



Code Amendment Proposal Application

OSSC 22-17

Department of Consumer & Business Services

Building Codes Division

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APPLICANT INFORMATION

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PROPOSAL INFORMATION

Specialty code:	Oregon Structural Specialty Code (OSSC)
Code section(s):	3111.3.5.3.3

Briefly explain the subject of your proposal:	Clarifies the requirements for roof framing to qualify for prescriptive solar installations to enable uniform and consistent understanding and implementation of the prescriptive requirements for solar installation in the OSSC.
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Code Review Committee Outcomes

Dec. 2, 2021 – Approved.

PART 1 – CODE AMENDMENT LANGUAGE:

Section 3111.3.5.2.3 Prescriptive installations. Roof mounted installations on Risk Category I or Risk Category II structures of conventional light-frame construction that comply with this section shall qualify a prescriptive and shall not require an engineered design if all of the following criteria are met:

1. Roof Structure:

1.1 For other than detached one-and-two family dwellings and townhouses classified as Group R-3 and Group U occupancies ~~the ground snow load does not exceed 50 psf, wind speeds do not exceed 120 mph for Exposure Category C sites or 135 mph for exposure category B sites, and the existing supporting roof framing is conventional light-frame construction with pre-engineered trusses or rafters spaced at 24 inches (610mm) on center maximum. Existing rafter spans shall comply with Section 2308.7.2. Where the existing grade and species cannot be verified, it is assumed to be #2 Douglas Fir-Larch~~

~~Exception: Photovoltaic systems installed on roofs of detached one-and-two family dwellings and townhouses classified as Group R-3 and Group U occupancies where the existing supporting roof framing is conventional light-frame construction with pre-engineered trusses or rafters spaced at 24 inches (610 mm) on center maximum, the ground snow load does not exceed 70 psf and the site is limited to wind exposure category B or C~~

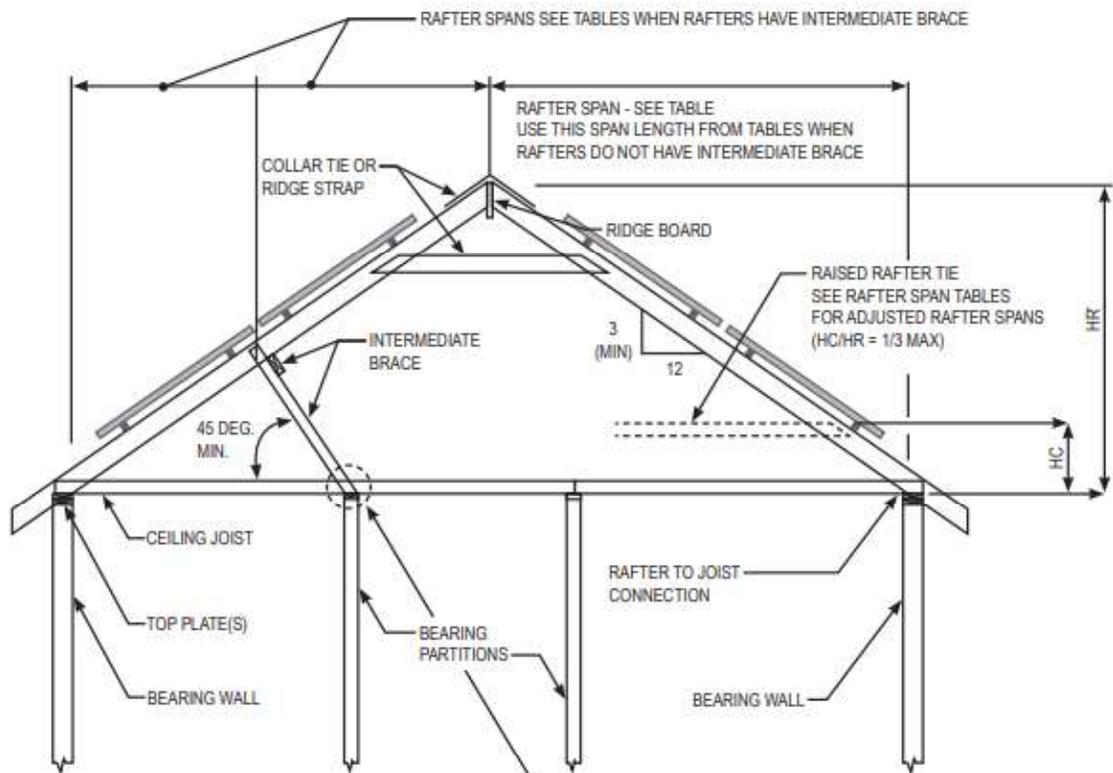
1.2 For detached one-and-two family dwellings and townhouses classified as Group R-3 and Group U occupancies the ground snow load does not exceed 70 psf and the site is limited to wind exposure category B or C

