

## **Chelan County Code**

### **Title 3 Building Regulations**

#### **Chapter 3.29**

#### **CHELAN COUNTY WILDLAND-URBAN INTERFACE CODE**

##### **3.29. 1.1 Scope:**

The provisions of this code shall apply to construction following the adoption of this code, and the movement, or alteration of the exterior components in existence prior to the adoption of this code of any building, structure or premises within the wildland-urban interface areas within the jurisdiction of Chelan County.

Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was approved at the time of the adoption of this code; provided, that such continued use does not constitute a distinct danger to life or property.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new buildings or structures.

The unrestricted use of property in wildland-urban interface areas is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire protection components to control the spread of fire in wildland-urban interface areas shall be in accordance with this code.

##### **3.29. 1.2 Purpose:**

The purpose of this chapter is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and property protection from intrusion of fire from wildland fire events and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. This code establishes required construction materials, methods and planning associated with a structure's ability to withstand exposure to wildfire events consistent with RCW 19.27.560. Regulations in this code are intended to mitigate the risk to life and structures

This code shall supplement the county's adopted building and fire codes, providing special regulations to mitigate the fire and life-safety hazards of the wildland-urban interface areas.

##### **3.36.3 Applicability:**

Buildings and structures hereafter constructed, modified or relocated into or within the Chelan Mountain or Valley wildland-urban interface area zones as delineated on the Fire Danger Rating Areas Map as listed within the Central & Northeast Washington

Interagency Fire Danger Operating Plan; shall meet the construction requirements in accordance with this chapter

Exception: The provisions of this section do not apply to storage sheds exempt from a building permit.

### **3.29. 1.4 Conformity:**

The design and construction of structures shall comply with the provisions of this chapter along with the current provisions contained within the International Fire Code, International Building Code, International Residential Code and Chelan County Code. Should any provision within this chapter conflict with any other provision of the Chelan County Code, then this code shall control.

### **3.29.2 Wildland-urban interface zone designation:**

The objective of this section is to provide designation for determining wildland-urban interface area zones within Chelan County.

#### **3.29.2.1 Area Designation:**

The wildland-urban interface area boundary shall correspond to the Fire Danger Rating Areas Map showing the Chelan and Valley zones as listed within the Central & Northeast Washington Interagency Fire Danger Operating Plan.

#### **3.29.2.2 Wildland Interface Area Zones:**

The wildland interface area zones shall consist of two zones.

- a) the Chelan Mountain zone hereinafter referred to as the Mountain zone
- b) the Valley zone

#### **3.29.2.3 Mapping:**

The wildland-urban interface areas shall be made available on maps for inspection by the public. Such maps will be maintained and available from the Chelan County Fire Marshal's Office.

#### **3.29.2.4 Review of Wildland-Urban Interface Area Zones:**

The code official may reevaluate and modify the wildland-urban interface area zones as deemed necessary and in conjunction with the revision of the Central & Northeast Washington Interagency Fire Danger Operating Plan.

### **3.29.3 Authority of Fire Code Official:**

The Chelan County Fire Marshal shall be designated as the fire code official and is hereby authorized to enforce the provisions of this code. The Fire Marshal is empowered to render interpretations of this code and to adopt policies and procedures in order to effectuate the implementation and enforcement of the code provisions

contained herein. Such interpretations, policies and procedures shall be in accordance with the intent and purpose of this chapter and in conformance with guidelines in the most current edition of the ICC International Wildland-Urban Interface Code and NFPA 1144 Standard for Reducing Structural Ignition Hazards from Wildland Fire.

### **3.29.3 Authority to develop and charge fees:**

The Chelan County Fire Marshal shall be authorized to develop fees associated with the provisions of this code for plan review, permit, or inspection as approved by the Chelan County Commissioners. Fees for this program shall be charged per Chelan County Code Section 3.04.050.

### **3.29.4 Definitions:**

Terms Defined in Other Codes and Terms Not Defined. Where terms are not defined in this code and are defined in the International Building Code, International Fire Code or International Residential Code, such terms shall have the meanings ascribed to them as in those codes. Where terms are not defined by this section, such terms shall be as defined elsewhere in the city code or, if not defined, shall have their ordinarily accepted meanings such as the context implies.

3.29.4 .1 Accessory structure. A building or structure used to shelter or support any material, equipment, chattel or occupancy other than a habitable building.

3.29.4 .2 Approved. Acceptable to the code official.

3.29.4 .3 Building. Any structure intended for supporting or sheltering any occupancy.

3.29.4 .4 Fire code official. The Director of the Chelan County Department of Fire Prevention and Investigation also referred to as the Chelan County Fire Marshal or his/her designee.

