



Photovoltaic Solar Permit Guidelines

For the successful completion of your application, the following process is required:

1. Miscellaneous Application
2. Notice of Commencement (if applicable)
3. Owner Builder Affidavit (if owns and occupies)
4. Identify the on-site location (site plan) showing all related equipment.
 - a. Indicate back-up battery location¹
5. Rough layout showing location of solar panels on roof (2 copies) (see example)
6. Photovoltaic Engineering (2 copies) (see examples on pages
 - a. Panels mount (tie down) structural attachment
7. Complete the Checklist on pages 6 and 7 (2 copies)

Code Compliance Information

1. All information, drawings, specifications and accompanying data shall bear the name and signature of the person responsible for the design. Refer to 106.1 Florida Building Code and 471.003.2(h)2.a Florida Statute: Identification of design professional of the photovoltaic system.
2. Chapter 16 Florida Building Code: structural mounting, attachments and design of all equipment shall be F.B.C. 2007 compliant.
3. 304.4.1. and 502.5.3 of the Florida Building Code. Are storage batteries being used? If so, size and type?
4. Has mechanical (battery ventilation) and fire requirements been addressed, as necessary?
5. Chapter III NEC (National Electrical Code): Identify type and size of conductors, conduit or raceways. Is it suitable for installation in the outdoor (sun, heat and wet) environment?
6. 110.3(B) NEC Installation and use all equipment shall be installed per instructions on it's listing or labeling.
7. Transfer switch, manual or automatic. Detail to be shown for all switching equipment and methods from and to public utility electrical system.

¹ Applied for by a Solar contractor. Electric is applied for by Subcontractor.

