



STATE OF WASHINGTON
STATE BUILDING CODE COUNCIL

May 2018
Log No. _____

1. State Building Code to be Amended:

- | | |
|--|---|
| <input type="checkbox"/> International Building Code | <input type="checkbox"/> International Mechanical Code |
| <input type="checkbox"/> ICC ANSI A117.1 Accessibility Code | <input type="checkbox"/> International Fuel Gas Code |
| <input type="checkbox"/> International Existing Building Code | <input type="checkbox"/> NFPA 54 National Fuel Gas Code |
| <input checked="" type="checkbox"/> International Residential Code | <input type="checkbox"/> NFPA 58 Liquefied Petroleum Gas Code |
| <input type="checkbox"/> International Fire Code | <input type="checkbox"/> Wildland Urban Interface Code |
| <input type="checkbox"/> Uniform Plumbing Code | |

For the Washington State Energy Code, please see specialized [energy code forms](#)

Section(s):

Appendix ~~WX~~ (new)

Title:

Building Deconstruction

2. Proponent Name (Specific local government, organization or individual):

Proponent: Kathleen Petrie

Title: Program Manager Green Building Communitywide

Date: 4-8-22; [modified 5-24-22](#)

3. Designated Contact Person:

Name: Kathleen Petrie

Title: Program Manager Green Building Communitywide

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Cell: ()

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4. Proposed Code Amendment. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code, additional pages may be attached.

Clearly state if the proposal modifies an existing amendment or if a new amendment is needed. If the proposal modifies an **existing amendment**, show the modifications to the existing amendment by underlining all added language and striking through all deleted language. If a new amendment is needed, show the modifications to the **model code** by underlining all added language and striking through all deleted language.

Code(s) IRC Section(s) (New) Appendix XW

Enforceable code language must be used.

Amend section to read as follows:

APPENDIX XW
BUILDING DECONSTRUCTION

SECTION WX101
GENERAL

WX101.1 Purpose. The purpose of this code-section is to increase the amount of material *salvaged for reuse* through the act of *deconstruction* when a *building or structure* is *demolished*. ~~Salvaged~~ Used sawn lumber is permitted to ~~may~~ be reused in accordance with Section R602.1.1.1.

X101.2 Scope. This code-section applies to existing *dwelling*s, ~~and townhouses~~, and *accessory structures* permitted to be *demolished* that are greater than 750 square feet and meet one of the following:

1. The *structure* has been identified as a *historic building*; or
2. The *structure* was built 90, or more, years ago.

Exceptions:

1. The *structure* is determined to be unsafe by the engineer of record;
2. The *structure* shall be relocated;
3. The engineer of record ~~building official~~ determines that 50 percent, by weight, of the material in the structure ~~that is not concrete~~, is not suitable for reuse.

SECTION WX102
GENERAL DEFINITIONS

WX102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.

Deconstruction. The systematic disassembly of a *structure*, in order to *salvage building materials* or components for the primary purpose of *reusing* materials to the maximum extent possible, with a secondary purpose of *recycling* the remaining materials.

Demolition. The process of razing, relocating, or removing an existing *building* or *structure*, or a portion thereof.

Heavy Machinery. Heavy machinery includes, but is not limited to, track hoes, excavators, skid steer loaders, or forklifts.

Recycling. The process of transforming or remanufacturing waste materials into useable or marketable materials for use other than landfill disposal or incineration.

Reuse. The return of a material into the economic stream for use.

Salvage. The recovery of construction and *demolition building* material and components from a *building* or site in order to increase the *reuse* or repurpose potential of these materials and decrease the amount of material being sent to the landfill. *Salvaged* material may be sold, donated, or *reused*.

SECTION WX103 **DECONSTRUCTION**

WX103.1 Deconstruction. *Buildings and Structures* meeting the requirements of Section WX101.2 shall be *deconstructed*.

WX103.2 Heavy Machinery. *Heavy machinery* may not be used in *deconstruction* to remove or dismantle components of *buildings and structures* in ways that render ~~*building*~~ the components unsuitable for *salvage*.

