COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION

SOLAR PANEL SYSTEMS
FOR ONE AND TWO FAMILY DWELLING

PLAN REVIEW LIST

GENERAL PROJECT INFORMATION

PLAN CHECK NO. _____ DISTRICT NO _____ INITIAL VALUATION _____

JOB ADDRESS _____ CITY _____ ZIP _____

APPLICANT _____ TELEPHONE ( ) _____

PROJECT INFORMATION

USE ZONE _____ CLIMATE ZONE _____ VHFHSZ: ☐YES ☐NO FLOOD ZONE: ☐YES ☐NO

BUILDING ELEMENT	SQ. FT.	NO. OF STORIES	CONSTR. TYPE	OCC. GROUP	$ / SQ. FT.	$ VALUE
				New Valuation:		

PLAN CHECK ENGINEER AND CORRECTION INFORMATION

REVIEWED BY _____ DATE _____ TELEPHONE _____

RECHECKED BY _____ DATE _____ TELEPHONE _____

Your application for a permit, together with plans and specifications, has been examined and you are advised that the issuance of a permit is withheld for the reasons hereinafter set forth. The approval of plans and specifications does not permit the violation of any section of the Building Code, or other local ordinance or state law.

NOTE: Numbers in the parenthesis ( ) refer to sections of the 2008 edition of the Los Angeles County Building Code, Table (T), Plumbing Code (PC), Mechanical Code (MC)

INSTRUCTIONS

- Corrections with circled item numbers apply to this plan check.

APPLICATION AND PERMIT

1. Application will expire on _____/_____/_____. Permit needs to be obtained prior to expiration date otherwise the application shall expire. (106.4.1.1)
2. Separate permit(s) is / are required for buildings, swimming pools, retaining walls, bridges not involving buildings, detached garages, demolition, _____. (106.1)

REFERRALS

ALL AGENCY APPROVALS are required prior to permit issuance. Please see the attached agency referral sheet for details.

SUPPLEMENTAL PLAN REVIEW COMMENTS/SHEETS

3. Attach and sign "Best Management Practice for Construction Activity" (Attachment A) to plans.

SITE PLAN / ROOF PLAN

4. The address of the building, and the name and address of the owner(s), and person(s) preparing the plans are required on the first sheet of the plans. (106.4.3)
5. Provide a roof plan projected on a site plan. Show street name(s) and north arrow. (106.4.3)
6. Show the locations and dimensions of all solar photo voltaic equipments and PV arrays.
7. Specify roofing material, number of layers, and slope(s) on roof plan.
8. Attach all manufacturer specification sheets, installation instructions and UL listings to the plans.

DESIGN REQUIREMENTS FOR ROOF MOUNTED SYSTEM

9. Detail collector connections to equipment supports, and equipment supports to roof rafters. Provide details for flashing and water proofing at system supports.
10. Structural plans and calculations signed by a licensed architect or civil engineer shall be submitted for the collector showing supporting member sizes, dimensions, materials and the loads imposed on the roof structure, unless all of the following conditions are met:
    a. The existing roofing is either of wood shingle, asphalt shingle, or rolled/torch-down with two layers maximum.
    b. The collector and collector support shall not weigh more than 4 psf.

c. The maximum concentrated load imposed by a collector support onto the roof structure is 40 lbs.

d. The collector is installed with no portion thereof more than 18 in. above the roof immediately below.

11. Alterations that increase the seismic force in any existing structural element by more than 10 percent cumulative since the original construction shall not be permitted unless the entire seismic-force-resisting system is determined to conform to ASCE 7 for new structure. (3403.2.3.2)

12. Note on plans:

    a. Do not cover (mechanical and plumbing) vents through the roof with the collector.

    b. When installed over a roof covering of wood shakes or shingles with less than a Class B or C rating, an aluminum or corrosion-resistant iron substrate of 26 gauge minimum thickness extending at least 6 in. beyond the outer edges of the collector or collector group is required.

