISTING 200 AMPS MSP WITH 200 AMPS MAIN BREAKER ON TOP FED
INTERCONNECTION	:	PV BREAKER
OCPD RATING	:	30 AMPS

UTILITY : ARIZONA PUBLIC SERVICE

	GENERAL NOTES:	
1. LOCAL	UTILITY PROVIDER SHALL BE NOTIFIED PRIOR TO USE AND ACTIVATION OF ANY SOLAR PHOTOVOLTAIC INSTALLATION	
2. THIS PI	ROJECT SHALL COMPLY WITH LOCAL ORDINANCES	
3. PROPE	R ACCESS AND WORKING CLEARANCE WILL BE PROVIDED	
4. ALL EL	ECTRICAL WORK SHOWN ON THESE PLANS WILL BE COMPLETED BY THE UNDERSIGNED ·	
5. ALL AF	PLICABLE PV EQUIPMENT LISTED AND COMPLIANT WITH UL2703, UL1741 AND UL1703	
6. ALL RC	10F PENETRATIONS TO BE SEALED WITH A HIGH PERFORMANCE ROOF SEALANT SUCH AS GeoCel 2300 CLEAR SEALANT	
7. THE SY	/STEM WILL NOT BE INTERCONNECTED UNTIL APPROVAL FROM THE LOCAL JURISDICTION AND THE UTILITY IS OBTAINED $\cdot$	
8. THE SC	DLAR PHOTOVOLTAIC INSTALLATION SHALL NOT OBSTRUCT ANY PLUMBING, MECHANICAL, OR BUILDING ROOF VENTS $\cdot$	
9. IF THE	EXISTING MAIN PANEL DOES NOT HAVE VERIFIABLE GROUNDING ELECTRODE, IT IS THE NECESSARY TO INSTALL A SUPPLEMENTAL	
GROUN		
10. EACH N	AODULE WILL BE GROUNDED UL 2703 OR UL 1703 APPROVED USING THE SUPPLIED CONNECTION POINTS IDENTIFIED ON THE	
MODUL	E AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS"	
11. A LADI	DER SHALL BE IN PLACE FOR THE INSPECTION IN COMPLIANCE WITH OSHA REGULATIONS	
12. MAX HE	EIGHT OF MODDLES OFF OF ROOF FACE : <6 ·	
I.3. PHOTO	WOLTAIC SYSTEM WILL COMPLY WITH 2017 NEC NOLTAIC SYSTEM WILL COMPLY WITH 2017 NEC NOLTAIC SYSTEM NUMERICE IS UNDER AND CONDUCTORS ARE COURTY CROUNDED IN THE INVERTER. AND CYCLEM	
	JVOLTAIC STSTEM INVERTER IS UNGROUNDED. NO CONDUCTORS ARE SOLIDET GROUNDED IN THE INVERTER, AND STSTEM	
STAND	ARDS/MANUFACTURER'S RECOMMENDATIONS AND IF REQUIRED A RECOGNIZED FLECTRICAL TESTING LABORATORY	
18 COND	ITTS EXPOSED TO SUNI IGHT ON ROOF SHALL BE LOCATED NOT LESS THAN 7/8" ABOVE ROOF SURFACE	
19. IN EXP	OSED LOCATIONS, WIRING AND CABLING SHALL BE IN CONDUIT OR CABLE SHALL BE RATED FOR EXPOSURE: TYPE NM CABLE	
ALLOW	ED IN PROTECTED LOCATIONS. WITHIN ATTIC SPACES, ALLOWED TO RUN TYPE NM (ROMEX) 10/3 OR 12/3 CONDUCTORS THROUGH	
OPEN S	SPACE OR TYPE THHN IN MINIMUM 3/4" ALUMINUM CONDUIT	
20. MATER	IALS, EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS, STANDARDS, RULES AND REGULATIONS OF THE	
FOLLO	WING AND BE MOST SUITABLE TO THE PURPOSE INTENDED:	

**1 STORY HOUSE** 

ROOF: W-TILE

CONSTRUCTION TYPE: V-B

**AERIAL VIEW** 

# SHEET INDEX COVER PAGE

PV-2.0	SITE PLAN
PV-3.0	STRUCTURAL
PV-4.0	ELECTRICAL 3LD
PV-5.0	ELECTRICAL SLD
PV-6.0	ELECTRICAL PHOTOS
PV-7.0	SIGNAGE
PV-8.0	OPTIMIZER CHART
PV-9.0	SAFETY PLAN
PV-10.0	SAFETY PLAN
PV-11.0 +	SPEC. SHEETS

E INFORMATION				
RAYS AND PHOTOVOLTAIC WITH THE FOLLOWING CODES:				
EC) DE (IBC) CODE (IRC) CODE (IMC) DE (IFGC) SERVATION CODE (IECC)				
DESIGNED PER 2017 NATIONAL ELECTRICAL CODE.				
NG INFORMATION	=			
SINGLE FAMILY RESIDENCE OCCUPANCY: R3/U APN: 21111216	_			
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	PROJ	JECT #	N/A	
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	SHEE	ET #	PV-1.0	
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WEST PATRIOT WAY

58'-5"

1

DRIVEWAY Δ.

