



County of San Diego, Planning & Development Services
MINIMUM PLAN REQUIREMENTS FOR SOLAR PHOTOVOLTAIC PROJECTS
BUILDING DIVISION

❑ Provide two complete sets of plans and supporting documents as follows:

1. Cover sheet on the plans including:

- Sheet index
- Project address
- Owner on Application and/or contractor's name
- Scope of work description identifying the number of modules, number and output rating of inverters, and total system size in kilowatts (kW)

2. If the proposed system is ground-mounted, a plot plan is required (see *Minimum Plot Plan Information*, form [PDS #090](#)). The plot plan must show the location of all solar panels with dimensions and other pertinent electrical equipment and shall comply with zoning setbacks per *Setbacks for Solar Photovoltaic Panels* (form [PDS #276](#).) Contact the Zoning Counter at (858) 565-5981 for information regarding setbacks.

3. If the proposed system is roof-mounted on an existing, permitted structure, and all solar-related equipment including the utility electric meter is located on the structure, then a roof plan of the structure is required in lieu of a plot plan. The plans must show the location of all solar panels with dimensions and other pertinent electrical equipment.

If the proposed system is roof-mounted on an existing, permitted structure and all solar related equipment including the utility electric meter is not located on the structure then a roof plan and a plot plan will be required. The plot plan must show the location of all solar panels with dimensions and other pertinent electrical equipment.

Roof-mounted solar photovoltaic systems must comply with zoning requirements per *Setbacks for Solar Photovoltaic Panels* (form [PDS #276](#).)

4. Provide technical data such as ratings and voltages of the individual equipment and the system. Include temperature correction factors for the area that the system is located.

5. Provide manufacturer data and specification sheets for each specific piece of equipment such as modules, inverters, batteries, etc.

6. Provide a COMPLETE electrical single-line diagram showing modules, junction boxes, fuses, combiner boxes, disconnects, inverters, electric panels, meters, batteries, etc. Include on the diagram:

- Wiring methods
- Materials
- Equipment grounding
- Grounding electrodes
- Grounding electrode conductors
- Conduits (size and type)
- Conductors and sizes
- All breaker/fuse locations and sizes
- Ratings of all equipment in system including electric panels and disconnects

7. Note on the plans: "All modules will be grounded in accordance with code and the manufacturer's installation instructions." Identify the module grounding method on the plans.

8. Provide plans and specifications for the racking and support system. All arrays must be attached to a manufactured racking and support system. Custom designed systems are allowed, however they are subject to further plan check review and approval. For roof-mounted systems detail the rack connection to the structure, specify the spacing of attachments, specify the roof covering material, and specify the roof framing members (size and spacing). Additional engineering calculations prepared, stamped and wet-signed by a California-licensed civil engineer or architect may be required. Ground-mount systems must include a foundation plan.

- Inverters and electric service panels shall be grounded with a grounding electrode(s) that complies with article 250 of the National Electrical Code. Ground-rods shall be supplemented by a second ground-rod, and installed at least 6 feet apart.
- If the system is grid-connected, contact the utility provider for approval of the installation.
- If the system is to be ground-mounted and the parcel is on a septic system, Department of Environmental Health (DEH) approval will be required prior to permit issuance. Contact the DEH counter located at 5201 Ruffin Rd., Suite D, and (858) 565-5173 for further information.
- If the arrays are interwoven with the roofing membrane, they must have a Class "A" fire-retardant rating complying with the County of San Diego Building Code, Section 1505.
- If a stand-alone system is proposed and the structural fire-sprinklers are on a pump, then batteries or an auxiliary power system must be installed. Contact the applicable Fire District (see *Agency Contact Lists*, form [PDS #804](#)) for further information.
- If a generator is proposed with the solar panels, additional requirements will apply for the generator. Contact the County of San Diego Noise Specialist at (858) 694-2177 and the Chief Electrical Inspector for further information.
- Proposed battery and solar equipment storage buildings must be permitted and complete building plans must be provided (see *Minimum Essential Plan Submittal Items for Single-Family Dwelling and Accessory Structures*, form [PDS #658](#)).
- If the proposed system is to be mounted on a manufactured home, a separate permit from the State of California Department of Housing and Community Development (HCD) will be required prior to permit issuance. Contact HCD at (951) 782-4420 for further information.
- If a commercial system is proposed, contact the County of San Diego Chief Electrical Inspector for additional requirements.
- Contact the Chief Electrical Inspector for further information (858) 694-3767 or (858) 565-5920.

Additional solar information:

- The solar output rating (max inverter output x 125%) determines the minimum size solar-breaker. This breaker rating together with the electric panel main breaker rating may not exceed 120% of the panel buss rating. De-rating of the main electric panel main breaker is allowed on a case by case basis. Electrical load calculations will be required, and the panel manufacturer must authorize such modification. A line-side tap is typically not allowed on residential electric panels.
- Module grounding-clips may be used only if the module manufacturer's installation instructions specify such use.
- DC conductors installed within a structure shall be in metal conduit and identified every 5 feet for the entire length: "CAUTION DC CIRCUIT".
- All equipment must be identified on a warning placard (see *Sample Placard for Alternate Power Source*, form [PDS #805](#)) which clearly shows the location of all pertinent equipment and disconnects.

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