

**2017 Oregon Residential Specialty Code (ORSC)
Solar readiness amendments**

Amendment Summary:

These amendments revise the 2017 Oregon Residential Specialty Code (ORSC) to require that all new residential structures include either a rigid metal raceway or installed wiring to facilitate future installation of solar panels.

~~Strikethrough~~ text represents deleted language.
Underlined text represents added language.

~~**N1107.4 Solar ready.** Reserved. This section will be updated with an interim amendment. See *Oregon.gov/bcd*.~~

N1107.4 Solar interconnection pathway. A square metal junction box not less than 4 inches by 4 inches (102 mm by 102 mm) with a metal box cover shall be provided within 24 inches (610 mm) horizontally or vertically of the main electrical panel. A minimum ¾-inch rigid metal raceway shall extend from the junction box to a capped roof termination or to an accessible location in the attic with a vertical clearance of not less than 36 inches (914 mm).

Where the raceway terminates in the attic, the termination shall be located not less than 6 inches (152 mm) above the insulation. The end of the raceway shall be marked as “RESERVED FOR SOLAR.”

Exception: In lieu of ¾ inch rigid metal raceway, a minimum #10 copper 3-wire MC cable installed from the junction box to the termination point including 6 inches (152 mm) additional wire is permitted.

Clarification for Oregon Electrical Specialty Code (OESC) application:

This amendment applies to new detached one- and two-family dwellings and townhouses, as governed by the ORSC, submitted for building permit, on or after Oct. 1, 2020.

Rigid metal raceway

The terminology used in Section N1107.4 is intended to provide a *general* description of material properties required for compliance with the ORSC. These general descriptions are not intended to reflect a particular product or installation method when considering application of the OESC.

For example, the phrase “rigid metal raceway” in this ORSC provision does not require a rigid metal conduit as detailed by Article 344 of the OESC. The term “rigid” is intended to reflect the material properties required of a compliant raceway; to be nonflexible.

Because this term is undefined in the ORSC, the “plain, natural, and ordinary meaning” of the word shall be used. [ORSC Section R201.4] The Merriam-Webster dictionary defines “rigid” as: deficient in or devoid of flexibility. Therefore, under OESC application, **any non-flexible metal raceway**, such as EMT, will satisfy this ORSC requirement.

Markings

Where the metal raceway is terminated in the accessible attic location, Section N1107.4 requires the end of the raceway to be marked "RESERVED FOR SOLAR." This requirement does not specify any particular text size, font, or color. Any legible marking methods suitable for the environment will satisfy this ORSC requirement.

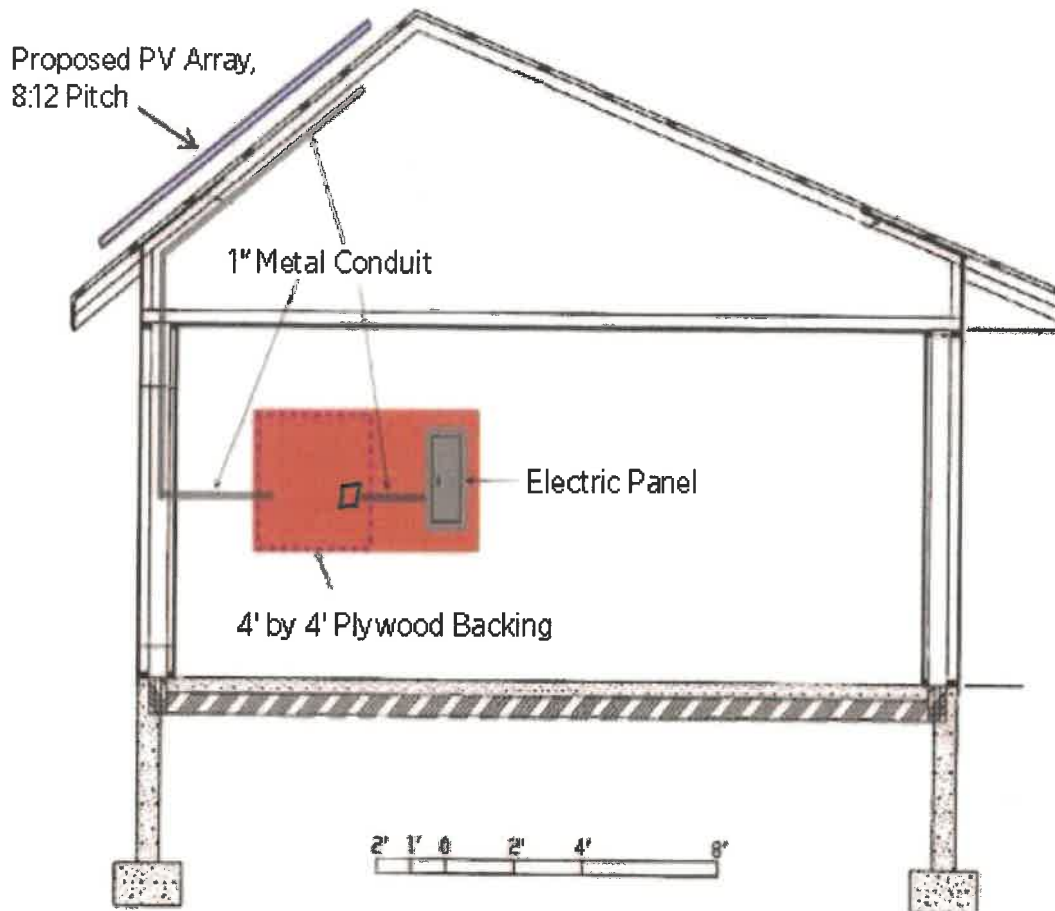
Exception to metal raceway

These provisions include an exception to the installation of metal raceway where "a minimum #10 copper 3-wire MC cable" is installed. Under OESC application, any #10 copper 3-wire with ground type MC cable that is suitable for the environment will satisfy this ORSC requirement.

Licensing and certifications

This work is considered an electrical installation and would normally be completed during the installation of the building wiring system under the electrical contractor's permit.

The appropriate electrical licenses are required to complete the installation and at least a Residential Electrical Inspector Certification (CAE) is required to inspect the installation.



How to Install a Wiring Conduit for a Future Solar Photovoltaic System:

1. Designate a proposed location for the solar photovoltaic system on the roof.
2. Install a 1-inch metal conduit from the attic to the future location of the inverter.
 - a. Begin conduit about 6 inches above the finished insulation depth directly below the designated array location in the attic. Ensure the conduit location in the attic provides at least 18-in. of space below the roof deck and is easily accessible for the future solar installer.
 - b. Run the wiring conduit through the home so that the overall length of the conduit is minimized.
 - c. Ensure there are three or fewer 90-degree turns from the attic to the designated 4 ft x 4 ft plywood area or provide for accessible pull boxes, as required by the National Electric Code.

- d. Terminate the conduit at the bottom edge of the 4 ft x 4 ft plywood backing for a future inverter. (Optional) For aesthetic reasons, terminate into a flush mount junction or pull box near the bottom edge of the plywood area.
3. Install a 1-inch metal conduit from the designated inverter location to the electrical service panel.
4. To facilitate the wiring of the solar PV system at a later date, the builder may also want to include a pull line in the conduit, particularly if the overall conduit run is lengthy or has multiple bends.
5. Cap and label both ends of both conduit runs so the text is visible and upright (if possible). The label should read, "Renewable Energy Ready Home – Solar Photovoltaic Wiring Conduit."