

CITY OF PALM DESERT  
Building & Safety  
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Revised  
8-4-2014

73510 Fred Waring Drive  
Palm Desert, CA 92260  
Phone: (760) 776-6420  
Fax: (760) 776-6392  
[www.cityofpalmdesert.org](http://www.cityofpalmdesert.org)

## SOLAR PHOTOVOLTAIC SYSTEMS MINIMUM SUBMITTAL REQUIREMENTS

Please note that Planning Department approval is required. You can reach Planning Department (Zoning Information) @ (760) 776-6483.

For clarification or additional information for a specific project, please call (760) 776-6420 or visit the Department of Building and Safety, at 73-510 Fred Waring Drive.

### I. PLAN SPECIFICATION

You must submit two identical sets of plans to the Building Department. (One additional plan set including only a Site & Roof plan for the Assessor) Plans must be drawn to scale and must be of sufficient clarity to indicate the location and extent of the work proposed. Plans must show in detail that the proposed work will conform to the provisions of all building regulations in effect in the City of Palm Desert on the day you submit plans and pay fees. Label and dimension all items on the plans.

### II. FORMS TO COMPLETE

#### A. Building Permit Application

California Law requires that every permit applicant supply specific information and make certain declarations regarding the proposed work. At plan submittal time, you will need the job address, legal description, existing use, description of work, and name and address of the applicant and the owner.

### III. PLAN CHECK FEES

The plan check fees must be paid at the time the plans are submitted by cash or check. Please make checks payable to the "City of Palm Desert" it is best to bring a blank check. If you need assistance in estimating fees for plan submittal, call (760) 776-6420.

#### **IV. REQUIRED INFORMATION ON THE PLANS**

You must include the items listed below on the plans and provide the required supporting documentation. Please submit two copies of supporting documentation at time of permit application.

Plans must conform to the following:

- Be legible and fully dimensioned
- Must be drawn to scale. 1/4": 1 foot is preferable
- All notes must be clear and legible
- Pencil drawings or notations are not acceptable
- Plans shall be a minimum of 11" x 17" and maximum of 24" x 36"

#### **Title/Plot Plan**

This plan shows the general layout of the lot and must include the following information:

1. Site address.
2. Name, title, address and phone number of responsible parties (Owner, Contractor, etc).
3. Scope of work.
4. List of all current editions of codes that apply to the proposed construction (2013 CBC and 2013 CEC are current at this time).
5. Property lines and dimensions.
6. Adjacent streets.
7. Location and use of all existing buildings.
8. Distances from the street property line to the nearest building or structure; distances from exterior building walls to the nearest adjacent property line or building.
9. Show location of existing electrical service(s) and panels.
10. Show location of all solar equipment including number of modules in series, number of panels (groups or modules) in parallel.

#### **Roof & Structural Plans**

Plans must show:

1. Roof pitch.
2. Spacing and size of roof members.
3. Type of roof covering.
4. Details for the assembly of the modules and for the connection of the modules to roof members. Indicate type, size and spacing of fasteners. The attachment of the panels/modules must resist 90 MPH, Exposure C wind speed per 2013 CBC Chapter 16, Division III, WIND DESIGN. Structural calculations/analysis may be required on roof-mounted systems where the modules are installed at an angle to the roof (the plane of the modules is not parallel to the plane of the roof.) Calculations must be stamped and signed by a California licensed engineer or architect.
5. Weather sealing of roof penetrations.

## Elevations

Provide elevation drawings showing the height of the building and the height of the panels/modules above the roof surface. Show the degree of rise in relation to the roof structure and the distance from the roof structure to the panels/modules.

