CITY OF BLOOMINGTON MINNESOTA

Residential Solar Handout
Clearances, Access and Pathways

Roof Access Points

- Provide no fewer than two pathways, on separate roof planes from lowest edge of roof to the ridge – not less than 36" wide.
- Provide at least one pathway from street of driveway side of roof.
- Access shall be located in areas that do not require the placement of ladders over openings such as windows or doors.
- Pathways must be capable of supporting live load of firefighters accessing the roof.
- Access shall be provided in areas of minimal obstructions such as overhead tree limbs, wires, or signs.
- Panels shall not be placed in portion of the roof that is below an emergency escape and rescue opening (aka egress window). Provide a 36" minimum pathway for emergency escape and rescue openings.

Hip and Gable Roofs

- An 18" pathway is required at horizontal ridges where arrays cover less than 33% of the roof area and emergency personnel can stand on both sides of the roof plane.
- A 36' pathway at horizontal roofs is required where arrays cover more than 33% of roof area or someone cannot stand on other side of ridge.
- When an automatic sprinkler system is installed (NFPA 13D or per MNRC Section 2904) setbacks at ridges shall be".
  - 18" when arrays cover up to 66% of total roof area or
  - 36" when arrays cover more than 66% of total roof area.

Roofs with Hips and Valleys

- Pathways can be adjacent to or straddle and hip or valley, must be at least 36" wide where required.

Single Ridge Roofs

- A shed roof or other roof where emergency personnel cannot walk on both sides of ridge must provide a 36" pathway/ setback at the top of the roof.
- Arrays must be located to provide a 36-inch-wide access pathway from the eave to the ridge on all roof sections containing solar equipment.

General Exceptions

- Detached, non-habitable structures such as detached garages, parking shade structures, carports, solar trellises, and similar structures do not require access and pathways.
- Roof structures with a slopes of 2:12 or less do not require access and pathways.
- Roof access and pathways are not required where Fire Marshall has determined rooftop operations will not be employed. An "Alternate Code Request" form to be submitted to Building Official and Fire Marshall and be approved by them to receive exemption.

Measurement of pathways, ridge setbacks, total roof areas and solar arrays

- Pathways, setbacks, total roof and solar array areas are measured in plan view. Pathways and setbacks are measured horizontally in plan view so a person standing vertically will have atleast 36 inches of clear width.

Location and Spacing for Energy Storage Systems (Batteries)

- Energy storage systems must be installed per NFPA 70 and manufacture's specifications.
- Energy storage systems shall be listed to UL 1989 or UL 9540 as applicable.
- Stationary storage battery systems shall not be installed within the habitable space of a dwelling unit.
- If installed in an area subject to vehicle damage, an approved barrier shall be installed.

