



Expedited Permitting Process
Residential Roof-Top Mounted Solar Installations

Form 6 - Solar Domestic Water Heating Standard Plan 30 kWth or Less

ELIGIBILITY CHECKLIST FOR EXPEDITED SOLAR DOMESTIC WATER HEATER PERMITTING

GENERAL REQUIREMENTS

- A. System size is 30 kWth (462 square feet of collector) or less Y N
- B. The solar array is roof-mounted on one- or two-family dwelling or accessory structure Y N
- C. The solar collector arrays will not exceed the maximum legal building height Y N
- D. Solar collectors are certified by an accredited listing agency Y N
- E. Solar domestic water heating system is certified by an accredited listing agency Y N
- F. Permit application is completed and attached Y N
- G. System schematic is included Y N
- H. List of major components to match system schematic Y N
- I. Heat transfer fluid is either water or a nontoxic fluid Y N

PLUMBING REQUIREMENTS

- A. Adequate extreme temperature protection is provided Y N

STRUCTURAL REQUIREMENTS

- A. A completed Structural Criteria and supporting documentation is attached (as required) Y N

Notes:

These criteria are intended for streamlined solar permitting process.

1. *If any items are checked NO, revise design to fit within Eligibility Checklist, otherwise permit application may go through standard process.*



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SCOPE: Use this plan ONLY for solar domestic water heating systems not exceeding a thermal output rating of 30 kWth on the roof of a one- or two-family dwelling or accessory structure and used for domestic water heating. Systems must be in compliance with current California Building Standards Code, Title 24 and local amendments of the authority having jurisdiction (AHJ). Other articles of the California Plumbing Code (CPC) or California Mechanical Code (CMC) or other California health and safety codes shall apply.

MANUFACTURER'S SPECIFICATION SHEETS MUST BE PROVIDED for proposed collector, controller, pump, storage tank/heat exchanger/ heat transfer fluid (if applicable) and mounting systems. Equipment intended for use with SWH system shall be identified and listed for the application.

Job Address: _____ Permit #: _____

Contractor/Engineer Name: _____ License # and Class: _____

Signature: _____ Date: _____ Phone Number: _____

Email: _____

Total # of Collectors Installed _____ Total Area of Collectors _____

Collector Certification Number (include certifying agency) _____

System Certification Number (include certifying agency) _____

Max Height Above Roof _____ Height Above Ground _____

Major Components (for SDWH systems)

Solar Tank Make/Model _____ Gallons _____ Insulation R- _____ Pressurized?

Heat Exchanger Make/Model _____ Number of Walls _____ Heat Exchange Fluid

Solar Control Make/Model _____

Solar Pump/Circulator Make/Model _____

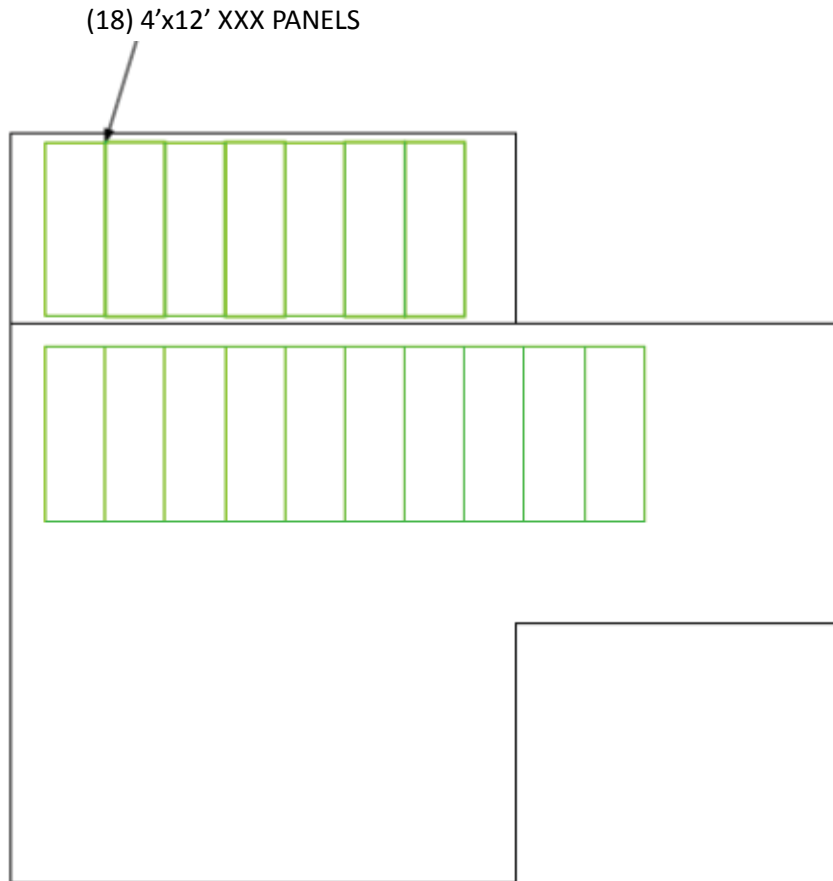
Expansion Tank Make/Model _____ Appropriately Sized for Use? _____