## Electrical Plans

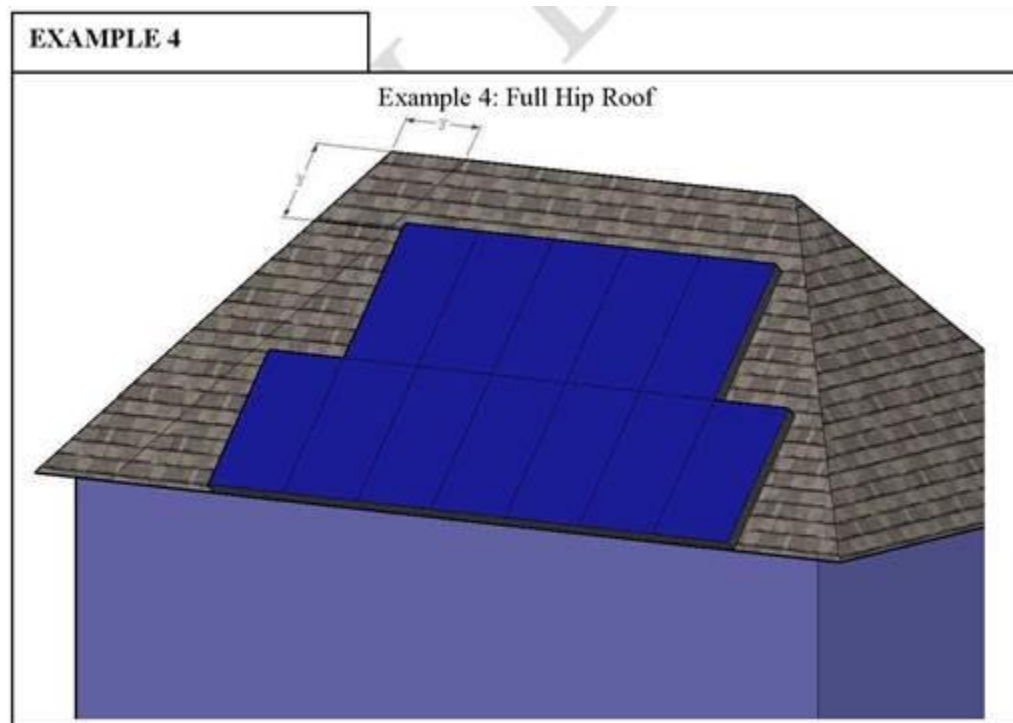
1. Note on Plans: ***Photovoltaic System installation shall comply with the requirements of Article 690 of the 2013 California Electrical Code (CEC).***
2. Provide manufacturers' information for the solar system equipment including: solar panels, inverter(s), and other solar components that will be installed. Specification sheets must indicate the listing agency and that the equipment complies with Article 690 of the 2013 CEC.
3. Provide an electrical single line diagram showing the existing electrical service(s) and panels and any upgrades to the panel(s). The electrical single line diagram shall be designed by a C-10 or C-36 Electrical Engineer and describe the electrical installation from the existing service to the solar panels. Specify conductor size and insulation type, grounding, Ground-Fault Protection per Sect. 690.5; disconnect location, amperage loading and a voltage description of all circuits.
4. Detail the location of all solar equipment including the solar panel layout, inverter(s) and the optional equipment that will be installed under this permit (batteries, generators, etc.). Specify the maximum voltage per panel.
5. Include the following notes describing required permanent signage:
  - To be installed adjacent to the main electrical service: "This electrical service is also served by a photovoltaic (Solar) power system, 1 of 2 Disconnects."
  - To be installed at the main electrical service photovoltaic disconnect: "Photovoltaic Disconnect Means, 2 of 2 Disconnects."
  - To be installed where terminals of the disconnect may be energized in the open position: "Warning-Electrical shock hazard – Terminals on both lines and load sides may be energized in the open position. Dual Power Supply-Photovoltaic System."
6. Detail grounding throughout the system from the solar panels/modules to the main electric panel.
7. Detail grounding system: cold water and grounding electrode for the main panel.
8. Systems ratings must be labeled: operating current, voltage, maximum voltage, and short circuit current (CEC 690.5 (C)).
9. Detail Interactive Point of Connection (system connection to main panel/sub-panel).
10. Submit load calculations to support reducing the main breaker when necessary.

