

# Solar Ready Provisions - Appendix RB: Summary Information.



The intent of the 2021 International Energy Conservation Code (2021 IECC) Appendix RB Solar Ready Provisions- Detached one- and two-family dwellings and townhouses is to save time and money in the future installation of an alternative energy system by identifying the areas on the roof and equipment for potential future installation of a renewable system.

**It does not require installation of any wiring, conduit or plumbing, any specific orientation, any change to roof design or changes in building plans. It does require, if applicable, that the plans show the solar ready zone (SRZ), the roofs ability to handle the structural load, pathway for routing conduit and capped roof penetration.**

**The appendix does not apply to additions or alterations.**

A Montana Certified Local Government (Building Code Department) would have to adopt the amendment for it to go into effect. Outside of building code jurisdictional areas, it would not be adopted.

Solar ready zone (SRZ) is a section of the roof designated and reserved for the future installation of a solar photovoltaic (PV) or solar thermal system.

**Appendix RB: Solar -ready Provisions – Detached one -and two -family dwellings and townhouses lists the following information:**

- For new one- and two-family dwelling and townhouses with at least 600 sq. ft. of roof area oriented between 110 degrees and 270 degrees of true north shall have a solar ready zone of at least 300 sq. ft. exclusive of setback and access required by the International Fire Code (IFC) and I
- New townhouses three stories or less above grade with a floor area of 2000 sq.ft. or less per dwelling shall have a solar ready zone of at least 150 sq.ft. The zone shall be an area of at least 5 ft in width and at least 80 sq.ft., excluding any mandatory access or setback area required by the 2021 International Residential Code (IRC) section R. 324.6
- The IRC requires no fewer than two pathways on separate roof planes from the lowest roof edge to the ridge and be at least 36 inches wide on all buildings. For Photovoltaic (PV) arrays occupying at least 33% of the roof, a setback at least 18-inch is required on both sides of a

horizontal ridge. For PV arrays occupying more than 33% of the roof a setback of at least 36 inches is required on both side of a horizontal ridge. Exceptions are detached uninhabitable structures, roofs with slopes less than 2 units vertical to 12 units horizontal (17 percent) or less and where not required by the code official.

- The SRZ must be free from obstructions, including but not limited to vents, chimneys, and roof mounted equipment.

#### **Exceptions to the Appendix RB:**

- New buildings with permanently installed onsite renewable energy system.
- Buildings that meet the area and orientation requirements of this appendix but are in full or partial shade for more than 70 percent of daylight hours annually. A solar professional would probably be needed to make that determination.

**If the building has been designated to have Solar Ready Zone (SRZ); having an area that meets the size, lack of obstructions, structural capability, and solar access (unshaded) requirements, then it must meet the following:**

1. Construction documents must document the SRZ and indicate pathways for routing conduit or plumbing from the SRZ to the electrical service panel or service hot water system.
2. The structural design loads for roof dead and live loads must be indicated on the plans/construction documents.
3. The SRZ shall be set back from any existing or new permanently affixed object on the building or site that is located south, east, or west of the solar zone a distance not less than two times the objects height above the nearest point on the roof surface. Such objects include but are not limited to, taller portions of the building itself, parapets, chimneys, antennas, signage, roof top equipment, trees, and roof planting. This doesn't require any special placement for vents, pipes, chimney, etc., it means the SRZ must not contain any of objects listed above.
4. A capped roof penetration shall be provided adjacent to the SRZ on a roof of 1 to 12 pitch (8% slope). or less. The capped roof penetration sleeve must be sized to accommodate the future conduit and shall have an inside diameter of at least 1.25 inches.
5. A permanent certificate, indicating the SRZ must be posted near the electrical distribution panel, water heater, or other conspicuous location by the builder or registered design professional.
6. The main electrical service panel must have a reserved space to allow for installation of a dual pole circuit breaker for future solar electric installation and must be labeled "For Future Solar Electric". The reserved space must be positioned at the (load) end from the input feeder location main circuit location.