

## SOLAR PHOTOVOLTAIC (PV) PROJECTS

Following is a comprehensive list of plans and documents for the building permit plan review process and inspections for solar photovoltaic (PV) projects 10 kW in size or smaller.

### PLAN REVIEW PROCESS

A building permit is required to install or alter a solar PV system. Planning Division review is not required for rooftop solar PV installations mounted parallel to and less than 12" above the roof surface, and not extending beyond any ridge or hip. Fire Department approval is not required for solar PV installations. Building permit applications can be submitted at the Permit Center at 200 Old Bernal Avenue or electronically by email to [plancheck@cityofpleasantonca.gov](mailto:plancheck@cityofpleasantonca.gov). Permit submittals utilizing a standard plan may be approved "over the counter" at our Permit Center by appointment only. To schedule your appointment, call (925) 931-5300. Permits not approved "over the counter" should be reviewed in approximately three to five business days.

### SUBMITTAL REQUIREMENTS

- Application:** An application can be obtained online at [www.cityofpleasantonca.gov](http://www.cityofpleasantonca.gov) or from the Permit Center at 200 Old Bernal Avenue.
- Project Plans:** Three (3) sets of plans (11" x 17" minimum size) of the following (plans must be drawn to scale):
  - *Site Plan:* An exhibit which clearly shows the dimensions of the lot, the existing and proposed structure(s), setbacks from the structures to property lines, the arrangement of panels on the roof or ground, and north arrow.
  - *Electrical Plan:* One-line diagram of system; total number of modules, number of modules per string and the total number of strings; location and size of main service or utility disconnect, subpanels, and inverters; make and model of inverter(s) and/or combiner box if used; specify grounding/bonding, conductor type and size, conduit type and size and number of conductors in each section of conduit; if batteries are to be installed, include them in the diagram and show their locations and venting; and label equipment as required by CEC, Sections 690 and 705.
  - *Roof Plan:* Show roof layout, PV panels and the following fire safety items: approximate location of roof access point, location of code-compliant access pathways, PV system fire classification and locations of all required labels and markings. Examples are available in the State Fire Marshal Solar PV Installation Guide at: <http://osfm.fire.ca.gov/pdf/reports/solarphotovoltaicguideline.pdf>
  - *Specification Sheets:* Equipment cut sheets including inverters, modules, AC and DC disconnects, combiners, rapid shutdown and/or batteries.
  - *Rooftop Systems of 5 lb/sf:* Provide structural drawings and calculations stamped and signed by a California-licensed civil or structural engineer, along with the following information:
    - Type of roof covering and number of roof coverings installed

- Type of roof framing, size of members and spacing
- Weight of panels, support locations and method of attachment
- Framing plan and details for work necessary to strengthen the existing roof structure
- Site-specific structural calculations
- Where an approved racking system is used, provide documentation showing manufacturer of the rack system, maximum allowable weight the system can support, attachment method to the roof or ground and product evaluation information or structural design for the rack system.

## **INSPECTION REQUIREMENTS**

Once all permits to construct the PV installation have been issued and the system has been installed, it must be inspected before final approval is granted. Inspections can be scheduled online at [www.pleasantonpermits.com](http://www.pleasantonpermits.com), by calling (925) 931-5322 or in person at our Permit Center. Inspection requests received after 6:00 am can be scheduled for the next business day, or any business day in the next three weeks.

This inspection checklist provides an overview of common points of inspection the applicant should be prepared to show compliance with the approved plans:

- PV modules match plans and specifications.
- Array conductors and components are installed in a neat and workman-like manner.
- PV array is properly grounded.
- Electrical boxes are accessible and connections are suitable for environment.
- Array is fastened and sealed according to attachment detail.
- Conductor's ratings and sizes match plans.
- Appropriate signs are properly constructed, installed and displayed:
  - Sign identifying PV power source system attributes at DC disconnect
  - Sign identifying AC point of connection
  - Sign identifying switch for alternative power system
- Equipment ratings are consistent with application and installed signs on the installation:
  - Inverter has a rating as high as max voltage on PV power source sign.
  - DC-side overcurrent circuit protection devices (OCPDs) are DC rated at least as high as max voltage on sign.
  - Switches and OCPDs are installed according to the manufacturer's specifications (i.e., many 600VDC switches require passing through the switch poles twice in a specific way).
  - Inverter is rated for the site AC voltage supplied and shown on the AC point of connection sign.
  - OCPD connected to the AC output of the inverter is rated at least 125% of maximum current on sign and is no larger than the maximum OCPD on the inverter listing label.
  - Sum of the main OCPD and the inverter OCPD is rated for not more than 120% of the bus bar rating.

## **CONTACT INFORMATION**

For more information, please contact the Building and Safety Division during business hours at (925) 931-5300, visit our website at [www.cityofpleasantonca.gov](http://www.cityofpleasantonca.gov) or send an email to [buildingdivision@cityofpleasantonca.gov](mailto:buildingdivision@cityofpleasantonca.gov).