## PV System Clearances – California Residential

### (NEW – Section)

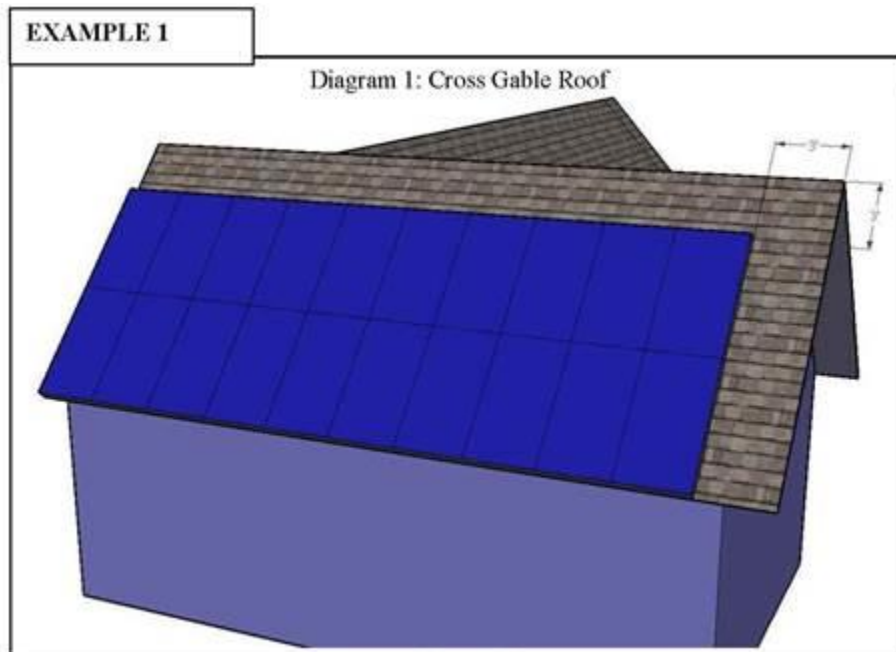
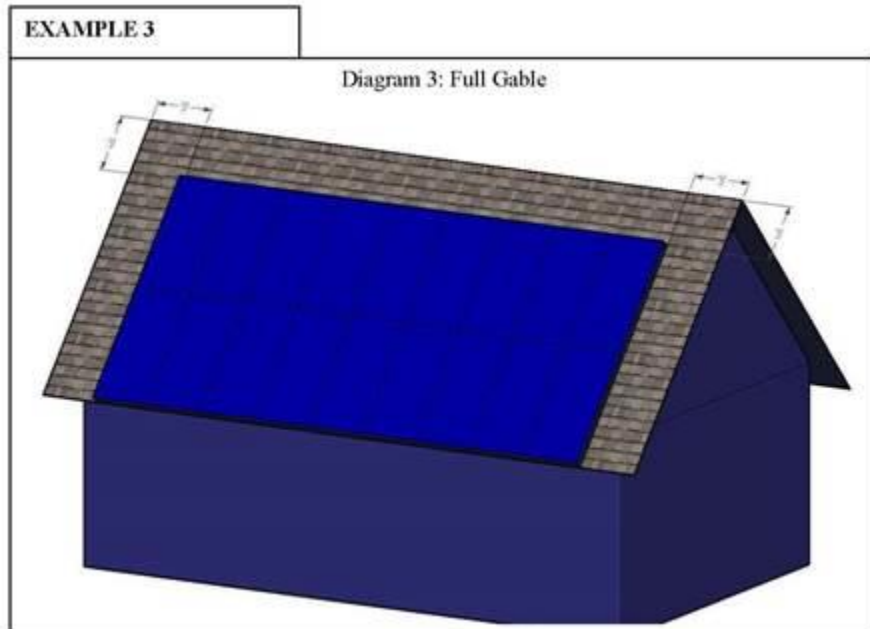
- i. Beginning January 1, 2014, all rooftop photovoltaic systems are clearances from eaves, hips, and ridges:
  - a) Residential building with hip roof layouts. A 3ft access from the eave to the ridge on each roof slope where the panels/modules are located. The pathway shall be located on a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof. (CRC §R331.4.2.1)

**Exception:** These requirements shall not apply to roofs with slopes of two units vertical to 12 units horizontal (2:12) or less.



