MEMORANDUM

TO: Deschutes County Board of Commissioners

FROM: Kyle Collins, Senior Planner
Will Groves, Planning Manager
Nicole Mardell, Principal Planner

DATE: January 7, 2025

SUBJECT: Public Hearing: Text Amendments for Wildfire Mitigation Building Codes

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The Deschutes County Board of Commissioners (Board) will conduct a public hearing on January 14, 2026 to consider amendments to the Deschutes County Code (file no. 247-25-000703-TA) adopting discretionary wildfire mitigation residential building code standards that have recently been made available to local jurisdictions. This proposal does not cover defensible space standards, as any future amendments to address defensible space will be covered in a future project at the Board's direction.

Attached to this memorandum are the findings (Attachment A) and proposed text amendments (Attachment B) summarizing the changes. Within the proposed amendments, added language is shown underlined, and deleted language is shown as ~~strikethrough~~.

All record materials can be found on the project website: https://bit.ly/0703TA

I. BACKGROUND

During the 2021 state legislative session, Senate Bill (SB) 762[1] was passed to help modernize and improve wildfire preparedness across Oregon. SB 762 was subsequently modified by the passage of SB 80[2] in 2023. These pieces of legislation were developed to address wildfire issues through three key strategies: creating fire-adapted communities, developing safe and effective responses, and increasing the resiliency of Oregon's landscapes.

One of the primary components of SBs 762 and 80 was the creation of a comprehensive Statewide Wildfire Hazard Map (Hazard Map) to guide new wildfire regulations for residential

[1] https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/SB762/Enrolled
[2] https://olis.oregonlegislature.gov/liz/2023R1/Downloads/MeasureDocument/SB80/Enrolled

development. Under SBs 762 and 80, once the Hazard Map was finalized, properties included in **both** a designated Wildland Urban Interface (WUI) boundary and classified as high hazard would be subject to additional development regulations. SB 80 required that, at a minimum, local governments ensure that properties meeting both of these classifications would be subject to:

1) Home hardening building codes as described in Section R327 of the Oregon Residential Specialty Code (ORSC).

2) Defensible space standards as determined by the Oregon State Fire Marshal.

However, due to public concern the state legislature repealed the Hazard Map and all associated requirements in June 2025 with the passage of SB 83[3].

At the local level, Deschutes County previously went through an exercise in 2019-2020 with the collaborative Wildfire Mitigation Advisory Committee (WMAC) to determine if changes were warranted to the Deschutes County Wildfire Hazard Zone[4] and whether additional mitigation standards should be considered for new development. That process ultimately concluded with a report summarizing recommendations from the WMAC[5] as well as an outreach report gauging public interest in new wildfire mitigation standards[6]. Ultimately, the Board decided the Deschutes County Wildfire Hazard Zone should remain unchanged. Prior to continued discussions regarding potential new wildfire mitigation standards, SB 762 was passed and largely removed local discretion on new mitigation standards until present.

II. OVERVIEW OF BUILDING CODE AMENDMENTS

The proposed text amendments would institute Section R327 of the ORSC in Deschutes County for all new residential development, including certain residential accessory structures. Multi-unit dwellings, such as apartment complexes, are unaffected by the proposed amendments, and these developments are not subject to the ORSC. The Section R327 standards do not allow for piecemeal adoption, and all standards must be adopted in whole if building officials wish to mandate any portion within their jurisdictions.

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[3] https://olis.oregonlegislature.gov/liz/2025R1/Downloads/MeasureDocument/SB83/Enrolled

[4] https://www.deschutes.org/sites/default/files/fileattachments/community_development/page/17911/ordinance_2001-024.pdf

[5] https://www.deschutes.org/sites/default/files/fileattachments/community_development/page/17911/2020-04-17_wmac_final_report_complete.pdf

[6] https://www.deschutes.org/sites/default/files/fileattachments/community_development/page/17911/wildfire_mitigation_outreach_summary_report.pdf

As currently proposed, the amendments are limited to Deschutes County Code Title 15[7], which captures general building safety and construction standards. As such, the proposed amendments are not subject to the more standard Post-Acknowledgement Plan Amendment (PAPA) process for land use amendments, which requires noticing to the Department of Land Conservation and Development (DLCD) and addressing the applicable Oregon Statewide Planning Goals.

Section R327 broadly covers the following structural components of these developments to minimize the risk of wildfire ignition:

- **Roofing:** In accordance with specific building code standards, roofing shall be asphalt shingles, slate shingles, metal roofing, tile, clay or concrete shingles, or other approved roofing that is deemed to be equivalent to a minimum Class B-rated roof assembly. Wood shingle and shake roofs are not permitted on structures.