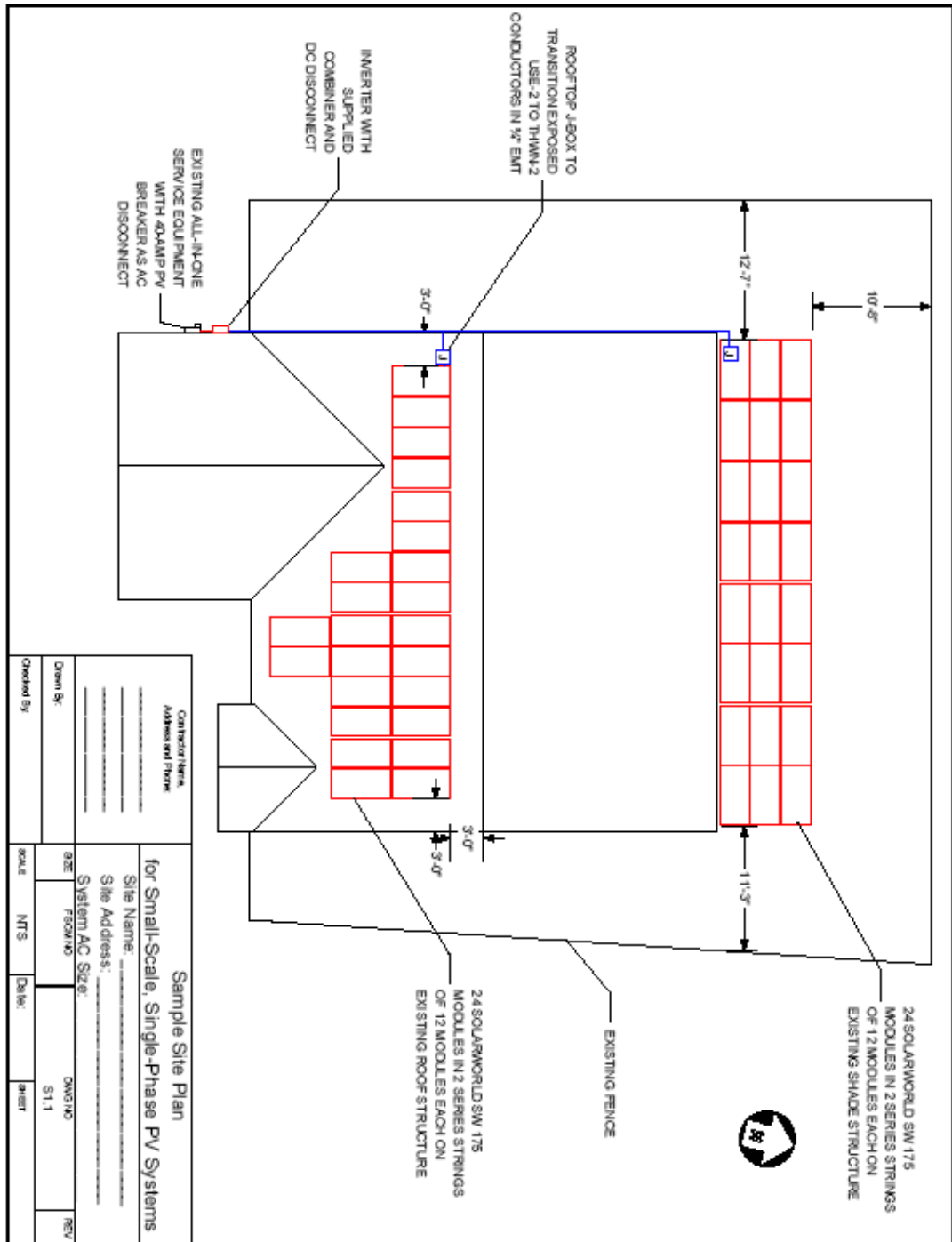


8. 240.24. NEC: Each occupant shall have ready access to all over current devices which protect the conductors and equipment of that occupancy.
9. Photovoltaic installations shall comply with all National Electric Code requirements, especially those stipulated in article 690 of the 2005 (NEC):
 - a. 690.4(c) NEC: Identify services string connections, not to interrupt conductors if a module is removed.
 - b. 690.4(d) NEC: Provide specifications of inverter, and assure identification for use in solar photovoltaic systems.
 - c. 690.5. NEC: ground fault protection requirements satisfied?
 - d. 690.6. NEC: inverter modules device and systems.
 - e. 690.8(A) NEC: Technical data. Show calculations which were used to derive the maximum circuit current.
 - f. 250 NEC: Detail grounding electrode system of utility service and photovoltaic system.
 - g. 690 III NEC: Identify location of disconnecting means and other related P.V. systems at this structure.
 - h. 690 IV NEC: use approved wiring methods.

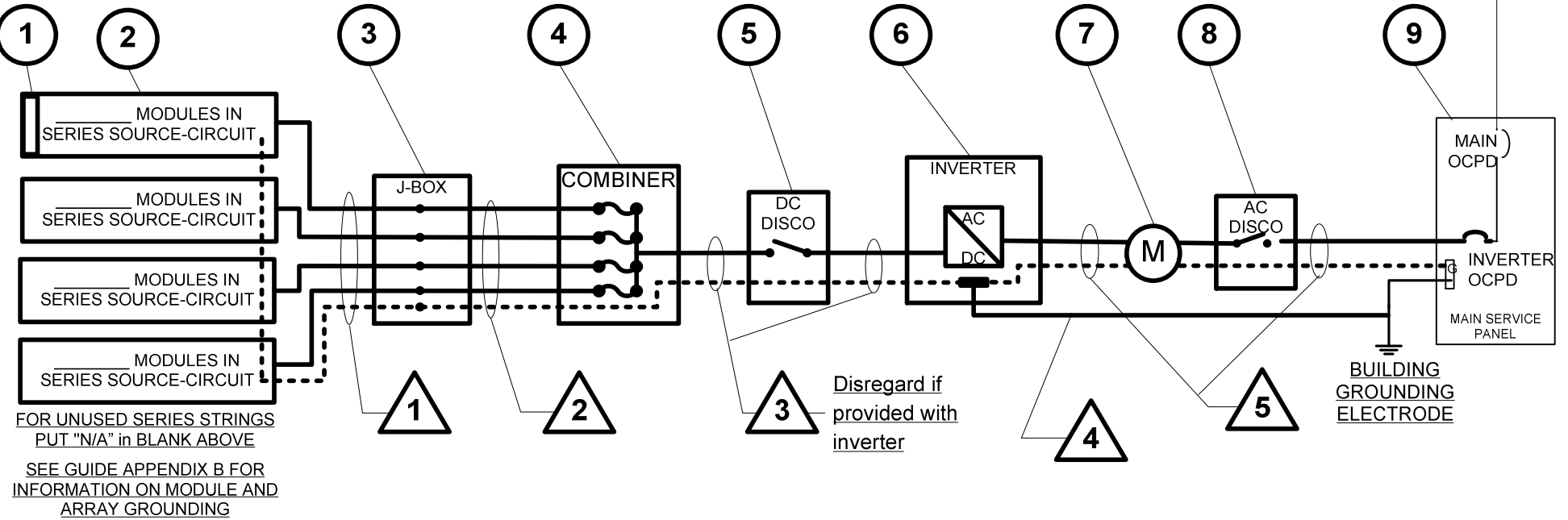
[Click here](#) for the Expedited Permit Process for PV Systems Help Guide or visit www.solarabcs.org.