3.29.4 .5 Defensible space. An area, either natural or manmade, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

3.29.4 .6 Fire protection plan. A document prepared for a specific project or development proposed for the wildland-urban interface area. It describes ways to minimize and mitigate the fire problems created by the project or development, with the purpose of reducing impacts on the community's fire protection delivery system.

3.29.4 .7 Fire-resistance-rated construction. The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within a building or structure and the spread of fire to or from buildings or structures to the wildland-urban interface area.

3.29.4 .8 Flame spread index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with ASTM E84.

3.29.4 .9 Heavy timber construction. Type of construction in which the building elements are mass timber or of noncombustible materials and have fire-resistance ratings in accordance with Table 601 of the International Building Code.

3.29.4 .10 Ignition-resistant building material. A type of building material that resists ignition or sustained flaming combustion sufficiently so as to reduce losses from wildland-urban interface conflagrations under worst-case weather and fuel conditions with wildfire exposure of burning embers and small flames, as prescribed in Section 503 of the International Wildland-Urban Interface Code.

3.29.4 .11 Multilayered glazed panels. Window or door assemblies that consist of two or more independently glazed panels installed parallel to each other, having a sealed air gap in between, within a frame designed to fill completely the window or door opening in which the assembly is intended to be installed.

3.29.4 .12 Noncombustible. As applied to building construction material, means a material that, in the form in which it is used, is either one of the following:

- (1) Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E136 shall be considered noncombustible within the meaning of this section.
- (2) Material having a structural base of noncombustible material as defined in subsection (1) of this definition, with a surfacing material not over one-eighth inch (3.2 mm) thick, which has a flame spread index of 50 or less. "Flame spread index" as used herein refers to a flame spread index obtained according to tests conducted as specified in ASTM E84 or UL 723.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to subsection (1) of this definition. No material shall be classified as noncombustible that is subject to increase in combustibility or flame spread index, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

3.29.4 .13 Unenclosed accessory structure. An accessory structure without a complete exterior wall system enclosing the area under roof or floor above.

3.29.4 .14 Wildfire. An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

3.29.4 .15 Wildland. An area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities.

3.29.4 .16 Wildland-urban interface area. That geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels.

### **3.29.5 Construction components:**

The provisions of this section shall apply to all new construction and alteration, movement, repair or maintenance when such alteration, repair or maintenance modifies any of the following components.

#### **3.29.5.1 Roof Covering Mountain and Valley Zones:**

**3.29.5.1.1** All roofs in the Mountain and Valley zones shall have a roof assembly that complies with class A rating when testing in accordance with American Society for Testing Materials E 108 or Underwriters Laboratories 790. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be fire-stopped to preclude entry of flames or embers, or have one layer of 72-pound mineral-surfaced, nonperforated cap sheathing complying with American Society for Testing Materials ASTM D 3909 installed over the combustible decking.

#### **3.29.5.1.2 Replacement or repair of roof coverings:**

The roof covering on buildings or structures in existence prior to the adoption of the wild land urban interface code under this chapter that are replaced or have fifty percent (50%) or more replaced in a twelve-month (12) period shall be replaced with a roof covering required for new construction.

**3.29.5.1.3** The roof covering on any addition to a building or structure shall be installed with a roof covering required for new construction.

**3.29.5.1.4** Penetrations through the roof shall be constructed of metal or be listed for use in a Class A roof assembly. Ridge vents shall be a Class A type ridge vent.

**3.29.5.1.5** Wood shake and wood shingle roofs are prohibited in Mountain and Valley zones.

#### **3.29.5.2 Eaves, soffits, fascia and gutters in the Mountain and Valley Zones:**

(A) Eaves and soffits shall be protected on the exposed underside by ignition-resistant materials or by materials approved for not less than 1-hour fire-resistance-rated construction, 2-inch nominal dimension lumber, or 1-inch nominal fire-retardant-treated lumber or  $\frac{3}{4}$  inch nominal fire-retardant treated plywood, identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code or approved noncombustible materials.

Fascia are required and shall be protected on the backside by ignition resistant materials or by materials approved for not less than 1-hour fire-resistance-rated construction or 2-inch nominal dimension lumber or approved noncombustible materials.

(B) Gutters and downspouts.

In the Mountain zone gutters and downspouts shall be constructed of noncombustible material. Gutters shall be provided with an approved means to prevent the accumulation of leaves and debris in the gutter.

### **3.29.5.3 Exterior walls**

#### **3.29.5.3.1 Exterior walls in the Mountain and Valley Zones:**

Exterior walls of buildings or structures shall be constructed with one of the following methods. Such materials shall extend from the top of the foundation to the underside of the roof sheathing.