64. °. 12 h

. 4

104'-7'

22'-11'

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

SITE PLAN

	L	EGEND			
	ИМ	UTILITY METER			
	MSP	MSP			
	AC	AC DISCONNECT			
	РМ	PRODUCTION			
		INVERTER			
-	ЈВ				
		MODULE			
		CONDUIT			
			┢	CONT	RACTO
ROOF #2					
— (E) MAIN SERVICE PANEL — (E) UTILITY METER					
— (N) UTILITY DG DISCONNECT			Γ	Sola Perm	r Indiv
— (N) PRODUCTION METER			F	CUST	
— (N)INVERTER: SE10000H-USGRM[SI1]			┢	5 130k	(W Gi
				Photov	oltaic
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SITE PLAN

ROOF NO	ROOF TILT	ROOFING TYPE	ATTACHMENT TYPE	NO. OF STORIES	FRAMING TYPE	FRAMING SIZE	OC SPACING	PENETRATION PATTERN	PEN
ROOF 1	20	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 2	20	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 3	30	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 4	20	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 5	20	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 6	0	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 7	0	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	
ROOF 8	0	W-TILE	UNIRAC CT5 SOLARHOOK	1	RAFTER	2" X 4"	24"	STAGGERED	





MAX ETRATION PACING	MAX OVERHANG				
48"					
48"					
48"					
48"	24"				
48"					
48"					
48"					
48"					
	AGGERED		CONT	RACTOR IN	<u>1FO</u>
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		TITLE	STR	UCTUR	AL





HEIGHT FROM THE ROOF SURFACE ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL

## **EXISTING SERVICE PANEL PHOTOS**



	CONT	RACTOR I	NFO				
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TITLE	TITLE						
	ELECTRICAL PHOTOS						



	1-10	11-20	21-30	31-40	41-50	51-60	
1							SOLAREDGE OPTIMIZER
2							
3							
4							
5							
6							
7							
8							
9							
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# R CHART





SAFETY PLAN	MARK UP KEY	
INSTRUCTIONS:		
	INVSE10000H-USGRM[SI1]ImportPRODUCTION METERImportUTILITY DG DISCCONECTImportMAIN SERVICE PANELImportPERMANENT ANCHORImportJUNCTION / COMBINER BOXImportTEMPORARY ANCHORImportINSTALLER LADDERImportJUNCTION / COMBINER BOXImportStub-OUTImportSkyLIGHTImportRESTRICTED ACCESS (STEEP GRADE OR GROUND LEVEL OBSTRUCTIONS)ImportRESTRICTED ACCESSImportGAS SHUT OFFImportSERVICE DROPImportPOWER LINES	CONTRACTOR INFO         Solar Individual         Permit Package         CUSTOMER NAME         5.130KW Grid Tied         Photovoltaic System         6916 W PATRIOT WAY         FLORENCE, AZ 85132         Rev       Description         A       INITIAL DESIGN         OPPORTUNITY       N/A
		DATE DRAWN 5/22/2021 DRAWN BY E.R SHEET # TITLE SAFETY PLAN

## JOB HAZARD ANALYSIS

Crew leader to fill out all sections below, hold a pre-job safety meeting with all personnel, and upload this completed document and the Safety Plan to

#### Ladder Access

Ladders must be inspected before each use.

- Extension ladders must be set up on a firm and level surface at a 4-to-1 rise to run angle (or 75 degrees) and the top must be secured to the structure. Extension style ladders placed on uneven, loose or slipperv surfaces must additionally have the base firmly anchored or lashed so the base will not slip out.
- Extension ladders must be used with walk-through devices or the ladder must extend 36" above the stepping off point.
- A-frame ladders must only be climbed with the ladder spreader bars locked in the open position; A-frame ladders shall not be climbed while in the closed position (ex, closed and used while leaned against a structure).
- Additional notes:

#### Mobile Equipment

- Only Qualified operators will operate equipment; operators must maintain a certification on their person for the equipment being operated
- Type(s) of mobile equipment (Type/Make/Model):
- Qualified operator(s):

#### Material Handling and Storage

Materials will be staged/stored in a way that does not present a hazard to client, personnel or public. Materials stored on the roof will be physically protect from failing or sliding off.

