



CITY OF PALM DESERT

Building & Safety Department

73-510 Fred Waring, Palm Desert, CA (760) 776-6420

PHOTOVOLTAIC RESIDENTIAL 30KW OR LESS

Minimum Submittal Requirements **(Residential Rooftop Systems—30kw or less)**

This information is published to guide applicants through a streamlined permitting process for qualifying small rooftop residential solar photovoltaic (PV) systems of 30 kilowatts (kW) or less.

This bulletin provides information about submittal requirements, plan review, fees, and provides a general summary of mandatory field inspections.

The definition of “qualifying residential rooftop solar systems” is all of the following:

- *A solar energy system that is no larger than 30 kilowatts alternating current nameplate rating or 30 kilowatts thermal.*
- *A solar energy system that conforms to all applicable state fire, structural, electrical, and other building codes as adopted or amended by the City and paragraph (iii) of subdivision (c) of Section 714 of the Civil Code, as such section or subdivision may be amended, renumbered, or re-designated from time to time.*
- *A solar energy system that is installed on a single or duplex family dwelling. (Permitted roof or accessory structure acceptable)*
- *A solar panel or module array that does not exceed the maximum legal building height as defined by the City of Palm Desert.*
- *Electrical main panel upgrade included with solar plan (Review required if doubling in size)*

1. Required Approvals

The following approvals and permits are required to install a small rooftop residential PV system with a maximum power output of 30 kW or less:

- Planning Department approval is required at the time of plan review submittal. Please coordinate directly at (760) 776-6483.
- Fire Marshall approval is not required for small residential rooftop systems at this time.
- Building Department approval in the issuance of a Photovoltaic System Permit is required to install or modify a new or existing solar photovoltaic system.

2. Building Permit Application Form

A permit application can be obtained in person or downloaded from the Department's website at: www.cityofpalmdesert.org

3. Eligibility Checklist

An eligibility checklist for expedited and standardized permitting is provided and can be downloaded at the Department's website or obtained in person. If your project does not meet these criteria's, standard plan review timetables apply. Please consult a licensed designed professional or licensed contractor for further details for submitting a comprehensive photovoltaic plan.

4. **Project Submittal**

All projects can be submitted in person at: City of Palm Desert, Department of Building and Safety
73-510 Fred Waring Drive, Palm Desert, California 92260

5. **Plan Review Timeframes:**

All qualifying small residential photovoltaic plan reviews are expedited to seven (7) to ten (10) working days from the date of project submittal. All necessary follow up reviews occur within seven (7) working days.

6. **Plan Review and Permit Fees**

- Plan Review Fee is \$203.
- Permit Fees are approximately \$266 depending on archiving materials.

7. **Minimum Plan Set Requirements**

· Number of Plans

Provide two (2) complete sets of photovoltaic plans (Minimum 11"X17" to Maximum of 24"X36"). Include a separate Site and Roof Layout Plan for the Riverside County Assessor's Office.

· Site Plan

Provide a fully dimensional site plan showing property lines, all structures, and the location of the main electrical service, all photovoltaic inverters and disconnects, etc.

· Roof Plan

Provide a roof plan showing the location of the photovoltaic panels and the required setbacks. Include all walkways to roof mounted equipment (including any roof mounted heating and air conditioning equipment, etc.). Roof plans should also identify the size and spacing of the existing roof framing members and the slope of the roof plus any required roof framing alterations needed.

In addition, demonstrate the required clear path access pathways as required by the State Fire Marshal's Office. You can find these clearances at:

<http://osfm.fire.ca.gov/training/pdf/photovoltaics/solarphotovoltaicguideline.pdf>

· Attachment Details

Provide an attachment detail demonstrating how the photovoltaic panels and array will be secured to the racking system and roof structure.

· Product Specifications and Literature

Provide all manufacturers' specifications on all inverters, solar panels, combiner and disconnect boxes and solar panel anchorage system to be used.

· Signage Specifications

Provide a legend showing locations and wording of all required signs or placards at various photovoltaic system components.