1. Materials approved for a minimum of one-hour fire-resistance rated construction assembly on the exterior;
2. Approved noncombustible materials;
3. Heavy timber or log wall construction;
4. Fire retardant-treated wood on the exterior side. The fire retardant-treated wood shall be labeled for exterior use and meet the requirements of section 2303.2 of the International Building Code; or
5. Ignition-resistant materials on the exterior side (installed to prevent conduction of heat to combustible elements or materials within the exterior wall, or affixed to non-combustible elements or materials).

#### **3.29.5.3.2 Replacement or repair of siding in the Mountain and Valley Zones:**

Siding coverings on buildings or structures in the Mountain and Valley zones in existence prior to the adoption of this code that are replaced or have 50 percent or more replaced in a 12-month period shall be replaced with a siding material as required for new construction.

#### **3.29.5.4 Underfloor enclosure in the Mountain and Valley Zones:**

Buildings or structures shall have underfloor areas enclosed to the ground with exterior walls.

Exception: Complete enclosure shall not be required where the underside of exposed floors and exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction or fire-retardant treated wood. The fire-retardant-treated wood shall be labeled for exterior use and meet the requirements of Section 2303.2 of the International Building Code.

#### **3.29.5.5 Appendages and projections**

### **3.29.5.5.1 Appendages and projections in the Mountain Zone**

Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall not be less than one-hour fire-resistance rated construction, heavy timber construction, or constructed of one of the following:

1. Approved noncombustible materials;
2. Fire retardant-treated wood identified for exterior use and meeting the requirements of section 2303.2 of the International Building Code; or
3. Ignition-resistant building materials in accordance with section 503.2 of the International Wildland Urban Interface Code.

*This section does not apply to an unenclosed accessory structure attached to buildings with habitable spaces and projections, such as decks, attached to the first floor of a building if the structure is built with building materials at least two inches nominal depth and the area below the unenclosed accessory structure is screened with wire mesh screening to prevent embers from coming in from underneath or exterior wall construction defined in 15.06.060 (B) to within six inches of the ground (Per RCW 19.27.560).*

### **3.29.5.5.2 Appendages and projections in the Valley Zone**

Unenclosed accessory structures attached to buildings with habitable spaces and projections, in the valley zone, such as decks, shall be a minimum of one-hour fire-resistance-rated construction, heavy timber construction or constructed of approved noncombustible materials or fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the International Building Code. The surface below the under-floor area shall be a noncombustible surface.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all under-floor areas enclosed to within six inches (152 mm) of the ground, with exterior wall construction.

### **3.29.5.6 Vents.**

#### **3.29.5.6.1 Vents in the Mountain Zone.**

Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed 1/8 inch (per International Residential Code R408.2), or shall be designed and approved to prevent flame or ember penetration into the structure.

Air intake into structures shall be covered with metal wire mesh with openings that do not exceed 1/8 inch. Such air intake openings shall connect to 26-gauge metal ducts for

a minimum of 6 feet in length from the intake. Exhaust termination shall be metal with an integral backdraft damper at the termination point.

(A) Vent Location.

All vents shall meet the requirements above, and the following:

1. Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas.
2. Gable end and dormer vents shall be located not less than 10 feet from lot lines.
3. Underfloor ventilation openings shall be located as close to grade as practical.

Exceptions - Attic ventilation openings in soffits, eave overhangs, between rafters at eaves or in other overhang areas that meet flame and ember resistant listed vents complying with ASTM E2886 or Cal Fire SFM12-7A.

**3.29.5.6.1 Vents in the Valley Zone.**

Eave, soffit, gable end and ridge vents, foundation vents and other ventilation openings in exterior walls or on roofs shall be flame- and ember-resistant listed vents complying with ASTM E2886 or CalFire SFM12-7A or part of a listed Class A roof assembly.

Air intakes into structures shall be covered with metal wire mesh with openings that do not exceed one-eighth inch. Such air intake openings shall connect to 26-gauge metal ducts for a minimum of six feet in length from the intake. Exhaust terminations shall be metal with an integral backdraft damper at the termination point.

**3.29.5.7 Spark arrestors in the Valley Zone.**

Chimneys attached to any appliance or fireplace that burns solid fuel shall be equipped with an approved spark arrestor. The spark arrestor screen shall have heat and corrosion resistance equivalent to 12-gauge wire, 19-gauge galvanized wire or 24-gauge stainless steel wire. The net free area of the spark arrestor shall not be less than four times the net free area of the outlet of the chimney. Openings shall not permit the passage of spheres having a diameter larger than one-half inch.

**3.29.5.8 Detached accessory structures in the Valley Zone.**

All detached accessory structures shall have exterior walls constructed with materials approved for a minimum of one-hour fire-resistance-rated construction, heavy timber or constructed with approved noncombustible materials on the exterior side. When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all under-floor areas enclosed to within six inches (152 mm) of the ground, with exterior wall construction.

