



## 2021 ORSC Energy Efficiency Requirements

**Must accompany Building Permit Application**

### Columbia County Land Development Services

230 Strand Street, St. Helens, OR 97051

PH: 503-397-1501 email: building@columbiacountyor.gov

### RESIDENTIAL INFORMATION

Date:

Building permit number:

Owner's name:

Job address:

City:

State:

ZIP:

### INSTRUCTIONS

Select the type of construction. If the project is an addition, select the applicable addition type and enter the selected measures accordingly; print and sign your name. Submit this form with your permit application or your project will be placed on hold until the required information is provided.

☐ **New construction.** All conditioned spaces within residential buildings shall comply with Table N1101.1(1) and one additional measure from Table N1101.1(2).

☐ **Additions.** Additions to existing buildings or structures may be made without making the entire building or structure comply if the new additions comply with the requirements of this chapter. [See ORSC Section N1101.3]

☐ **Large additions.** Additions that are equal to or more than 600 square feet in area are required to select one measure from Table N1101.1(2).

Enter the selected Table N1101.1(2) additional measure \_\_\_\_\_

☐ **Small additions.** Additions that are less than 600 square feet in area are required to select one measure from Table N1101.1(2) **or** select one measure from Table N1101.3.

☐ Selected Table N1101.1(2) additional measure \_\_\_\_\_

☐ Selected Table N1101.3 additional measure \_\_\_\_\_

☐ **Exception:** Additions that are less than 225 square feet in area are not required to comply with Table N1101.1(2) or Table N1101.3.

For reference Tables N1101.1(2) and N1101.3 are included in this form below.

**Note:** Depending on the additional measure you have selected, there may be sub-options that you will have to specify. Check the appropriate box, if provided.

Applicant's printed name: \_\_\_\_\_ Applicant's signature: \_\_\_\_\_

**TABLE N1101.1(2) – ADDITIONAL MEASURES**

<input type="checkbox"/>	1	<b>HIGH-EFFICIENCY HVAC SYSTEM<sup>a</sup></b> a. Gas-fired furnace or boiler AFUE 94 percent, or b. Air-source heat pump HSPF 10.0/14.0 SEER cooling, or c. Ground-source heat pump COP 3.5 or Energy Star rated
<input type="checkbox"/>	2	<b>HIGH-EFFICIENCY WATER HEATING SYSTEM</b> a. Natural gas/propane water heater with minimum UEF 0.90, or b. Electric heat pump water heater with minimum 2.0 COP, or c. Natural gas/propane tankless/instantaneous heater with minimum 0.80 UEF and Drain Water Heat Recovery Unit installed on minimum of one shower/tub-shower
<input type="checkbox"/>	3	<b>WALL INSULATION UPGRADE</b> Exterior walls—U-0.045/R-21 conventional framing with R-5.0 continuous insulation
<input type="checkbox"/>	4	<b>ADVANCED ENVELOPE</b> Windows—U-0.21 (Area weighted average), and Flat ceiling <sup>b</sup> —U-0.017/R-60, and Framed floors—U-0.026/R-38 or slab edge insulation to F-0.48 or less (R-10 for 48”; R-15 for 36” or R-5 fully insulated slab)
<input type="checkbox"/>	5	<b>DUCTLESS HEAT PUMP</b> For dwelling units with all-electric heat, provide: Ductless heat pump of minimum HSPF 10 in primary zone replaces zonal electric heat sources, and programmable thermostat for all heaters in bedrooms
<input type="checkbox"/>	6	<b>HIGH EFFICIENCY THERMAL ENVELOPE UA<sup>c</sup></b> Proposed UA is 8 percent lower than the code UA
<input type="checkbox"/>	7	<b>GLAZING AREA</b> Glazing area, measured as the total of framed openings is less than 12 percent of conditioned floor area
<input type="checkbox"/>	8	<b>3 ACH AIR LEAKAGE CONTROL AND EFFICIENT VENTILATION</b> Achieve a maximum of 3.0 ACH50 whole-house air leakage when third-party tested and provide a whole-house ventilation system including heat recovery with a minimum sensible heat recovery efficiency of not less than 66 percent.

For SI: 1 square foot = 0.093 m<sup>2</sup>, 1 watt per square foot = 10.8 W/m<sup>2</sup>.

- Appliances located within the building thermal envelope shall have sealed combustion air installed. Combustion air shall be ducted directly from the outdoors.
- The maximum vaulted ceiling surface area shall not be greater than 50 percent of the total heated space floor area unless vaulted area has a U-factor no greater than U-0.026.
- In accordance with Table N1104.1(1), the Proposed UA total of the Proposed Alternative Design shall be a minimum of 8 percent less than the Code UA total of the Standard Base Case.

**TABLE N1101.3 – SMALL-ADDITION ADDITIONAL MEASURES (SELECT ONE)**

<input type="checkbox"/>	1	Increase the ceiling insulation of the existing portion of the home as specified in Table N1101.2.
<input type="checkbox"/>	2	Replace all existing single-pane wood or aluminum windows to the U-factor as specified in Table N1101.2
<input type="checkbox"/>	3	Insulate the existing floor, crawl space, or basement wall systems as specified in Table N1101.2 and install 100 percent of permanently installed lighting fixtures as CFL, LED, or linear fluorescent, or a minimum efficacy of 40 lumens per watt as specified in Section N1107.2.
<input type="checkbox"/>	4	Test the entire dwelling with a blower door and exhibit no more than 4.5 air changes per hour @ 50 Pascals.
<input type="checkbox"/>	5	Seal and performance test the duct system.
<input type="checkbox"/>	6	Replace existing 80-percent AFUE or less gas furnace with a 92-percent AFUE or greater system.
<input type="checkbox"/>	7	Replace existing electric radiant space heaters with a ductless mini split system with a minimum HSPF of 10.0.
<input type="checkbox"/>	8	Replace existing electric forced air furnace with an air source heat pump with a minimum HSPF of 9.5.
<input type="checkbox"/>	9	Replace existing water heater with a water heater meeting: Natural gas/propane water heater with minimum UEF 0.90, or Electric heat pump water heater with minimum 2.0 COP.