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BUILDING INDUSTRY BULLETIN

EFFECTIVE DATE: December 8, 2021

TO: ARCHITECTS, ENGINEERS, GENERAL CONTRACTORS and ASSOCIATIONS

**SUBJECT: SOLAR PHOTOVOLTAIC PANELS SUPPORTED BY A STRUCTURE OVER
PARKING STALLS**

BULLETIN NUMBER: 20-01

FROM:



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Building Official/Building and Safety Services Manager

Code References:

2019 CBC, Chapter 5 General Building Heights and Areas, Section 503.1 General, Exception (3.)

Issues:

Exception (3.) exempts a structure supporting solar photovoltaic panels over parking stalls from the building area and height limits provided the five code conditions are met. In addition to the building code requirements, these structures are also subject to other City Departments' requirements. Solar support structures determined, not meeting the requirements below, are subject to building area restrictions, height limits, fire-separation distance requirements, and allowable opening requirements (S-2 occupancy). This bulletin is intended to provide general guidelines and clarification. Individual project constraints shall be subject to a case-by-case review.

Policy:

Building and Safety Division Requirements based on 2019 CBC 503.1, Exception 3.:

1. The area within the perimeter of the photovoltaic array has maximum rectangular dimension of 40 feet by 150 feet.
2. The distance between solar photovoltaic array structures is a minimum of 10 feet clear.
3. The driveway aisle separating solar photovoltaic array structures has a minimum width of 25 feet clear.
4. Solar photovoltaic array structure is used only for parking purposes with no storage.
5. Completely open on all sides (other than necessary structural supports) with no interior partitions.

City of Fresno, Building and Safety Division Clarification

- A. Solar support structures shall have a minimum fire separation distance of 10 feet from buildings.
- B. Solar support structures shall have a minimum fire separation distance of 5 feet from property lines that can be built upon.

- C. "Roof Assembly" or "Roof Deck" (2019 CBC chapter 2 Section 202, Definitions) installed between solar panels and top of solar structural supports, require additional code requirements.

Fire Department Requirements for CBC 503.1 Exception 3 solar support structures:

1. **Fire Apparatus Access:** Encroachment of any type by the photovoltaic system is not permitted into the designated fire apparatus access road and/or driveway. The minimum width of a fire access road is 20 feet with a minimum 44' centerline turn radius. This is also the minimum required road dimensions for Solid Waste vehicles. There are existing automobile parking lots with drive aisles that were not required to be designed for fire apparatus access and solar support structures proposed for existing as well as new parking lots will be analyzed on a case-by-case basis. 2019 California Fire Code (CFC) 503.4. Fire Prevention Policy 403.002
2. **Fire Devices Clearance:** The photovoltaic system shall not be installed over fire protection devices (fire hydrants, fire department connections/FDCs, post indicating valves/PIVs, etc). Fire protection devices shall not be surrounded by the photovoltaic system on all sides. At least one side shall be open for access to such devices. Provide a minimum of 5 feet clearance to the photovoltaic system on all sides of the fire protection devices. 2019 CFC 507.5.4 and 102.9.
3. **Fire Sprinklers:** Automatic fire sprinkler systems are not required for solar support structures in compliance with CBC 503 Exception 3 and Building and Safety requirements for the fire separation distances to buildings and property lines.

Fire Department Requirements for CBC Group S-2 Occupancy vehicle parking carports with solar panel roofs or solar panels installed on a carport roof:

1. **Fire Apparatus Access and Fire Device Clearances:** Requirements are the same as for CBC 503 Exception 3 solar support structures discussed above.
2. **Fire Sprinklers:**
 - A. Fresno Municipal Code (FMC) Section 10-50903.2 exempts Group S-2 occupancy carports from the 5000 square foot fire sprinkler requirement when they are of non-combustible construction and meet the minimum setback requirements in CBC Table 602 to real property lines and assumed property lines to buildings on the same property. Refer to Building and Safety Division requirements "A" and "B" above.
 - B. S-2 carports not in compliance with "A" above and proposed adjacent to an existing fire sprinklered building: fire sprinklers are required for the carport and shall be supplied from the existing fire sprinkler system.
 - C. S-2 carports not in compliance with "A" above and adjacent to an existing non-fire sprinklered building; fire sprinklers may be required, see FMC Section 10-50903.6 (1) for fire sprinkler requirements related to building additions.

Current Planning Division Requirements:

1. Additional Current Planning Division requirements can be found on the City of Fresno's website or by contacting the Current Planning Division office at (559) 621-8277.

Traffic and Engineering Division Requirements:

1. Traffic and Engineering Division requirements can be found on the City of Fresno's website or by contacting the Traffic and Engineering Division office at (559) 621-8650.