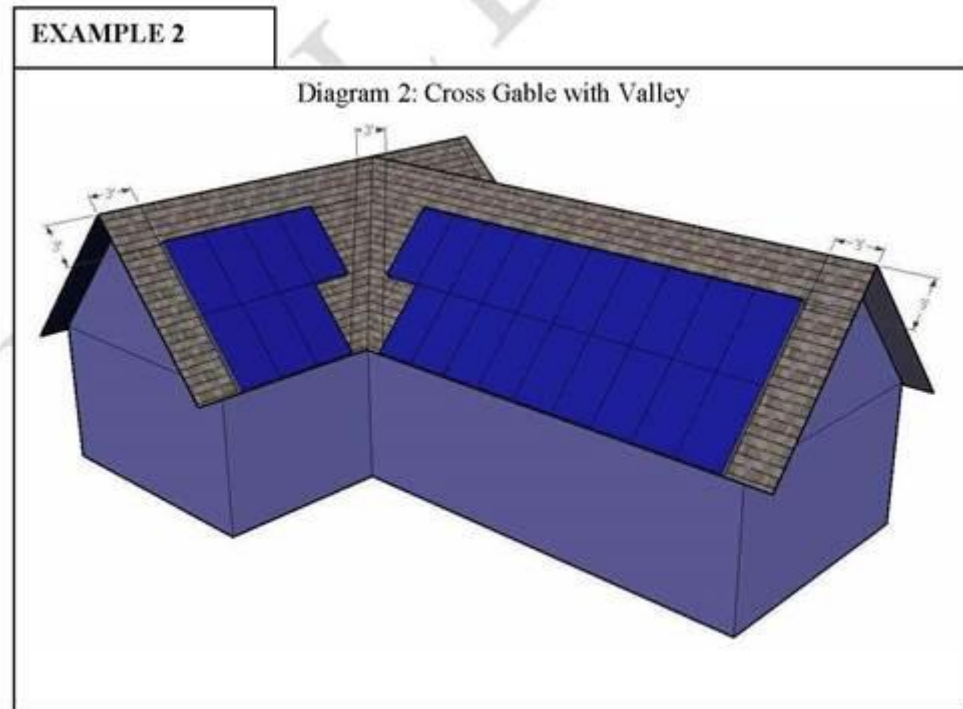
- b) Residential Building with a single ridge. Panels/modules installed on residential buildings with a single ridge shall be located in a manner that provides two, 3 foot wide access pathways from the eave to the ridge on each roof slope where the panel/modules. (CRC §R331.4.2.2)

**Exception:** These requirements shall not apply to roofs with slopes of two units vertical to 12 units horizontal (2:12) or less.



- c) 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 the hip or valley where the panels/modules are to be placed on both sides or the hip or valley. Where panels are to be located on only one side on the hip or valley that is equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley. (CRC §R311.4.2.3)

**Exception:** These requirements shall not apply to roofs with slopes of two units vertical to 12 units horizontal (2:12) or less.



- d) Residential buildings – Smoke Ventilation. Panels/Modules installed on residential buildings shall be located no higher than 3 feet below the ridge order in order to allow fire department smoke ventilation operations (CRC §R331.5)
- ii. Free standing Ground-mounted PV Systems shall have a clear brush-free area of 10 feet. (CRC §R331.5)