



PHOTOVOLTAIC SYSTEMS SUBMITTAL REQUIREMENTS

Building Division
Effective: January 1, 2017

General Requirements

The design and installation must comply with the 2016 California Building Code (CBC), 2016 California Residential Code (CRC), 2016 California Electrical Code (CEC), 2016 California Mechanical Code (CMC), 2016 California Plumbing Code (CPC). All components and equipment used in the photovoltaic system must be installed in accordance with its listing and the manufacturer's installation instructions.

Plan Requirements **(SUBMIT THREE (3) DRAWINGS, 11"X17" MINIMUM, 24"X36" MAXIMUM SIZE)**

Installation of the PV system shall be in conformance with CEC Article 690 and CRC R331.

Plot plan showing the property boundaries, all buildings located on the parcel, easements, etc.

Roof Plan view of PV System panels; also indicate the dimension and layout of the existing roof framing members.

Clearly show the location of the electrical service, including amperage rating.

Provide details on the mounting of PV modules including type and number of roof coverings, including method of weather and water proofing.

Provide device listing for the method of bonding PV modules.

Include a torque schedule for all equipment connections including; inverter mounting hardware, disconnects, breakers, module clips, lug and panel hardware, inverter connections, racking system. This information shall be provided in either inch/lbs. or ft./lbs.

Provide an electrical single-line diagram identifying all devices in the system including the total kVA rating.

Show the type and size of conductors and conduits.

Provide manufacturer specifications and installation instructions for the modules, mounting systems, inverters, disconnects, transformers, batteries, generators, etc.

Provide structural calculations, prepared by a registered California design professional if the total weight of the PV system exceeds 5 pounds per square foot.

If ground-mounted system, indicate configuration of structural frame-work including foundation system, framing material type with dimensions, and fasteners. In addition, provide structural specifications for panel support.

Provide exterior elevations showing arrangement of each listed electrical panel and associated components.

Provide identification and warning signage in conformance with CEC Article 690.

For PV systems of 10kw or greater, plans must be wet stamped and signed by an Electrical Engineer.



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Battery Installation

Provide floor plan of structure used to house battery bank.

Indicate battery type, size, dimensions, ventilation, and protection from physical damage.

Provide method for battery bank anchoring.

Provide wiring diagram of battery set

The following information indicates the required roof top clearances for panels/arrays installed on residential buildings with slopes greater than 2:12:

Roof access points. Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs.

Residential buildings with hip roof layouts. Panels/modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide clear access pathway from the eave to the ridge on each roof slope where panels/modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.

Residential buildings with a single ridge. Panels/modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3-foot-wide access pathways from the eave to the ridge on each roof slope where panels/modules are located.

Residential buildings with roof hips and valleys. Panels/modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches to a hip or a valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.

Residential building smoke ventilation. Panels/modules installed on residential buildings shall be located no higher than 3 feet below the ridge in order to allow for fire department smoke ventilation operations.

Ground-mounted photovoltaic arrays. Ground-mounted photovoltaic arrays shall require a clear, brush-free area of at least 10 feet.



ELIGIBILITY CHECKLIST FOR EXPEDITED SOLAR PERMITTING FOR SINGLE FAMILY DWELLINGS

Building Division Effective:
January 10, 2017

Property Address _____ Permit Number _____

GENERAL REQUIREMENTS:

- | | Yes | No |
|---|-------|-------|
| 1. System size is 10kw AC CEC rating or less | _____ | _____ |
| 2. The solar array is roof mounted on single family residence | _____ | _____ |
| 3. The solar panel/module arrays don't exceed building height | _____ | _____ |
| 4. Solar system is utility interactive and no battery storage | _____ | _____ |
| 5. PV array weighs less the 4 lbs./sq. ft. | _____ | _____ |

ELECTRICAL REQUIREMENTS:

- | | Yes | No |
|---|-------|-------|
| 6. Maximum back feed breaker of 60 amps. | _____ | _____ |
| 7. Max of 4 PV module strings connected to each MPPT input where source circuit fusing is included in the inverter. | _____ | _____ |
| a) No more than 2 strings per MPPT input where source circuit fusing is not included. | _____ | _____ |
| b) Fuses (if needed) are rated to the series fuse rating of the PV module. | _____ | _____ |
| c) No more than one non-inverter, integrated DC combiner is utilized per inverter. | _____ | _____ |
| 8. For central inverter systems, no more than 2 inverters are utilized. | _____ | _____ |
| Number of inverters in this system (circle one): | 1 | 2 |
| 9. The PV system is connected to the load side of the utility distribution equipment. | _____ | _____ |
| 10. Minimum EGC solid bare copper on roof of AWG #6 unprotected or #8 protected. | _____ | _____ |
| 11. A solar PV standard plan and supporting documentation is completed and attached. | _____ | _____ |

STRUCTURAL REQUIREMENTS:

- | | Yes | No |
|---|-------|-------|
| 12. A completed structural criteria and supporting documentation is attached. | _____ | _____ |

FIRE SAFETY REQUIREMENTS:

- | | Yes | No |
|--|-------|-------|
| 13. Clear access pathways provided (3 feet below ridge, 3 feet from gable ends) | _____ | _____ |
| 14. Fire classification solar system is provided. | _____ | _____ |
| 15. All required markings and labels are provided. | _____ | _____ |
| 16. A diagram of the roof layout of all panels, modules, clear access pathways and approximate locations of electrical disconnecting means and roof access points is completed and attached. | _____ | _____ |

***Notes:**

1. *These criteria are intended for expedited solar permitting process.*
2. *If any items are checked NO, revise design to fit within Eligibility Checklist, otherwise permit application may go through standard process.*

I hereby certify that the photovoltaic system will be installed in accordance with the requirements set forth above and in accordance with the 2016 California Electric Code. I declare under penalty of perjury that the foregoing statement is true.

Signature _____ Date _____



AUTHORIZATION TO ACT AS AGENT

Building Division

Effective: May 25, 2007
Revised: May 18, 2016

City of Brentwood
Building Division
150 City Park Way
Brentwood, CA 94513

To Whom It May Concern:

I am the owner of the property located at:

_____ Address _____ APN Number _____

The following work will be performed at the above address: _____

_____ (Description of project)

I authorize _____ (Name)

to act as my agent to obtain necessary permits for the work described above.

Furthermore, I agree to defend, indemnify, and hold the City of Brentwood, its elected officials, officers, directors, employees, agents, and volunteers harmless from and against any and all loss, liability, or damages, including reasonable attorney's fees and/or court costs, arising out of the performance of this contract, except for the sole negligence of the City of Brentwood, its elected officials, officers, directors, employees, agents, and volunteers.

_____ Property Owner Signature _____ Property Owner Printed Name _____ Date