



# CITY OF NEWPORT BEACH

## COMMUNITY DEVELOPMENT DEPARTMENT BUILDING DIVISION

100 Civic Center Drive | P.O. Box 1768 | Newport Beach, CA 92658-8915  
[www.newportbeachca.gov](http://www.newportbeachca.gov) | (949) 644-3200

### SOLAR PHOTO-VOLTAIC SYSTEM OVER SINGLE FAMILY DWELLING SUBMITTAL REQUIREMENTS

#### **ADMINISTRATIVE**

1. Provide three (3) sets of plans minimum sheet size 18" x 24"
2. Attach all manufacturer specification sheets, installation instructions and U.L. listings to the plans
3. Plans are to be signed by State of California licensed contractor with any of the following classifications "A", "B", "C-46", "C-10", or licensed electrical engineer. Provide signature and contractor license number on each sheet

#### **ROOF PLAN**

4. Provide a roof plan projected on a site plan. Show the location and dimensions of all solar voltaic equipment and PV arrays
5. Provide a partial roof framing plan. Show new and existing supporting rafters, beams and headers include rafter size, span, and spacing. Identify roof sheathing and roofing materials

**ALTERNATE:** Framing information is not required if arrays are supported at a maximum spacing of 4 ft.

6. Detail equipment support connections to roof. Provide a detail for flashing and water proofing at system supports
7. Provide calculations by a licensed professional engineer or architect to verify supporting members are adequate for existing and proposed loads

**ALTERNATE:** Calculations not required if arrays are supported at a maximum spacing of 4 ft.

8. Provide lateral calculations by a licensed professional engineer or architect per 2010 C.B.C. showing that affected existing lateral resisting elements are no more than 10% overstressed according to the 2010 C.B.C.

**ALTERNATE:**

- a. Lateral analysis is not required if total area of arrays is less than 250 sq. ft. over a second story roof or 350 sq. ft. over a first story roof.
- b. Weight of system does not exceed 1 lb. x entire area of roof on which panels are located, provided the house has not been previously reroofed with roofing material heavier than the original roofing material. Applicant shall research permit records.

#### **ELECTRICAL**

9. Provide Electrical drawings to show compliance with the applicable provisions of the 2010 California Electrical Code



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### **SOLAR PHOTO-VOLTAIC SYSTEM OVER SINGLE FAMILY DWELLING GUIDELINE TO ELECTRICAL SUBMITTAL REQUIREMENTS**

1. Show the location and size of the main electrical service, AC/DC disconnects, all solar voltaic equipment, and PV arrays on the roof plan
2. Single Line Diagram: show array configuration, conduit and conductors sizes with derating calculations
3. Inverter Information: show model number, specification cut sheets, and maximum D.C. input
4. PV Module Information: show open circuit voltage (VOC), short – circuit current (ISC) max series fuse
5. Array Information: show number of modules in series, number of parallel source circuits
6. Wiring and Over Current Protection: show conductor ampacities, adjusted with all derating factors show rating and location of all Over Current Devices (OCD)
7. System Labels and Warnings: show required signage on the plans per 2010 CEC- Article 690
8. Grounding Details: show equipment ground conductor, ground electrode conductor from inverter to ground rod or ufer ground
9. Disconnects: show AC/DC disconnects at inverter. DC disconnect required prior to DC array conductors penetrating the surface of the roof or entering the building
10. System Calculations: show (VOC) calculated 1.13 (temperature correction factor for City of Newport Beach) (ISC) calculated x 1.25% (NEC 690) x 1.25% (UL 1703)
12. All PV equipment shall be listed by a recognized test lab
13. Notify serving utility before activation of PV system