Layout Example



EQUIPMENT SCHEDULE			
TAG	DESCRIPTION	PART NUMBER	NOTES
1	SOLAR PV MODULE		
2	PV ARRAY		
3	J-BOX (IF USED)		
4	COMBINER (IF USED)		
5	DC DISCONNECT		
6	DC/AC INVERTER		
7	GEN METER (IF USED)		
8	AC DISCONNECT (IF USED)		
9	SERVICE PANEL		_____ VAC, _____ A MAIN, _____ A BUS, _____ A INVERTER OCPD
(SEE NOTE 5 FOR INVERTER OCPDs, ALSO SEE GUIDE SECTION 9)			



CONDUIT AND CONDUCTOR SCHEDULE					
TAG	DESCRIPTION OR CONDUCTOR TYPE	COND. GAUGE	NUMBER OF CONDUCTORS	CONDUIT TYPE	CONDUIT SIZE
1	USE-2 <input type="checkbox"/> or PV WIRE <input type="checkbox"/>			N/A	N/A
	BARE COPPER EQ. GRD. COND. (EGC)			N/A	N/A
2	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
3	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
	INSULATED EGC				
4	DC GROUNDING ELECTRODE COND.				
5	THWN-2 <input type="checkbox"/> or XHHW-2 <input type="checkbox"/> or RHW-2 <input type="checkbox"/>				
	INSULATED EGC				

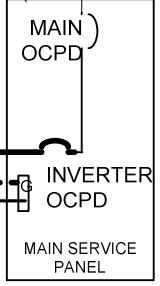
Contractor Name,
Address and Phone:

One-Line Standard Electrical Diagram for Small-Scale, Single-Phase PV Systems

Site Name: _____
Site Address: _____
System AC Size: _____

Drawn By:	SIZE	FSCM NO	DWG NO	REV
Checked By:	SCALE	NTS	Date:	SHEET

UTILITY SERVICE



BUILDING GROUNDING ELECTRODE

SIGNS—SEE GUIDE SECTION 7

SIGN FOR DC DISCONNECT	
PHOTOVOLTAIC POWER SOURCE	
RATED MPP CURRENT	A
RATED MPP VOLTAGE	V
MAX SYSTEM VOLTAGE	V
MAX CIRCUIT CURRENT	A
WARNING: ELECTRICAL SHOCK HAZARD—LINE AND LOAD MAY BE ENERGIZED IN OPEN POSITION	
SIGN FOR INVERTER OCPD AND AC DISCONNECT (IF USED)	
SOLAR PV SYSTEM AC POINT OF CONNECTION	
AC OUTPUT CURRENT	A
NOMINAL AC VOLTAGE	V
THIS PANEL FED BY MULTIPLE SOURCES (UTILITY AND SOLAR)	

PV MODULE RATINGS @ STC (Guide Section 5)