- **Exterior walls**: Exterior wall covering or wall assembly shall comply with one of the following requirements:
    - Noncombustible material.
    - Ignition-resistant material.
    - Heavy timber assembly.
    - Log wall construction assembly.
    - Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test.

- **Glazing:** Exterior windows, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block, or have a fire-resistance rating of not less than 20 minutes.

- **Ventilation:** All ventilation openings shall be covered with noncombustible corrosion-resistant metal wire mesh, vents designed to resist the intrusion of burning embers and flame, or other approved materials or devices. Ventilation mesh and screening shall be a minimum of 1/16-inch and a maximum of 1/8-inch in any dimension.

- **Gutters and Downspouts:** Where provided, gutters and downspouts shall be constructed of noncombustible materials and be provided with an approved means to prevent accumulation of leaves and debris in the gutter.

- **Eaves, Soffits, and Cornices**: Ventilation openings shall not be installed on the underside of eaves, soffits, or cornices.

The list above is not exhaustive, but covers the major components of home construction that would be affected by the proposed amendments.

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7 https://deschutescounty.municipalcodeonline.com/book?type=ordinances#name=TITLE_15_BUILDINGS_AND_CONSTRUCTION

Major exceptions to the Section R327 standards include the following:

- Nonhabitable detached accessory structures with a floor area of not greater than 400 square feet located not less than 50 feet from all structures on the lot that contain habitable space.

- Structures exempted by ORS 455.315 (i.e. – agriculturally exempt structures).

- Detached accessory membrane-covered frame structures.

Section R327 also previously contained several provisions which were modified by SB 83 in the following ways:

- Repairs or replacements of existing components (i.e. – roofs, siding, etc.) and additions to existing dwellings are not mandatorily subject to R327.

- Removes requirements for local government to identify specific geographic regions for implementing any adopted wildfire mitigation standards. Previously, Section R327 and associated mitigation requirements were required to be implemented through the establishment of a locally adopted "Wildfire Hazard Map." This requirement has been removed, and jurisdictions have been granted broad latitude to determine where to implement any locally adopted standards.

III. PROJECTED COSTS

A repeated question from community members and decision makers regarding Section R327 is what, if any, anticipated cost increases can be expected from applying the standards to new construction. Staff notes the difficulty in providing a succinct answer, as there are significant variables that can dramatically impact final cost outcomes, including:

- The design choices made by the landowner, as these choices may or may not be covered under Section R327
- The proposed size for any particular development
- Homeowner Association (HOA) standards
- Labor costs and contractor familiarity with materials

Despite these variables, staff has attached several items to this memo which attempt to provide broadly applicable estimates for typical residential construction.

Two of these attachments were prepared by the Oregon Building Codes Division (BCD) in 2019 as the state anticipated mandating Section R327 standards statewide. At the time, BCD reported that R327 standards could **add approximately $2,500-$3,000** to the existing costs of a typical 1,200 square foot detached single-family dwelling. This increase includes the costs of labor and materials to comply with the new provisions. However, BCD also references reports from third parties which found that costs could increase by up to 11%,

and in at least one case study from Montana, the implementation of these standards decreased construction costs by 2.4% over traditional methods.

The final attachment was prepared by Headwaters Economics in 2025 and is based on estimated construction costs in southern California. Given the location assumed in the report, these estimates may have limited applicability in Deschutes County, however it has been included to provide at least some objective analysis in estimating costs. The report concludes that incorporating wildfire-resistant building materials can be achieved at a relatively modest increase in cost compared to traditional construction. For a one-story, 1,750-square-foot mid-range home valued at $500,000, total construction costs may **increase by 2-3%** over a traditional home.

Finally, BCD notes that the Oregon Home Builders Association submitted estimates when Section R327 was first adopted in 2019. It estimated that the cost of a high-end home would increase by $12,500, the cost of a production 1,200 square foot home would increase by $7,800, and the cost of a production 2,200 square foot home would increase by $10,800. The home builders estimated that current (2019) increased construction costs would lead to a cost increase on a 1,400 square foot home of $8,200[8]. Staff notes it is unclear what assumptions and methods the Builders Association used to generate these estimates, but they are included here for reference.

Given the wide range of estimates and variables to consider, it is likely impossible to provide a definitive answer to the question of cost effects. Based on the information that is available, at this time staff conservatively estimates that costs **may increase somewhere in the range of 2-11% over the cost of traditional construction**, but also points out the following issues to consider:

- Many of the materials and methods covered under Section R327 are commonly utilized by contractors and developers in the region, particularly for some of the highest value items such as roofing, fiber cement siding, and windows.

