

RESIDENTIAL PHOTOVOLTAIC (P.V.) SYSTEMS PLAN SUBMITTAL REQUIREMENTS

The electrical design of the P.V. systems shall be signed by one of the following:

- Holder of a C-10 Electrical License or
- Holder of a C-46 P.V. Solar License or
- A California Licensed Electrical Engineer

1. COVER SHEET / TITLE BLOCK: Name(s) and address of property owner(s) shall be on all plan sheets and the plans shall be specific to the project. Include scope of work, specify size of the P.V. system in kW AC, and all applicable codes as adopted by the City of Indian Wells (2013 CBC, 2013 CEC, 2013 CRC, 2013 CFC, and City Municipal Codes)

NOTE: Signed affidavit for the installation of carbon monoxide detection per SB183 is required prior to finalization.

2. PLOT PLAN: Provide plan showing the location of P.V. modules, equipment, batteries and route of conduit/conductors to the electrical service interface of the structure. Show location of vents, skylights, and dimension fire access pathway. Plan must accurately depict the ratio of the P.V. system area to roof area.

3. ROOF CONSTRUCTION: Specify roof pitch, type of roof covering, number of layers, and roof construction (member size, spacing, and span).

4. MOUNTING: Specify method of weatherproofing and detail mounting system of the P.V. modules and spacing of attachments to roof structure. Provide manufacturer's testing report and engineering analysis for the racking system.

5. ELECTRICAL: Provide a complete electrical diagram of the P.V. system and interconnection to the A.C. system of the structure. Also include service size and means of grounding and bonding. Specify conductor sizes and give heat correction factor calculation. Specify conduit size and number of conductor fill in each conduit. Provide load calculation and derating calculation of overcurrent protection when necessary. Submit manufacturer's specification sheets with approval listings for all equipment (solar module, inverters, panel boxes, breakers, disconnects, ground weeps, etc.).

6. ENGINEERING: Structural Design Criteria:

1) Wind design at 110mph Exposure C, and 2) Seismic design Category D

Calculations for gravity, wind, and seismic forces shall be required on P.V. applications when:

- P.V. systems exceed 3.5 lbs. per sq. ft.
- P.V. systems with mounts exceeding 48" o.c.
- P.V. arrays exceeding 50% coverage of each roof diaphragm section for pitched tile roofs and 35% coverage of each roof diaphragm section for flat roofs
- P.V. installations utilizing a ballasted hold down system

Calculations shall demonstrate the demand capacity ratio of the lateral load carrying structural elements is not exceeded by more than 10% per CBC 3403.4 and gravity force is not exceeded by more than 5% per CBC 3403.3.

All engineering shall be stamped and wet signed by a California Licensed Architect or California Licensed Civil Engineer or California Licensed Structural Engineer.

7. WARNING SIGNAGE AND MARKINGS: Specify wording and locations of all warning signage and markings per Article 690 in 2013 CEC, 2013 CFC

OVER THE COUNTER PERMITTING FOR RESIDENTIAL P.V. SYSTEMS

All submittals bearing stamped wet-signed plans with calculations for gravity, wind, and seismic forces and a letter from a California Licensed Architect or California Licensed Civil Engineer or California Licensed Structural Engineer with the following statement will be accepted for over the counter review and permit:

"I have analyzed the photovoltaic solar application to this structure and certify that the demand capacity ratio of the lateral load carrying structural elements is not exceeded by more than 10% per CBC 3403.4 and gravity force and uplift due to wind is not exceeded by more than 5% per CBC 3403.3."

- All electronic submittals send via email to solarpermit@indianwells.com