



PLANNING AND DEVELOPMENT SERVICES

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Planning & Development Services Building/Fire Division Policy

Title: Residential Solar Energy Systems Roof Access Alternative Policy

Code Name: 2018 *International Residential Code*

Code Sections: R324.6 Roof access and pathways, R324.6.1 Pathways, R324.6.2 Setback at ridge, R324.6.2.1 Alternative setback at ridge, and R324.6.2.2 Emergency escape and rescue opening

Code Language:

R324.6 Roof access and pathways.

Roof access, pathways and setback requirements shall be provided in accordance with Sections R324.6.1 through R324.6.2.1. Access and minimum spacing shall be required to provide emergency access to the roof, to provide pathways to specific areas of the roof, provide for smoke ventilation opportunity areas, and to provide emergency egress from the roof.

Exceptions:

1. Detached, nonhabitable structures, including but not limited to detached garages, parking shade structures, carports, solar trellises and similar structures, shall not be required to provide roof access.
2. Roof access, pathways and setbacks need not be provided where the code official has determined that rooftop operations will not be employed.
3. These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (17-percent slope) or less.

R324.6.1 Pathways.

Not fewer than two pathways, on separate roof planes from lowest roof edge to ridge and not less than 36 inches (914 mm) wide, shall be provided on all buildings. Not fewer than one pathway shall be provided on the street or driveway side of the roof. For each roof plane with a photovoltaic array, a pathway not less than 36 inches wide (914 mm) shall be provided from the lowest roof edge to ridge on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas with minimal obstructions such as vent pipes, conduit, or mechanical equipment.

R324.6.2 Setback at ridge.

For photovoltaic arrays occupying not more than 33 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

R324.6.2.1 Alternative setback at ridge.

Where an automatic sprinkler system is installed within the dwelling in accordance with NFPA 13D or Section P2904, setbacks at ridges shall comply with one of the following:

1. For photovoltaic arrays occupying not more than 66 percent of the plan view total roof area, not less than an 18-inch (457 mm) clear setback is required on both sides of a horizontal ridge.
2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, not less than a 36-inch (914 mm) clear setback is required on both sides of a horizontal ridge.

R324.6.2.2 Emergency escape and rescue opening.

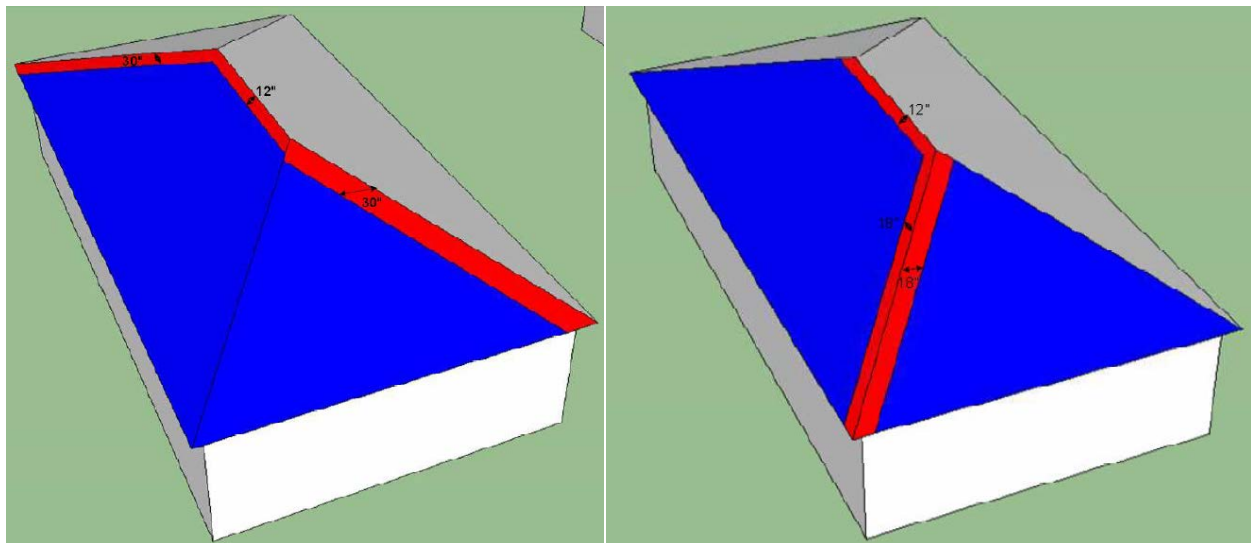
Panels and modules installed on dwellings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway not less than 36 inches (914 mm) wide shall be provided to the emergency escape and rescue opening.

