

SOLAR ENERGY
COMMERCIAL

PHOTOVOLTAIC DESIGN & INSTALLATIONS CHECKLIST

1. **Roof access points.** Roof access points shall be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs. Multiple arrays shall be separated by a clear access pathway not less than 3 feet in width.[IFC 605.11.1.1]
2. **Hip roof layouts.** Panels and modules installed on structures with hip roof layouts shall be located in a manner that provides a clear access pathway not less than 3 feet in width from the eave to the ridge on each roof slope where panels and modules are located. The access pathway shall be located at a structurally strong location on the building capable of supporting the live load of fire fighters accessing the roof.[IFC 605.11.1.2.2]
3. **Single ridge roofs.** Panels and modules installed on structures with a single ridge shall be located in a manner that provides two, 3-foot-wide access pathways from the eave to the ridge on each roof slope where panels or modules are located. [IFC 605.11.1.2.3]
4. **Roofs with hips and valleys.** Panels and modules installed on structure with roof hips or valleys shall not be located less than 18 inches from a hip or valley where panels or modules are to be placed on both sides of a hip or valley. Where panels are to be located on one side only of a hip or valley that is of equal length, the 18-inch clearance does not apply. [IFC 605.11.1.2.4]
5. **Allowance for smoke ventilation operations.** Panels and modules installed on dwellings shall not be located less than 3 feet below the roof ridge to allow for fire department smoke ventilation operations. [IFC 605.11.1.2.5]
6. **Roofs with slopes of two units vertical in 12 units horizontal or less. [IFC 605.11.1.2 Exception]**
 - **Access:** There shall be a minimum 4-foot-wide clear perimeter around the edges of the roof. If both roof axes exceed 250 feet the clear perimeter shall be 6 feet. [605..11.1.3.1]
 - **Pathways shall be:**
 - Capable of supporting fire fighters; and
 - Centerline axes pathways shall be provided in both axes of the roof.
 - A straight line not less than 4 feet clear to standpipes or ventilation hatches.
 - 4 feet clear around roof hatches with not less than one singular pathway not less than 4 feet clear to a parapet or roof edge. [IFC 605.11.1.3.2]

- **Smoke Ventilation.** THE solar installation shall be designed to meet the following requirements:
 - Arrays shall not be greater than 150 feet by 150 feet in distance in either axis.
 - Smoke ventilation options between arrays sections shall be one of the following:
 - A pathway 8 feet or greater in width.
 - A 4 feet minimum wide pathway on at least one side bordering roof skylights or gravity-operated dropout smoke and heat vents.
 - A 4 feet minimum wide pathway on all sides of nongravity-operated dropout smoke and heat vents.
 - A 4 feet minimum wide pathway bordering a 4-foot by 8-foot “venting cutouts” every 20 feet on alternating sides of the pathway. [IFC 605.11.1.3.3]

7. Ground Mounted Arrays:

- Shall meet zoning setback and utility screening requirements
- Shall have a 10-foot clear, brush-free area around the array.

8. Engineering required as follows:

- **Roof mounted arrays:**
 - Certifying the roof is capable of carrying the imposed load of the arrays.
 - Certifying the anchoring will withstand a 115 mph wind load.
- **Ground mounted arrays:**
 - Certifying the anchoring will withstand a 115 mph wind load.

9. Application and Submittal Requirements

- **PV Applications www.icgov.org/solarpermit**
- **PV Worksheets www.icgov.org/solarpermit**
- **Stamped and signed plans certifying engineering as stated above.**

A PV installer is allowed to construct the support system, mount the modules, inverters or optimizers, and connect the factory provided module wiring harness (plug and play). The remainder of the installation such as panel boards, raceways, boxes, fittings, breakers, and building wire shall be installed by a licensed electrical contractor.