1.3 Existing supporting roof framing is conventional light-frame construction with pre-engineered trusses or rafters spaced at 24 inches (610mm) on center maximum

1.4 Existing rafter spans and ceiling joists shall comply with Sections 2308.7.1, 2308.7.2 and 2308.7.3. Where rafter spans are based on intermediate supports provided between the ridge and eave, such support or brace shall bear directly on bearing wall or partitions below. See Figure 3111.3.5.2.3(1)

1.5 Valley and hips shall comply with section 2308.7.3. and shall be supported at the ridge by a brace or post that bears on bearing wall below. Where roof rafters require intermediate support to comply with the rafter span tables, hip and valley rafters shall also be supported with an intermediate support/brace.

1.6 Where the existing grade and species of the rafters and ceiling joists cannot be verified, it is assumed to be #2 Douglas Fir-Larch



For SI: 1 inch = 25.4 mm, 1 foot = 305 mm, 1 degree = 0.018 rad.

Note: Where ceiling joists run perpendicular to the rafter, rafter ties shall be installed in accordance with Section R802.3.1

H_c = Height of ceiling joists or rafter ties measured vertically above the top of rafter support walls.

H_r = Height of roof ridge measured vertically above the top of rafter support walls.

Note: To qualify as an intermediate support or brace for rafters, the intermediate brace must bear on a bearing wall. Where the intermediate brace/support, bears on the ceiling joist, the intermediate brace shall not be considered as a support for rafters and rafter span shall be from exterior bearing wall to ridge.

FIGURE 3111.3.5.2.3(1)

Code amendment proposal criteria (OSSC Section 3111.3.5.2)

1. Concept of proposal: The proposal clarifies the requirements for roof framing to qualify for prescriptive solar installations to enable uniform and consistent understanding and implementation of the prescriptive requirements for solar installation in the OSSC

2. Purpose of proposal: When provisions for solar installations were first adopted in the Oregon Solar Installation Specialty Code (OSISC), the provisions included helpful figures such as R802.5.1 from the Oregon Residential Specialty Code which provided some clarity to the requirements for roof rafter spans, intermediate support requirements etc. When the provisions were moved from the OSISC to the OSSC these figures and Tables were dropped. This has created some confusion with specific requirements.

The proposal specifies specific sections of the code that pertain to conventional wood framing that need to be met for rafter spans, ceiling framing requirements, hip valley framing and highlights the requirements for intermediate bracing that were clarified in the figures that were omitted. The only requirement that may be considered as added is the requirement to add intermediate supports to hip and valley framing if roof rafters require an intermediate support to meet the prescriptive span requirements. This based on engineering principles and judgment and it is the authors contention that even though this may not be explicitly stated in the provisions of the code, it is a matter of practice and common sense that if a rafter needs intermediate support, then the hips which support a larger tributary area and span longer would also need an intermediate support.

The proposal also clarifies in a clearer language the snow load and wind speeds installations on R-3 and U group occupancies are relaxed from installations on other occupancies. This intent was included in the commentary to this section in OSISC and this proposal just provided clear language.

3. Has this been proposed at the national model code level? The proposed amendment is to the provisions specific to OSSC and are not part of the model code. To our knowledge has not been discussed at the national level.

Implementation and fiscal Impact

The proposal just provides clarity to the intent of existing provisions and should not have any fiscal impact to already existing requirements.

Impacted stakeholders and other specialty codes.

As part of development of the checklist for Prescriptive installation by City of Portland, informal discussions were held with the Building Codes Division to determine the intent of the original provisions and Energy Trust of Oregon who sought input from solar industry. This proposal stems from this effort to enable uniform and consistent understanding and implementation of the prescriptive provisions of the solar installations in OSSC.