Appendix T

SOLAR READY PROVISIONS – DETACHED ONE- AND TWO- FAMILY DWELLINGS AND TOWNHOUSES

This appendix is adopted as part of the Oregon Residential Specialty Code

SECTION T101
SCOPE

T101.1 General. These provisions shall be applicable for newly constructed detached one- and two-family *dwellings* and *townhouses*.~~new construction where solar-ready provisions are required.~~

SECTION T102
GENERAL DEFINITION

T102.1 General. The following term shall, for the purpose of this appendix, have the meaning shown herein.

SOLAR ~~-~~READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic ~~or solar thermal~~ system.

SECTION T103
SOLAR ~~-~~READY CONSTRUCTION~~ZONE~~

T103.1 General. New detached one- and two-family dwellings, and townhouses with not less than 600 square feet ~~(55.74 m2)~~ of roof area oriented between 90 degrees and 270 degrees of true north, [JH1]shall comply with Sections T103.2 through T103.~~10~~8.

Exceptions:
1. New residential buildings with a permanently installed on-site renewable energy system.

2.[JH2] A building where all areas of the roof that would otherwise meet the requirements of Section T103 have a Total Solar Resource Fraction [JH3](TSRF) less than 80[JH4] percent OR are in full or partial shade as a result of trees or obstructions located offsite ~~for more than~~between the hours of 9am and 4pm [JH5]annually.~~ 70 percent of daylight hours annually~~

T103.2 Construction Document Requirements[JH6]~~for Solar-Ready Zone~~**.** Information on construction documents and plans shall show in sufficient detail all pertinent data and features of the building as herein governed including but not limited to: indicate~~e~~ing the solar ~~-~~ready zone, junction boxes terminating the interconnection pathway, and other pertinent data to indicate conformance with the requirements of this appendix.

T103.3 Solar ~~-~~Ready Zone Area. The total solar ~~-~~ready zone area shall be not less than 300 square feet ~~(27.87 m^2)~~ exclusive of mandatory access, pathways, or setback areas ~~as required by the International Fire Code~~in accordance with Section 3111 of the *Building Code*. [JH7]~~New townhouses three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet (185.8 m 2) per dwelling shall have a solar-ready zone area of not less than 150 square feet (13.94 m 2).~~ The solar ~~-~~ready zone shall be composed of areas not less than 5 feet ~~(1524 mm)~~ in width and not less than 80 square feet ~~(7.44 m^2)~~ exclusive of access, pathways, or set-back areas in accordance with Section 3111 of the *Building Code*. [JH8]~~as required by the International Fire Code .~~

Exception[JH9]: New townhouses three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet per *dwelling unit* shall have a solar ready zone area of not less than 150 square feet per *dwelling unit*.

T103.4 Obstructions. Solar ~~-~~ready zones shall be free from obstructions, including but not limited to mechanical exhaust vents[JH10], chimneys, and roof-mounted equipment.

Exception[JH11]: Plumbing vents may be located in the solar ready zone.

T103.5 Shading[JH12]**.** The solar ~~-~~ready zone 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 object's 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, rooftop equipment, trees and roof plantings.

~~**T103.6 Capped Roof Penetration Sleeve.** A capped roof penetration sleeve shall be provided adjacent to a solar-ready zone located on a roof slope of not greater than 1 unit vertical in 12 units horizontal (8-percent slope). The capped roof penetration sleeve shall be sized to accommodate the future photovoltaic system conduit, but shall have an inside diameter of not less than 11/4 inches (32 mm).~~[JH13]

~~**T103.7 Roof Load Documentation.** The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents~~[JH14]

T103.~~8~~6 Interconnection Pathway & Termination.

~~Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.~~A recessed square metal junction box not less than 4 inches by 4 inches with a metal box cover shall be provided within 24 inches horizontally or vertically of the main electrical panel. A minimum ¾-inch nonflexible metal raceway with pull string[JH15] shall extend from the junction box to an accessible location in the attic with a vertical clearance of not less than 36 inches. In the attic, the raceway will terminate in a metal junction box not less than 4 inches by 4 inches, and the junction box shall be located not less than 6 inches above the insulation. Each junction box shall be marked as “RESERVED FOR SOLAR.”

Exception: In lieu of ¾” metal raceway, a minimum of two (2) 10/2 copper metal clad (MC) cables [JH16]may be installed terminating in the junction boxes described.

T103.~~9~~7 Electrical Service Reserved Space. The main electrical service panel shall have a reserved space to allow installation of a ~~dual-~~double-pole circuit breaker for future solar electric installation and shall be labeled "~~For Future Solar Electric~~RESERVED FOR SOLAR." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location in accordance with the Electrical Code.

T103.~~10~~ 8 Construction Documentation Certificate. A permanent certificate, indicating ~~the solar-ready zone and other~~ requirements of this section, shall be posted near the electrical distribution panel~~, water heater~~ or other conspicuous location~~ by the builder or registered design professional~~.[JH17]

APPENDIX T
SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

This appendix is adopted as part of the Oregon Residential Specialty Code.

SECTION T101
SCOPE

T101.1 General. These provisions shall be applicable for newly constructed detached one- and two-family *dwellings* and *townhouses*.

SECTION T102
GENERAL DEFINITION

T102.1 General. The following term shall, for the purpose of this appendix, have the meaning shown herein.

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or related technology.

SECTION T103
SOLAR-READY CONSTRUCTION

T103.1 General. New detached one- and two-family dwellings and *townhouses* shall comply with Sections T103.2 through T103.4.

Exception: New detached one- and two-family *dwellings* and *townhouses* with a permanently installed on-site renewable energy system, or an *active* permit application for an on-site permanently installed renewable energy system, as determined by the *building official*.

T103.2 Construction document requirements for solar-ready zone. Where provided, *dwelling units* with not less than 600 square feet of contiguous roof area, located on a single roof plane, oriented in a single direction other than north, shall indicate a *solar-ready zone* on the *construction documents*.

T103.2.1 Solar-ready zone area. The total *solar-ready zone* area shall be not less than 300 square feet ~~(27.87 m^2)~~ exclusive of mandatory access, pathways, or setback areas, in accordance with Section 3111 of the *Building Code*.

The *solar-ready zone* shall be composed of areas not less than 5 feet ~~(1524 mm)~~ in width and not less than 80 square feet ~~(7.44 m^2)~~ exclusive of access, pathways, or set-back areas as determined in accordance with the *Building Code*.

Exception: New *townhouses* three stories or less in height above grade plane and with a total floor area less than or equal to 2,000 square feet ~~(185.8 m^2)~~ per *dwelling unit* shall have a *solar-ready zone* area of not less than 150 square feet ~~(13.94 m^2)~~ per *dwelling unit*.

T103.3 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 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).~~

Exception: In lieu of ¾" metal raceway, a minimum #10 copper 3-wire MC cable installed from the junction box to the termination point including 8 feet ~~(2438 mm)~~ additional wire is permitted.

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.".

T103.4 Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a double-pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned in accordance with the *Electrical Code*.