

Roof Mounted Photovoltaic (PV) System

This document contains a collection of handouts about installing a roof mounted PV system in the County of Humboldt. The following information assumes that the structure the PV system is attached to is permitted. If it is not, it will need to be permitted. Included are links to resources which are used by the Humboldt County Building Division to assess requirements for a proposed roof mounted PV system. Click the gold star to get a PDF version of the handout it is next to.

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Important GIS Layers | Roof Mounted PV System ★

The [Humboldt County Geographical Information System \(GIS\)](#) is used by the building division to determine the jurisdictions, hazards, natural resources, and other geologic features associated with the proposed building site. Because a roof mounted PV system will have such a small effect on the environment, the jurisdictional and geologic features do not have a significant effect on what submittal documents you will need. To learn more about how to use the GIS, read the [Web GIS Guide](#).

Hazards

FEMA Flood Zones

The FEMA Flood Zone layer shows the flood zone and floodway. A roof mounted PV system in the flood zone will have to comply with the [Flood Damage Prevention](#) chapter of the county ordinance and [Flood Resistant Construction](#) of the Residential Building Code. The equipment for a roof mounted PV system in the flood zone will not have to be elevated to or above Base Flood Elevation provided the following conditions are met

1. The equipment is pole mounted.
2. The PV system cannot supply power to new or substantially improved structures.
3. The height to the top of the meter socket enclosure shall be 72 inches above grade.

To access the FEMA Flood Zone layer, check the following [GIS](#) layer list boxes to the right.

- ▼ Hazards
 - ▶ Coastal and Dam Inundation
 - ▶ Tsunami
- ▼ Flood
 - ▶ DWR Awareness Floodplain
- ▼ FEMA Flood Zones (6/21/2017)
 - 100 Year Flood Zone (A, AE, AO, VE)
 - 500 Year Flood Zone (Shaded X)
 - Floodway



Submittal Documents | Roof Mounted PV System ★

Submittal documents are construction drawings, engineered calculations, forms, installation manuals, and any other documents which will describe the construction of your proposed roof mounted PV system.

Below is a list of all the submittal documents you could be required to provide. Refer to the [Solar Toolkit](#) and the [Roof Mount PV System General Checklist](#) for additional information.

Required Submittals

- *Construction Plans*
 - [Plot/Site Plan](#) – The plot plan shows the entire parcel including all proposed structures, existing structures, setbacks from property lines, SRA areas, vegetation management area and more. Refer to the [plot plan checklist](#) to see what information a plot plan has.
 - [PV Plans](#) – PV plans will include a one-line diagram of all related equipment, labeling details, structural attachment details, and all related manufacturers installation manuals. Refer to the [Solar Toolkit](#) and the [Roof Mount PV System General Checklist](#) for additional information.
- *Forms*
 - [Building Application](#) - A building application is used to gather personal information about the applicant and a project description. This must be filled out by the owner or agent.
 - [Smoke/CO Certification](#) – A smoke/CO certification form states that your smoke and carbon monoxide alarms are installed per their manufacturer’s instructions and current code.

Potentially Required

- *Engineering*
 - [Flood Elevation Certificate](#) – Required if the building site is in the flood zone and the PV equipment is not pole mounted, will supply power to new or substantially improved structures, or the top of the meter socket enclosure is not 72 inches above grade.
 - [Structural Letter](#) – Required if the roof being used is unpermitted.
- *Forms*
 - [Authorization of Agent](#) – If you want to authorize a 3rd party to act on your behalf.
 - [Owner Builder Notice to Property Owner Form](#) – If you want to apply as an owner-builder.



Inspection Schedule | Roof Mounted PV System ★

A roof mounted PV system is inspected in 1 stage; final. The inspection card, all county approved documents, and any relevant installation manuals must be provided on-site for each inspection. Refer to [Important GIS Layers](#) to determine if flood hazard requirements apply.

1 Final

- *Electrical Final* – We will verify the PV array is properly grounded/fastened, conductor ratings and sizes match plans, equipment is properly labeled, and electrical equipment used is installed per its listing. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#), the [California Electric Code \(CEC\)](#), the [PG&E Greenbook Manual](#), the [California Building Code \(CBC\)](#), and the [Humboldt Code \(HC\)](#).

Important Chapters

- [General \(CEC\)](#)
- [Wiring and Protection \(CEC\)](#)

Important Sections

- [Solar Photovoltaic Systems \(CEC\)](#)
- [Grounding and Bonding \(CEC\)](#)
- [Overcurrent Protection \(CEC\)](#)

- *Building Final* – We will verify the structure is permitted and we will ask for the Smoke/CO Certification form. The building codes relevant to this inspection are the [California Residential Code \(CRC\)](#) and the [Humboldt Code \(HC\)](#).

Important Chapters

- [Building Planning \(CRC\)](#)

Important Sections

- [Smoke Alarms \(CRC\)](#)
- [Carbon Monoxide Alarms \(CRC\)](#)



FAQ's | Roof Mounted PV System

Who do I contact if I have more questions?

You can send an email to buildinginspections@co.humboldt.ca.us and we will try to get back to you ASAP.

Resources

- [California Building Codes \(UpCode\)](#)
- [County Code](#)
- [GIS](#)
- [GIS Guide](#)
- [Brochures and Handouts](#)
- [Forms](#)
- [Resource Library](#)
- [FAQ's](#)