Standard Electrical Plan

A standard generic electrical plan may be used for proposed solar installations of 30kW in size or smaller and can be downloaded within the City's website. All submittals must be signed by a C-10 (Electrical Contractor) or C-46 (Solar Contractor) or licensed design professional. Electrical Plans should include the following:

- Location of main service or utility disconnect.
- Total number of modules, number of modules per string and the total number of strings.
- Make and model of inverter(s) and/or combiner box if used.
- Single line diagram of system.
- Specify grounding/bonding, conductor type and size, conduit type, size and number of conductors in each section of conduit.

- If batteries are to be installed, include them in the diagram and show their locations and venting.
- Equipment cut sheets including inverters, modules, AC and DC disconnects, combiners and wind generators.
- Labeling of equipment as required by CEC, Sections 690 and 705.
- Site diagram showing the arrangement of panels on the roof or ground, north arrow, lot dimensions and the distance from property lines to adjacent buildings/structures (existing and proposed).

Expedited Structural Criteria with Supporting Documentation

A Structural Criteria Checklist can be downloaded at Department's website or obtained in person. Projects not within the scope of this structural criteria may require a licensed design professional justification.

For non-qualifying systems, provide structural drawings and calculations stamped and signed by a licensed designed professional along with the following information:

- The type of roof covering and the number of roof coverings installed.
- Type of roof framing, size of members and spacing.
- Weight of panels, support locations and method of attachment.
- Framing plan and details for any work necessary to strengthen the existing roof structure
- Site-specific structural calculations.
- Where an approved racking system is used, provide documentation showing manufacturer of the rack system, maximum allowable weight the system can support, attachment method to the roof or ground and product evaluation information or structural design for the rack system.
- As a references, the Solar Structural Technical Appendix hyperlink is provided:

http://www.opr.ca.gov/docs/Solar_Structural_Technical_Appendix.pdf

Inspection Information

Once a photovoltaic system permit has been issued and the system has been installed, it must be inspected before final approval is granted. Inspections are required to be scheduled twenty-four (24) hours in advance at:

(760) 776- 6420

Monday through Friday (8AM to 4PM)

Same day inspection will not be provided.

Qualifying small rooftop PV systems will be inspected in one (1) site visit, if under 30 kilowatts. If PV system is over 30 kilowatts it will require a rough inspection after mounting system is installed. If the inspection does not pass, subsequent inspections will not conform to the one inspection policy per the California Solar Initiative AB2188.

Permit holders must be prepared to show conformance with all technical requirements in the field at the time of inspection. The inspector will verify that the installation is in conformance with applicable code requirements and with the approved plans. An OSHA approved ladder must be provided by the contractor of record or property owner at the time of inspection.

Here are some common points of inspection you should be prepared to show:

- Number of PV modules and model number match plans and specification sheets number match plans and specification sheets.
- Array conductors and components are installed in a neat and workman-like manner.
- PV array is properly grounded.
- Electrical boxes are accessible and connections are suitable for environment.
- Array is fastened and sealed according to attachment detail.
- Conductor's ratings and sizes match plans.
- Appropriate signs are properly constructed, installed and displayed.
- Smoke detector and carbon monoxide alarms are required at final inspection.

QUICK TIPS FOR CONTRACTORS & PROPERTY OWNERS WHEN APPLYING FOR A SOLAR PERMIT:

- Permit applicants can save time and money by following these tips.
- Take time to review permit requirements of the local jurisdiction.
- Permitting rules and processes differ among different cities and counties. Understanding all local requirements will allow permit applicants to submit a complete and accurate permit application packet the first time.
- Contact the local electric utility early in the permitting process (solar PV installations).
- Local electric utilities have a completely separate approval process from the local jurisdiction's permitting process. Some electric utilities may require that the solar project be reviewed before the local jurisdiction issues a building permit. Pursuing utility approval early in the permit process enables the solar PV system to become operational as soon as possible.
- Make sure that the solar installation that is built matches the submitted plans.
- The on-site inspector will verify that the installation aligns with proposed plans and any changes may require corrections and additional inspections.