Scope of Policy: To support the use of residential solar energy systems technology while providing an alternate method of roof access and fire ventilation for fire department operations. This policy is intended to address alternative access pathway requirements for solar photovoltaic system installations, meeting certain criteria, on one and two-family dwellings or accessory structures.

Policy: On one and two-family dwellings or accessory structures, an alternate method of roof access from the provisions of R324.6.1 through R324.6.2.1 is allowed where meeting the following criteria:

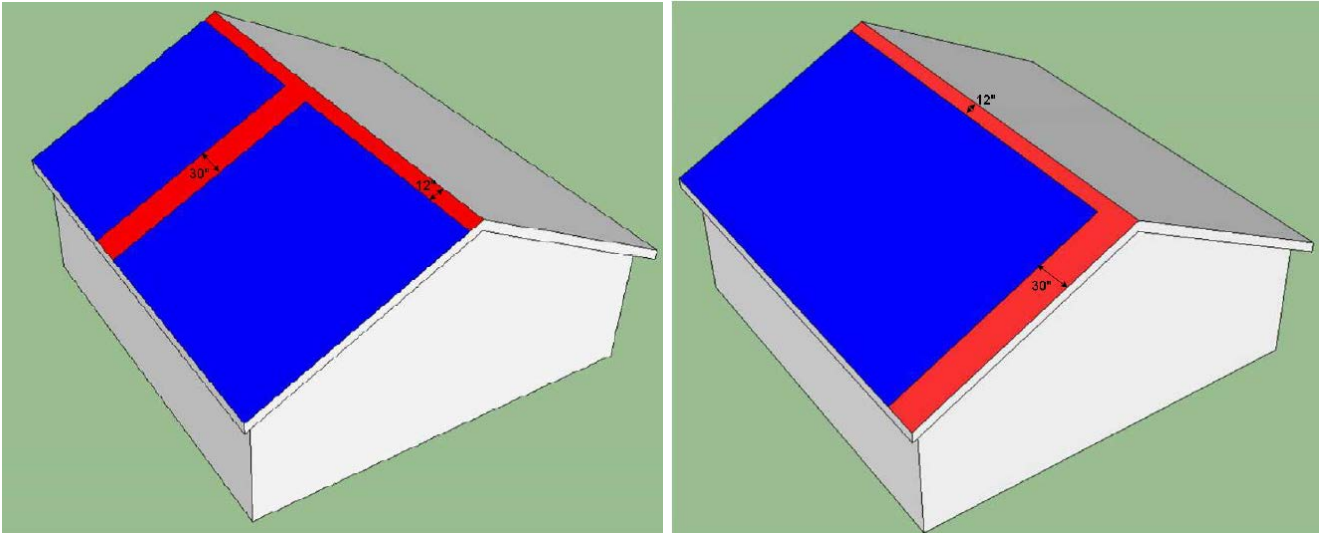
Hip Roof Layouts –

- Panel/module arrays less than 1,000 square feet in size shall require a clear access pathway of not less than 12-inch-width along each side of all horizontal ridges and a clear access pathway of not less than 30-inch-width from the eave to the ridge of one roof slope where panels/modules are located.
- Panel/module arrays less than 1,000 square feet in size shall require a clear access pathway of not less than 12-inch-width along each side of all horizontal ridges and where panels/modules are to be placed on both sides of a hip, a clear access pathway of not less than 18-inch-width shall be provided along each side of such hip.
- Panel/module arrays that do not exceed 33-percent of the total roof area of the structure, as measured in plan view, shall not require access pathways.