MODULE MAKE	
MODULE MODEL	
MAX POWER-POINT CURRENT (I_{MP})	A
MAX POWER-POINT VOLTAGE (V_{MP})	V
OPEN-CIRCUIT VOLTAGE (V_{OC})	V
SHORT-CIRCUIT CURRENT (I_{SC})	A
MAX SERIES FUSE (OCPD)	A
MAXIMUM POWER (P_{MAX})	W
MAX VOLTAGE (TYP 600V _{DC})	V
VOC TEMP COEFF (mV/°C <input type="checkbox"/> or %/°C <input type="checkbox"/>)	
IF COEFF SUPPLIED, CIRCLE UNITS	

NOTES FOR ALL DRAWINGS:

OCPD = OVERCURRENT PROTECTION DEVICE
 NATIONAL ELECTRICAL CODE® REFERENCES SHOWN AS (NEC XXX.XX)

INVERTER RATINGS (Guide Section 4)

INVERTER MAKE	
INVERTER MODEL	
MAX DC VOLT RATING	V
MAX POWER @ 40°C	W
NOMINAL AC VOLTAGE	V
MAX AC CURRENT	A
MAX OCPD RATING	A

NOTES FOR ARRAY CIRCUIT WIRING (Guide Section 6 and 8 and Appendix D):

1.) LOWEST EXPECT AMBIENT TEMPERATURE BASED ON ASHRAE MINIMUM MEAN EXTREME DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. LOWEST EXPECTED AMBIENT TEMP _____°C

2.) HIGHEST CONTINUOUS AMBIENT TEMPERATURE BASED ON ASHRAE HIGHEST MONTH 2% DRY BULB TEMPERATURE FOR ASHRAE LOCATION MOST SIMILAR TO INSTALLATION LOCATION. HIGHEST CONTINUOUS TEMPERATURE _____°C

2.) 2005 ASHRAE FUNDAMENTALS 2% DESIGN TEMPERATURES DO NOT EXCEED 47°C IN THE UNITED STATES (PALM SPRINGS, CA IS 44.1°C). FOR LESS THAN 9 CURRENT-CARRYING CONDUCTORS IN ROOF-MOUNTED SUNLIT CONDUIT AT LEAST 0.5" ABOVE ROOF AND USING THE OUTDOOR DESIGN TEMPERATURE OF 47°C OR LESS (ALL OF UNITED STATES),

a) 12 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 7.68 AMPS OR LESS WHEN PROTECTED BY A 12-AMP OR SMALLER FUSE.

b) 10 AWG, 90°C CONDUCTORS ARE GENERALLY ACCEPTABLE FOR MODULES WITH I_{sc} OF 9.6 AMPS OR LESS WHEN PROTECTED BY A 15-AMP OR SMALLER FUSE.

NOTES FOR INVERTER CIRCUITS (Guide Section 8 and 9):

1) IF UTILITY REQUIRES A VISIBLE-BREAK SWITCH, DOES THIS SWITCH MEET THE REQUIREMENT? YES NO N/A

2) IF GENERATION METER REQUIRED, DOES THIS METER SOCKET MEET THE REQUIREMENT? YES NO N/A

3) SIZE PHOTOVOLTAIC POWER SOURCE (DC) CONDUCTORS BASED ON MAX CURRENT ON NEC 690.53 SIGN OR OCPD RATING AT DISCONNECT

4) SIZE INVERTER OUTPUT CIRCUIT (AC) CONDUCTORS ACCORDING TO INVERTER OCPD AMPERE RATING. (See Guide Section 9)

5) TOTAL OF _____ INVERTER OCPD(S), ONE FOR EACH INVERTER. DOES TOTAL SUPPLY BREAKERS COMPLY WITH 120% BUSBAR EXCEPTION IN 690.64(B)(2)(a)? YES NO

Contractor Name, Address and Phone: _____ _____ _____		Notes for One-Line Standard Electrical Diagram for Single-Phase PV Systems			
		Site Name: _____			
		Site Address: _____			
		System AC Size: _____			
Drawn By:	SIZE	FSCM NO	DWG NO	REV	
			E1.2		
Checked By:	SCALE	NTS	Date:	SHEET	