#### Fall Protection

- A site-specific plan for fall prevention and protection is required prior to starting work and must remain onsite at all times until work is complete: a fall rescue plan must be outlined and discussed among the crew prior to work start.
- First-person-Up (FPU) must install their anchor and connect before any other task, including installing other anchors. The Last-Person-Down (LPD) must be the only person on a roof uninstalling fall protection.

FPCP (name and title):

· FPU and LPD (name and title):

#### Electrical Safety

- The Electrical Qualified Person (EQP) is required onsite to perform electrical work.
- All electrical work will be performed with equipment in an electrically safe condition (de-energized) unless approval has been granted prior to work.
- Service drops and overhead electrical hazards will be indentified and protected from contact, as neccessary.

### · EQP (name and tile):

#### **Public Protection**

- The safety of the Client and the Public must be maintained at all times.
- The Client and the Public shall be prevented from entering the work zone through the use of barriers and/or signage, as required
- Company, Client and Public property shall be protect from falling objects
- Pets (including dogs) shall be secured by their owners prior to work start.
- The client should not leave pets, family members, or others in the charge or care of Employees, Contractors, or Temporary Workers.

Crew leader responsible for communication with the client:

Client and public is excluded from work area by barricades (N/A, Yes, No):

#### Training and Pre-Job Safety Briefing

All employees onsite shall be made aware of the specific hazards of this project and review this HJA during a pre-job briefing, and their signature indicates awareness of site conditions and the plan to eliminate any hazards identified prior to and during the project.

Crew leader (name/title):

Crew member (name/title):

#### Airborne Contaminants:

- Asbestos-containing (Transite) piping (ACP) Do not disturb (move, drill, cut fracture, etc.)
- Asbestos-containing thermal insulation (ACI) and Asbestos-containing duct wrapping (ACW) - do not disturb, no attic or crawlspace access is allowed if work to be performed could cause exposure to personnel, client or public.

If yes, list specific tasks and protection in place:

#### Weather and Environment

- The site supervisor shall forecast the weather conditions at the job site, prior to crew arrival, in order to mitigate any hazards associated with inclement weather (heat, cold, wind, rain, etc.)
- The site supervisor will utilized a portable wind meter (anemometer) to verify actual onsite wind conditions, by checking at the ground and on any elevated work surface (ex, rooftop) prior to work start, at midday and prior to solar panel staging on a roof.
- Elevated work involving the moving or maneuvering of solar panels shall cease at 25mph (sustained wind) until wind subsides.

Forecasted weather maximum temp (degrees F):

#### Heat Related Illness Prevention

- Employees shall have access to potable drinking water that is fresh, pure, and suitably cool. The water shall be located as close as practicable to the areas where employees are working. Water shall be supplied in sufficient quantity at the beginning of the work shift to provide at least one quart per employee per hour for drinking for the entire shift. Employees may begin the shift with smaller quantities of water if they identify the location and have effective means for replenishment during the shift to allow employees to drink on quart or more per hour. The frequent drinking of water shall be encouraged.
- Shade shall be present when temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work exceeds 80 degrees Fahrenheit, employees shall have and maintain one or more areas with shade at all times.
- · New employees must be acclimatized. New employees will be monitored by their Crew Leader (site supervisor) for the first two (2) weeks of employment or longer when necessary.
- · Employees will be allowed and encouraged to implement scheduled breaks during each shift. Employees must take cool-down breaks in the shade any time they feel the need to do so to protect them from overheating. Supervisors are REQUIRED to allow employees any break period they need during high heat conditions.
- Cool Vests are encouraged for all employees at all times during periods of high heat.
- Identify the location of the closet Occupational/Industrial Clinic or Hospital in case a crew member becomes ill.

What is the specific plan to provide and replenish sufficient water for all employees on site?

If offsite replenish is necessary, where will you go to replenish water (location/address):

Who will replenish the drinking water (name):

Site Capture							
<ul> <li><u>Restroom facilities</u></li> <li>Employees shall have a hand-washing stations. discretion (location is ar permission, location of s hand-washing stations of supervisor will identify it</li> </ul>	5						
ensure all employees have a second seco							
If Offsite, add location n	ame and address:						
Incident Reporting Procedure     Contact your Site Super							
Name:	Name:						
Phone:							
Contact your Manager							
Name:							
Phone:							
Contact your Site Super	visor						
Name:			CONTRACTOR INFO				
With: Your full name, phone of what happen and when.	number, office location, brief description	on					
NOTE ADDITIONAL HA (add as many as nece	ZARDS NOT ADDRESSED ABOVE essary by using additional sheets)						
Define the Hazard:	Method/steps to prevent incident:						
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			PROJE	CT#	N/A		
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