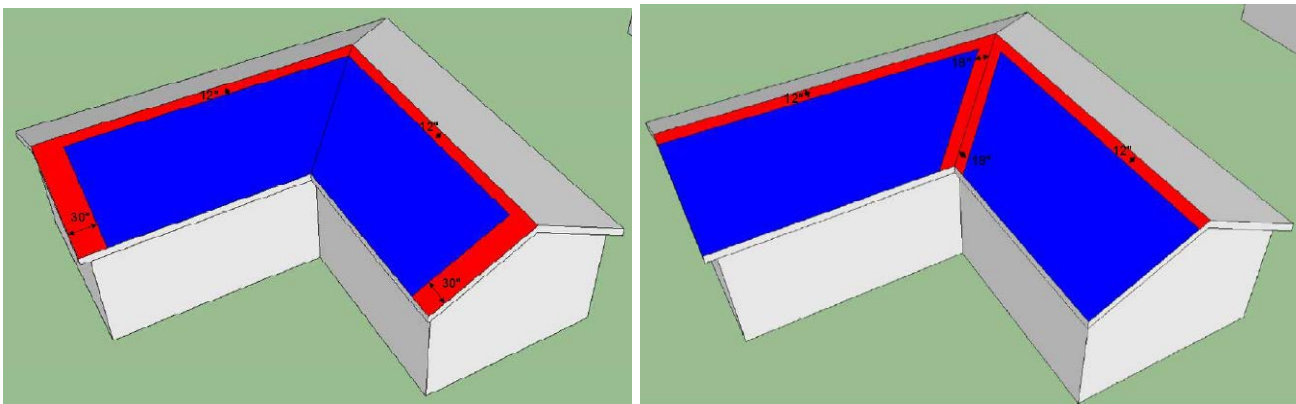
Single Ridge Layouts –

- Panel/module arrays less than 1,000 square feet in size shall require a clear access pathway of not less than 12-inch-width along the horizontal ridge and a clear access pathway of not less than 30-inch-width from the eave to the ridge of the slope where panels/modules are located.
- Panel/module arrays that do not exceed 33-percent of the total roof area of the structure, as measured in plan view, shall not require access pathways.



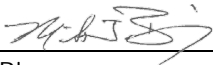
Ridge and Valleys Layouts –

- Panel/module arrays less than 1,000 square feet shall require a clear access pathway of not less than 12-inch-width along each side of all horizontal ridges and a clear access pathway of not less than 30-inch-width from the eave to the ridge of one roof slope where panels/modules are located.
- Panel/module arrays less than 1,000 square feet shall require a clear access pathway of not less than 12-inch-width along each side of all horizontal ridges and where panels/modules are to be placed on both sides of a hip, a clear access pathway of not less than 18-inch-width shall be provided along each side of such hip.
- Panel/module arrays that do not exceed 33 percent of the total roof area of the structure, as measured in plan view, shall not require access pathways.



Panels/module arrays shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway not less than 36 inches (914 mm) wide shall still be provided to the emergency escape and rescue opening as specified in prescriptive code.

Intent: The intent of this policy is to allow for alternative fire department access pathways which represent a reduction from the prescriptive code requirements for residential solar photovoltaic system installations meeting limited area criteria. The basis for these reductions is actual fire department operations and assessed need for access pathways. These pathways and access maybe used for any number of situations including structure fires or incidents involving the solar systems. It is recognized that fire department roof operations in one and two-family dwellings vary greatly from incident to incident. Factors such as size of the solar energy system, the construction of the building, fire severity and availability of alternative techniques for ventilation, such as horizontal ventilation routes are all considered. This policy updates and replaces a previous version dated 9/4/15.



Mike Bisagno
Fire Marshal

8/10/22

Effective Date



Jason Blais
Building Official

Date Retired