



Residential Solar PV Requirements

A Project Checklist for Contractors

The majority of building permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

General Requirements

Directions:

1. Photovoltaic PV System installation company is required to be licensed as an electrician in the Town of Wellington.
 - a. Permit will not be issued without a State licensed electrician indicated on the application.

2. Complete Online Application in Community Connect.
 - a. Permit Type 'PV System' Category 'Residential Alteration'
 - b. If applying for electrical work – prior to installation or completed at a different physical location than the PV System to be installed, apply for;
 - i. Permit Type 'Electrical Only' Category 'One Stop'

General Requirements

- **Must be applicable in current codes: 2020 NEC, 2018 IECC, 2018 International Code**
- Plan review is required for each building on property.
- Description portion of the application must distinguish what type of mount type will be used. (Roof mount, flush mount, grid tied.)
 - Colorado stamped engineers' verification letter is required for any custom racking.
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- PV Panels & PV Inverter specification sheets to be included.
- Equipment List (manufacturer specifications.)

Roof Mounted Systems: Provide structural engineer stamped letter for added additional weight of the solar panels on the roof and the additional wind load created by solar panels. The letter will be based on and state that the system has been designed to.

Ground Snow Load	30PSF
Roof Snow Load	30PSF
Wind Speed	115mph (3-SEC Gust, MPH)
Wind Exposure Category	C
Seismic Design Category:	B
Risk Category	II
○ Type of Roof connection to the roof with embedment will be required.	



Ground Mounted Systems: will require an engineered stamped letter for support of the PV System & for the window load of the PV System. The letter will be based on and will state.

Ground Snow Load	30PSF
Wind Speed	115mph (3-SEC Gust, MPH)
Wind Exposure Category	C
Seismic Design Category:	B
Risk Category	II

Building & Structural Plan Requirements

- Provide a roof layout with location of solar panels or PV Arrays.
 - Include Dimensions of Roof.
- Provide Fire Pathways.
 - Setbacks
 - Protection of equipment per 2018 IRC and 2018 IFC as required by the type of Structure.
- Provide connection detail to the roof.
 - Manufacture equipment to be used.
 - If this equipment is specified and designed by the engineer, the plans must be stamped.
 - The equipment and attachment detail on the plan must match the engineer letter and cut sheets provided.
 - Plans are to show areas of Zones 1, 2, and 3 on the roof lay-out plan.
 - Fastener Attachment Details.
- Provide detail for any repairs that are required by the engineer and stamp the letter and plans.
- Provide a site plan with location of equipment depicted. Distance to the property lines, and any other structural surrounding.
- **Red font or annotation** is not to be used on plans by the architect, engineer, designer, contractor, or other entities. **Red is reserved for plans examiner for comments.**
- Provide design criteria for the plans based on the current codes as noted above.



Electrical Plan Requirements

- Provide a four-line diagram showing calculations used to size equipment grounding conductor per NEC 690.43 & 690.45. Must also show the number of modules, number of modules on a circuit, wire sizes and insulation type, conduit sizes, junction boxes, inverter (AC or DC), Combiner Panel, Disconnect, meter, fuses, breakers type of connection to system and grounding.
- Specify the equipment to be used on the installation.
 - Include ampacities, volts, and wattage.
- Provide calculations used to determine wire sizes, disconnect sizes and fuse or break sizes. Fuses and breakers, which include temperature derating factors per NEC Table 690.31 (a) (a) Roof mounted systems should use worst case ambient temperature of 56-60 degrees C. Ambient Temperature Correction Factor Based on 30 degrees C.
 - Roof Mount Systems are to use worst case ambient temperature of 56 – 60 degrees C to adjust temperature rating ampacity of conductors.
- Provide cut sheets for all the equipment (inside and outside the building.)
 - All cutsheets must have current certification based on current codes.
- Provide all labeling, directories, and plaques to be used on the project.
- Provide all general notes and comments to the current code.
- Provide engineered stamped letter and plans for all commercial plans.

Resubmittals

All resubmittals are to be sent to Safebuiltcoloradoplanreview@safebuilt.com not uploaded into Community Core/Connect directly.

Subject Line:

State Permit Number, and Permit Type

Eg., 22WEL-00123, PV System

Body of Email:

- Provide a letter or explanation of what the changes are in the plans. Be Detailed and complete in explanation.
- Provide any additional cost that may be incurred due to the revision.
- All revisions are to be clouded on the plans and revision dates are to be noted in the border of the updated plan.