



# PHOTOVOLTAIC SYSTEMS SUBMITTAL REQUIREMENTS

Neighborhood  
Services

Effective: May 25, 2017  
Revised: January 12, 2023

## General Requirements:

- The design and installation must comply with the 2022 California Building Code (CBC), 2022 California Residential Code (CRC), 2022 California Electrical Code (CEC), 2022 California Mechanical Code (CMC), 2022 California Plumbing Code (CPC) and 2022 California Fire Code (CFC). 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 TWO (2) DRAWINGS, 11"X17" MINIMUM, 24"X36" MAXIMUM SIZE):

- PV systems shall be designed and installed in accordance with CEC Articles 690, 705 and CRC Section 324.
- Plot plan showing the property boundaries, all buildings located on the parcel, easements, etc.
- Roof plan view of PV System panels. Indicate the roof area in plan view indicating dimensions and layout of the existing roof framing members.
- Clearly show the location of the electrical service, including ampere 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.
- 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 4 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 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.
- Provide A/C disconnect at main panel for disconnecting batteries.

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

**Pathways:** Not less than two minimum 36-inch-wide pathways on separate roof planes, from lowest roof edge to ridge, shall be provided on all buildings. At least one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, a minimum 36-inch-wide pathway from the lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduits, or mechanical equipment.

**Setback at ridge:** For photovoltaic arrays occupying not more than 33 percent of the plan view total roof area, not less than an 18-inch clear set back is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, not less than a 36-inch clear set back is required on both sides of a horizontal ridge.

**Alternative setback at ridge:** Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D setbacks at ridges shall conform with one of the following:

1. For photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch clear setback is required on both sides of a horizontal ridge.
2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch clear setback is required on both sides of a horizontal ridge.

**Emergency escape and rescue opening:** Panels and modules installed on dwellings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A 36-inch-wide pathway shall be provided to the emergency escape and rescue opening.

**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

Neighborhood  
Services

Effective: May 25, 2017  
Revised: January 12, 2023

**PROPERTY ADDRESS:** \_\_\_\_\_ **PERMIT NUMBER:** \_\_\_\_\_

### GENERAL REQUIREMENTS:

	YES	NO
1. System size has a 10 kW AC rating or less	_____	_____
2. The solar array is roof mounted on a single family residence	_____	_____
3. Solar module array does not exceed the building height	_____	_____
4. Solar system is utility interactive (battery storage does not qualify for expedited solar permitting)	_____	_____
5. PV array weighs less than 4lbs. per sq.ft.	_____	_____
6. PV plans are designed by qualified personnel and designer information is printed on plans	_____	_____
7. PV installation is being performed by qualified personnel	_____	_____
8. No other solar systems are installed on the roof (projects with existing solar systems do not qualify for expedited solar permitting)	_____	_____
9. Roof area with array area is shown in plan view on plans	_____	_____

### ELECTRICAL REQUIREMENTS:

	YES	NO
11. Maximum back feed breaker of 60 amps	_____	_____
12. Maximum of 4 PV modules 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 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	_____	_____
13. For central inverter systems, no more than 2 inverters are utilized	_____	_____
Number of inverters in this system (circle one):	1	2
14. The PV system is connected to the load side of the utility distribution equipment	_____	_____
15. Minimum EGC solid bare copper on roof of AWG #6 unprotected or #8 protected	_____	_____
16. Main breaker is present on the service panel	_____	_____
❖ (If no main breaker present and source circuit exceeds the 120% of the main bus rating, load calculations are required and project does not qualify for expedited permitting)	_____	_____
17. A solar PV standard plan and supporting documentation is completed and attached	_____	_____

### FIRE SAFETY REQUIREMENTS:

	YES	NO
17. Clear access pathways and setbacks are show as per CRC Section 324	_____	_____
18. Fire classification for solar system is provided	_____	_____
19. All required markings and labels are provided	_____	_____
20. A diagram of the roof layout of all panels, modules, clear access pathways, setbacks and approximate locations of electrical disconnecting means and roof access points is completed and attached	_____	_____



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### ADDITIONAL INFORMATION:

- ❖ Is dwelling fire sprinklered? YES \_\_\_\_\_ NO \_\_\_\_\_
- ❖ Are alternative/reduced setbacks being proposed at the ridges? YES \_\_\_\_\_ NO \_\_\_\_\_
- ❖ Total square footage of roof area: \_\_\_\_\_ sq.ft.
- ❖ Total percentage of roof covered by solar: \_\_\_\_\_ %

### NOTES:

1. This criteria is intended for expedited solar permitting process.
2. If any items from 1 through 20 on the checklist are marked 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 2022 California Electric Code. I declare under penalty of perjury that the foregoing statement is true.

Signature \_\_\_\_\_ Date \_\_\_\_\_



**AUTHORIZATION TO ACT  
AS AGENT**

Neighborhood  
Services

Effective: May 25, 2007  
Revised: May 7, 2018

City of Brentwood  
Neighborhood Services  
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