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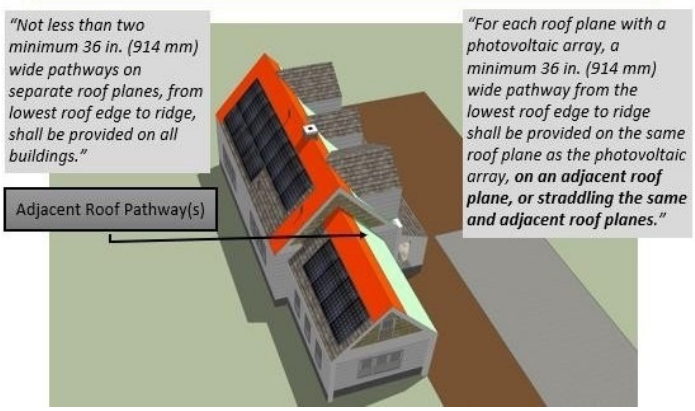
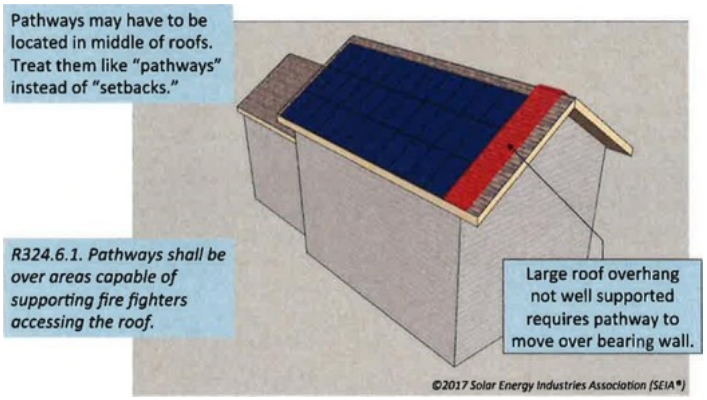
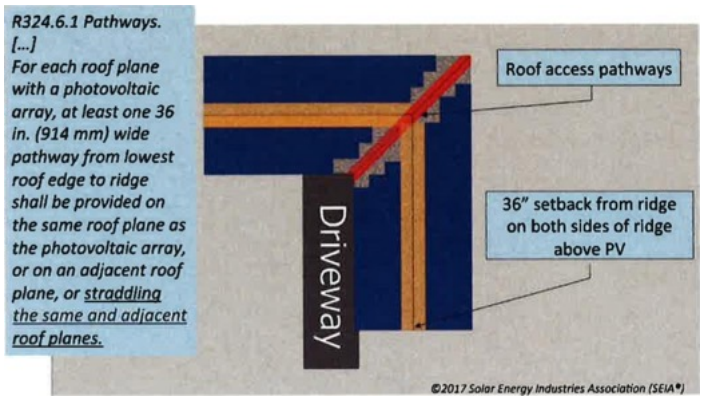
Pathways to Ridge



Structural Support of Pathways

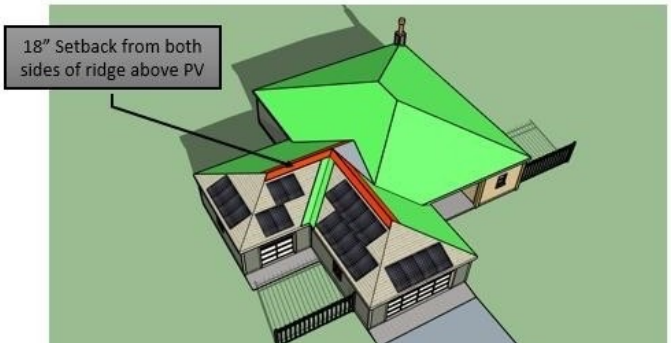


Pathways at Hip and Valleys



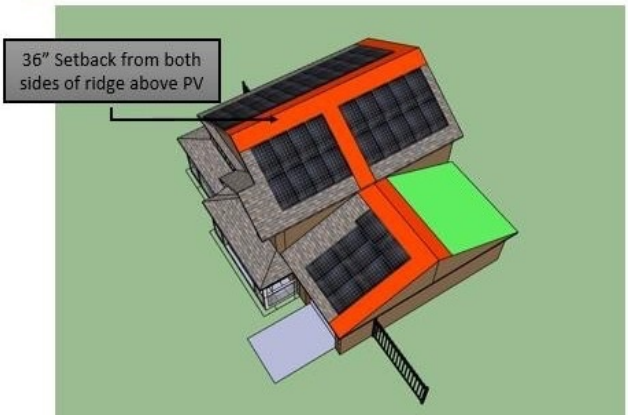
Ridge Setbacks – Panel Coverage less than 33% of Roof Plan Area (or 66% for a Sprinkled Building)

Where Emergency Personnel Can Stand on Both Sides of Ridge



Ridge Setbacks – Panel Coverage more than 33% of Roof Plan Area (or 66% for a Sprinkled Building)

or Shed Roof/ Other Roofs Where Emergency Personnel Cannot Stand on Both Sides of Ridge



Pathways at Emergency Escape and Rescue Openings (Egress Windows)

Graphics credits – CalFire and SEIA