- 5. Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

The intent of this new optional Appendix XW is to reduce the amount of material that is destroyed when demolishing a building. Systematically removing materials, components, and systems of an existing building through the process of deconstruction, increases the amount of construction and demolition material that can be salvaged for reuse and recycled instead of going to a landfill.

Increasing the amount of material that is salvaged or recycled can increase the lives of our landfills, saving a jurisdiction future expansion cost. By salvaging, we keep materials in use longer, which results in environmental benefits such as carbon sequestration and reduced carbon emissions from material not needing to be processed. In the case of salvaging wood, an additional benefit is that material from the 1930s will be of much greater quality than wood that is retailed today.

Deconstruction of a typical 2,000 square-foot wood frame home can yield 6,000 board feet of reusable lumber; the same home if demolished produces about 127 tons of debris, according to the [Oregon Dept. of Environmental Quality's report on deconstruction versus demolition](#). Approximately 7.6 metric tons of CO2E is saved for every house deconstructed rather than demolished. Jurisdictions that prioritize material management and/or have climate impact reduction goals may opt to adopt this appendix.

This code partners with Section R602.1.1.1 which encourages reuse of salvaged lumber. This section removes the requirement to grade reused materials, and instead assume a particular species and grade for certain dimensional lumber. Increasing the amount of buildings deconstructed helps to provide an increased amount of quality salvaged lumber which can be used in building construction.

As of July 6 2016, the City of Portland, Oregon adopted an ordinance requiring single family buildings to be deconstructed if they were permitted to be demolished and built prior to 1916. In November of 2019, the threshold year was moved from 1916 to 1940. Jurisdictions interested in this appendix will conduct their due-diligence to ensure Portland's similar success.

This code is appropriate as an appendix because not all communities in Washington State have salvage retail businesses or recycling processing facilities. However, several jurisdictions in our state have carbon emission goals, where increasing the amount of material available for reuse will help toward achieving those goals. We ask for the approval of Appendix [XW](#) so this text is available for interested jurisdictions to adopt.

6. Specify what criteria this proposal meets. You may select more than one.

- The amendment is needed to address a critical life/safety need.
- The amendment clarifies the intent or application of the code.
- The amendment is needed to address a specific state policy or statute.
- The amendment is needed for consistency with state or federal regulations.
- The amendment is needed to address a unique character of the state.
- The amendment corrects errors and omissions.

7. Is there an economic impact: Yes No

If no, state reason:

This optional appendix may have an economic impact only in jurisdictions where this requirement is adopted, and for the buildings meeting the age requirement. Jurisdictions choosing to adopt this appendix will conduct a local analysis to ensure there is an adequate number of skilled deconstruction contractors available to handle the potential number of buildings to be deconstructed each year, and retailers to sell the materials extracted. The jurisdiction will work with industry partners to understand potential cost impacts to the contractor/owner based on the local industry skills, if any.

If yes, provide economic impact, costs and benefits as noted below in items a – f.

- a. **Life Cycle Cost.** Use the OFM Life Cycle Cost [Analysis tool](#) to estimate the life cycle cost of the proposal using one or more typical examples. Reference these [Instructions](#); use these [Inputs](#). Webinars on the tool can be found [Here](#) and [Here](#)). If the tool is used, submit a copy of the excel file with your proposal submission. If preferred, you may submit an alternate life cycle cost analysis.
- b. **Construction Cost.** Provide your best estimate of the construction cost (or cost savings) of your code change proposal.

\$[Click here to enter text.](#)/square foot

(For residential projects, also provide \$[Click here to enter text.](#)/ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

- c. **Code Enforcement.** List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: None noted. Office staff process and review demolition permits already, and inspection staff inspect buildings permitted to be demolished.
- d. **Small Business Impact.** Describe economic impacts to small businesses: This requirement will likely grow new businesses and increase jobs in the field of deconstruction contractor services.
- e. **Housing Affordability.** Describe economic impacts on housing affordability:

- f. ***Other.*** Describe other qualitative cost and benefits to owners, to occupants, to the public, to the environment, and to other stakeholders that have not yet been discussed:

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.