1. Exception. The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are

protected as required for exterior one-hour fire-resistance-rated construction or heavy-timber construction and the surface below the under-floor area is a noncombustible surface.

### **3.29.5.9 Emergency vehicle access in the Mountain and Valley Zone.**

Driveways with a minimum width of twelve (12) feet and a height of thirteen (13) feet, six (6) inches shall be provided where any portion of an exterior wall of the first story of the structure is located more than one hundred fifty (150) feet from the access road.

Driveways in excess of one hundred fifty (150) feet in length shall be provided with turnarounds. Driveways in excess of one thousand (1000) feet in length and less than twenty feet in width shall be provided with turnouts and turnarounds. Turnouts and turnarounds shall be constructed in accordance with Chelan County Code Chapter 15.30 Appendix A. When circumstances regarding topography create visibility issues around curves or switch backs the Fire Marshal, in consultation with the Fire District and Chelan County Public Works, will define the requirements for a turnout or turnaround as required in this subsection.

### **3.29.5.10 Defensible space in the Mountain and Valley Zones.**

The defensible space will correspond with the Fire Protection Credit policy as established by the Fire Marshal as provided in the Title 3 fire code amendments IFC Section 507.2.3

### **3.29.6 Fire protection plan in the Mountain and Valley Zones.**

A fire protection plan shall be filed with any major plat or multifamily development within the Mountain and Valley Zones. The fire protection plan shall require approval by the fire code official prior to preliminary plat approval or issuance of a building permit for a multifamily development.

The plan shall be based on a site-specific wildfire risk assessment that includes considerations of project size, location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistive factors, fire protection systems and equipment, defensible space, landscaping, vegetation management and long-term maintenance.

The plan shall be developed in accordance with recommendations and best practices as described within the International Wildland Urban Interface Code and the National Fire Protection Association Firewise USA website, see <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire> for more information.

## **Annex A Chelan County Fire Marshal's Office Recommended Checklist**

The following Wildland Urban Interface home hardening recommendations for fire resistant structures and landscapes within the County explains the minimum steps to

improve resiliency of the property in case of fire. These actions DO NOT guarantee that a structure will survive a wildfire, but they can greatly improve the chances of minimal fire damage.

- Location Access:
- Street Address is clearly marked and visible from the street with reflective numbers. Chelan County Fire Districts can assist with ordering blue address signs with reflective numbers.
- Additional Building Standards:
- Enclose soffits, attic vents and other openings with at least 1/8 - inch metal screening.
- Enclose under decks with a solid skirt or lattice backed with at least 1/8 - inch metal screening.
- Separate wood fences from structure with a 4 -foot section of nonflammable fencing.
- Minimum Landscaping Recommendations:
- Remove leaves and debris from gutters, roofs, overhangs and under decks.
- Keep Yards Free of dead leaves, twigs, and branches. Mow dead weeds and grass prior to June 1<sup>st</sup>.
- Prune overhanging branches and branches touching your roof to create at least a 10 -foot separation.
- Maintain a 5 - foot radius clear of combustible vegetation around structures. Reference, Fire-Resistant Plants for Home Landscapes, 2006 Pacific Northwest Extension publication.
- Plant fire resistive vegetation without wood mulch, outside the 5 - foot radius of structures.
- Stack firewood and flammable materials at least 10-feet away from structures.

#### Landscaping recommendations.

Landscaping within defensible space shall have the characteristics of fire-resistive vegetation described as follows:

(1) Growth with little or no accumulation of dead vegetation, either on the ground or standing upright. (Although green, most juniper shrubs and arborvitae accumulate large amounts of dead material and therefore should not be planted.)

(2) Non-resinous plants (willow, poplar or tulip trees).

(3) Low volume of total vegetation (for example, a grass area as opposed to a forest or shrub-covered land).

(4) Plants with high live fuel moisture (plants that contain a large amount of water in comparison to their dry weight).

(5) Drought-tolerant plants (deeply rooted plants with thick, heavy leaves).

(6) Stands without ladder fuels (plants without small, fine branches and limbs between the ground and the canopy of overtopping shrubs and trees).

(7) Plants requiring little maintenance (slow-growing plants that, when maintained, require little care).

(8) Plants with woody stems and branches that require prolonged heating to ignite.

For reference on specific plants and their characteristics, see <http://firewise.org> and the following guides:

Fire Resistant Plants for Chelan and Douglas County by Chelan/Douglas County Master Gardener Program.

Fire Resistant Plants for Home Landscapes by Pacific Northwest Extension Service.

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