DESIGN REQUIREMENTS FOR GROUND MOUNTED SYSTEM

13. Structures adjacent to ascending or descending slopes shall maintain setback according to the requirements of Section 1805.3. Structural plans and calculations are required for foundation situated in slopes steeper than one unit vertical in three units horizontal (33.3-percent slope).

14. Detail collector connections to equipment supports, and equipment supports to foundation.

15. Structural plans and calculations shall be submitted for the collector showing supporting member sizes, foundation, dimensions, materials and the loads imposed on the foundation, unless all of the following conditions are met:

    a. The collector and collector support shall not weigh more than 4 psf.

    b. The collector is installed with no portion thereof more than 72 in. above the ground immediately below.

ELECTRICAL REQUIREMENTS FOR SOLAR PHOTO VOLTAIC SYSTEM

16. Provide electrical drawings to show compliance with the applicable provisions of the 2008 Los Angeles County Electrical Code.

17. Show the location of the main electrical service, AC/DC disconnects all solar voltaic equipment, and PV arrays on the roof plan.

18. Single Line Diagram: Show array configuration, conduit and conductors sizes with derating calculations. (See Standard Electrical Diagram.)

19. Inverter Information: Show model number, specification cut sheets, and maximum D.C. input.

20. PV Module Information: Show open circuit voltage (VOC), short — circuit current (ISC) max series fuse.

21. Array Information: Show number of modules in series, number of parallel source circuits.

22. Wiring and Over Current Protection: Show conductor ampacities, adjusted with all derating factors. Show rating and location of all Over Current Devices (OCD).

23. System Labels and Warnings: Show required signage on the plans per 2007 CEC- Article 690.

24. Grounding Details: Show equipment ground conductor, ground electrode conductor from inverter to ground rod or ufer ground.

25. Disconnects: Show AC/DC disconnects at inverter. DC disconnects required prior to DC array conductors penetrating the surface of the roof or entering the building.

26. System Calculations: Show (VOC) x (temperature correction factor based on the lowest recorded temperature). (ISC) calculated x 1.25% (NEC 690) x 1.25% (UL 1703).

27. Clearly identify the point of interconnection with the utility supplied wiring system and provide details on main breaker, PV breaker and rating of bussing.

PLUMBING REQUIREMENTS FOR SOLAR POTABLE WATER HEATING SYSTEM

28. Applicant shall obtain a plumbing permit for installation and/or alteration of any solar potable water heating system.

29. Applicant shall fill out and post the attached “Certificate of Compliance” at or near the water heater at the time of final inspection.

30. All potable water piping shall meet the requirements of the 2008 Los Angeles County Plumbing Code (Installation, material, cover, pressure testing, etc.).

31. All installed non-potable water piping shall be capable of withstanding water pressure equal to working pressure specified in the “Certificate of Compliance.”

32. Applicant to provide a freeze protection method for the system.

33. A full way system shut-off valve shall be installed on the cold water supply pipe.

34. A pressure relief valve (PRV) shall be provided downstream of the system shut-off valve. Additional PRV’s shall be installed downstream of any other isolating shut-off valve installed on the system.

35. Unions shall be provided within 12” of water heater, primary tank and pump(s).

36. All tanks (primary and expansion) shall be labeled with manufacturer’s name and the standards to which they are manufactured.

37. Accessible drain valve shall be provided.

38. Air vent(s) shall be provided and located at the high point(s) of the system.

39. An approved temperature mixing valve shall be installed on the system to limit the water temperature to 160° F.
40. For closed loop systems, heat exchanger shall be listed. Any potable make up water to non-potable side shall be protected by an approved backflow protection device.
41. Heat exchangers for systems using non-potable water or other liquids shall be double wall.
42. Collectors shall be listed by IAPMO or other approved reputable listing agencies for the use intended.

ADDITIONAL COMMENTS