



PHOTOVOLTAIC SOLAR SYSTEMS (2023 NEC & 2021 IRC)

Permits are required for all photovoltaic (PV) systems. Permit submittals shall include:

- General permit application form completed;
- Electrician's Affidavit/Grounding & Bonding/Roof Letter:
 - Must include the job address and property owner, certify that the installation including grounding and bonding has been completed in accordance with and in compliance to the provisions of the Current Code Cycle.
 - Must be signed by the Master electrician responsible for the installation and include the Colorado Master Electrician License number.
 - This letter takes the place of the midpoint and grounding inspection of the panels and racking system on the roof.
- Site plan that locates all equipment on the drawing:
 - 8½" x 11" plan is acceptable, show PV array, combiner/junction boxes, disconnects, inverters, meter and service panel/tie-in locations, indicate location of ESS if applicable, show general footprint of structure and relation to property lines, show a roof plan with location and physical size of all PV panels, b-vents, attic vents, and plumbing vents.
- Manufacturer's specification sheets for the PV panels and the PV inverter;
- Complete 3 line electrical diagram:
 - Electrical specifications shall indicate
 - System size (DC - STC "nameplate" rating);
 - Module manufacturer and model number;
 - Module specs (@ STC) including VOC, VMP, ISC, and IMP;
 - Array specs (@ STC) show max VOC (w/ temp corrections), VMP, ISC, and IMP;
 - Number of strings;
 - String fuse rating (if appropriate);
 - Current carrying conductors show size and type (ie. USE-2);
 - Grounding (equip grounding conductor) indicate size and type;
 - Over current protection/disconnects with voltage rating, current rating, and indicate if "integrated" in inverter;
 - Inverter, note manufacturer, model number, rated AC output (wattage), AC voltage, and max AC current;
 - Grid interconnection location shall show AC load panel with backfeed breaker rating (voltage and amperage), panel rating (busbar rating and main breaker rating), and line / load side tap (provide listing).



COMMUNITY DEVELOPMENT: BUILDING DEPARTMENT

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- Mounting / racking system details:
 - Shall include manufacturer's spec sheets with uplift capacity for wind loads (110 mph, 3 second gust), snow loads (30 psf), attachment details (type, size, and spacing of fasteners), and Colorado stamped engineer's verification letter; if custom racking, a site specific engineered design is required.
- Structural information:
 - Size, type and spacing of roof framing members, type and thickness of roof sheathing, type and number of layers of roofing materials, and indicate whether the array is flush or tilt mounted. Specify method of locating framing members. Additional information or engineering may be required for unique situations.
 - Structural Evaluation letter stamped by an Engineer showing correct design criteria listed above.

The photovoltaic installation company shall be licensed as a Class C subcontractor. Installation of the electrical wiring shall be performed by a City and County of Broomfield licensed electrician. The permit will not be issued without a licensed electrician indicated on the permit. Permit fees shall be based on the total value (materials, labor, overhead and profit) of the photovoltaic system before any rebates. The valuation shall be divided into general (racking and mounting) and electrical (panels, equipment, wiring) portions.

The contractor shall call a Final inspection for the project when the system is complete. Panelboards and interconnection will be open and visible for inspection.