Mounting Hardware Make/Model or Type _____

Do all the above data match substantially the data used for certification? _____

SAMPLE ROOF PLAN for SDWH and SPH systems

- ROOF TYPE: STANDING SEAM
- ROOF HEIGHT (Elevation): MAX 15' (1 story)
- RAFTERS: 2" X 6" @ 24" OC





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INSPECTION GUIDE FOR SOLAR DOMESTIC WATER HEATER

This document is a field inspection guide for SDWH systems. These inspection references detail most of the issues that relate to SDWH systems during the inspection process.

All California Electrical Code (CEC), California Residential Code (CRC), California Building Code (CBC), California Mechanical Code (CMC), and California Plumbing Code (CPC) references are to the 2016 versions unless otherwise noted.

SOLAR DOMESTIC WATER HEATING SYSTEM ELIGIBILITY			
SYSTEM	CRITERIA		YES
		1. Major component installed match those of certified system?	
SOLAR DOMESTIC WATER HEATING INSPECTION GUIDE			
ROOF	GUIDELINE	SOURCE OF GUIDELINE	YES
	I. Roof penetrations/attachments are properly flashed	CBC Chap 15, CRC Chap 9	
SOLAR LOOP PIPING	I. Piping must be properly supported, hung and anchored per code	CPC 313.1	
	II. Solar piping properly insulated	AHJ	
	III. Dissimilar materials isolated, as required	CPC 310.6	
	IV. Penetrations through structural members as per code	CPC 312.2	
	V. Penetrations through fire-resistant assemblies installed per code	CPC 1405.2	
	VI. System has adequate freeze protection	CPC 312.6	
	VII. System overheat protection	CPC 505.2	
	VIII. Expansion tank sized correctly (indirect system) according to	CMC 1004.3,	



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	need for operation or overheat protection?	1004.4	
	IX. Pressure relief/temperature relief valve(s) installed per design (if applicable)	CPC 608.4, 608.5	
	X. Piping labels show type of fluid and direction of flow	CPC 601.2	
	XI. Drain and fill valves capped and labeled	CPC 601.2	
STORAGE TANK	I. Tank labeled with pressure rating for pressurized storage	CPC 505.4	
	II. Relief drain installed properly for pressurized storage	CPC 504.6, CMC 1005.1	
	III. Heat exchanger must protect potable water system from being contaminated by the heat transfer medium	CPC 603.5.4	
	IV. Tank installed in garage meets code requirements	CPC 507.13	
	V. Pan installed under tank (as required)	CPC 507.5	
	VI. Tank installed on level surface	CPC 508.4.3	
	VII. Tank supported for seismic loads	CPC 507.2	
	VIII. All valves, fittings and solders are rated for potable systems and meeting CA lead law requirements	CPC 604.1	
	IX. Unions installed within 12" of tank connections for all piping to and from tank and heat exchangers	CPC 609.5	
POTABLE PIPING	I. All valves, fittings and solders are rated for potable systems and meeting CA lead law requirements	CPC 604.1	
	II. Potable water piping properly labeled	CPC 601.3	
	III. Any connection to PEX more than 18" from tank fittings	CPC 604.13	
	IV. Hot water service piping insulated properly	AHJ	
	V. Vacuum relief valve properly installed (if required)	CPC 603.5.4, 608.7	



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CONTROLS	I. Control and pump disconnect(s) properly installed	CEC 430(IX), 690.17	
	II. Conductors between control and power source properly installed	CEC 430(II)	
	III. Conductors between control and pump properly installed	CEC 430(II), 690(IV)	
	IV. Solar collector sensors protected from sun and weather	CEC 310.8.10 D(1), D(2)	
	V. Control relay rated higher than load for each output	CEC 430.83	