- New residential construction is largely developed with 30-year mortgages or similar financing options. This means that any additional costs are likely more accurately considered when amortized over the timespan of any loan in question.

IV. PLANNING COMMISSION REVIEW

The Planning Commission held a public hearing regarding the amendments on December 11, 2025[9]. Two public comments were received during the hearing, both in support of the proposed amendments. The Commission closed the public hearing, deliberated, and voted 5-0 to recommend approval of the proposed amendments. Staff notes that two Commissioners were not present during the hearing and thus did not vote on the proposal.

[8] https://records.sos.state.or.us/ORSOSWebDrawer/Recordhtml/12709721
[9] https://www.deschutes.org/bc-pc/page/planning-commission-73

V. DECISION POINTS

There are two primary areas for the Board to consider when preparing their decision:

1) **Should the Section R327 standards be adopted?**

2) **If yes, where should the Section R327 standards be implemented?**

If the Board ultimately determines that new mitigation standards are warranted, a key decision point will be the geographic scope where standards would apply. While the standards can technically be targeted to specific geographic regions of the County, staff would caution that this approach presents the following challenges:

- Any discrepancy in the applicability of new mitigation standards may create community friction, as previously seen during the State Wildfire Hazard Zone mapping process.

- Local fire protection officials have repeatedly expressed the broadscale community risk from wildfire in Deschutes County, regardless of specific location. Equal application of these standards presents the greatest opportunity to begin mitigating wildfire impacts to residential development.

- Should mitigation standards be targeted to specific geographic areas, then any proposed amendments will need to be evaluated under a land use process, which has distinct procedural requirements that must be addressed. This would require restarting the current review process to apply these new procedures, potentially delaying the project by several additional weeks to months.

VI. AGENCY AND PUBLIC COMMENTS

Two public comments have been received to date from the following parties:

1. The Project Wildfire Neighborhood Coalition
2. Central Oregon LandWatch

Both parties expressed broad support for the proposed amendments as drafted. Additionally, representatives from the Project Wildfire Neighborhood Coalition provided supplemental testimony during the Planning Commission public hearing to reiterate their continued support.

No agency comments have been received to date.

VII. NEXT STEPS

At the conclusion of the public hearing, the Board may:

- Continue the hearing to a date certain;
- Close the hearing and leave the written record open to a date certain;
- Close the hearing and set a date for deliberations; or
- Close the hearing and commence deliberations.

Attachments

A. Ordinance 2026-002: Findings & Amendments
B. 2023 Oregon Residential Specialty Code Amendments (Section R327 Wildfire Mitigation Standards)
C. 2025 Notice of Temporary Rule from the Oregon Building Code Division (BCD)
D. BCD Cost Estimate Fact Sheet for Home Hardening
E. 2025 Headwaters Economics Report - Construction Costs for Wildfire-Resistant Homes

REVIEWED

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LEGAL COUNSEL

For Recording Stamp Only

BEFORE THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON

An Ordinance Amending Deschutes County Code Title 15, Buildings and Construction, to Adopt Discretionary Wildfire Mitigation Residential Building Code Standards Pursuant to Senate Bill 83.	* * * * *	ORDINANCE NO. 2026-002

WHEREAS, the Deschutes County Community Development Department (CDD) initiated amendments (Planning Division File No. 247-25-000703-TA) to the Deschutes County Code ("DCC"), Chapter 15.04 – Building and Construction Codes and Regulations; and

WHEREAS, the Deschutes County Planning Commission reviewed the proposed changes on December 11, 2025 and forwarded to the Deschutes County Board of County Commissioners ("Board") a 5-0 recommendation of approval; and

WHEREAS, the Board considered this matter after a duly noticed public hearing on January 14, 2026 and concluded that the public will benefit from the proposed changes to the Deschutes County Code Title 15; now, therefore,

THE BOARD OF COUNTY COMMISSIONERS OF DESCHUTES COUNTY, OREGON, ORDAINS as follows:

Section 1. AMENDING. Deschutes County Code Chapter 15.04, Building and Construction Codes and Regulations, is amended to read as described in Exhibit "A", attached hereto and by this reference incorporated herein, with new language underlined and language to be deleted in ~~strikethrough~~.

Section 2. FINDINGS. The Board adopts as its findings Exhibit "B", attached and incorporated by reference herein.

Section 3. EMERGENCY. This Ordinance being necessary for the public peace, health, and safety, an emergency is declared to exist, and this Ordinance becomes effective April 1, 2026.

Dated this _____ of _____, 2026

BOARD OF COUNTY COMMISSIONERS
OF DESCHUTES COUNTY, OREGON

_____
PHILIP CHANG, Chair

_____
ANTHONY DEBONE, Vice Chair

ATTEST:

_____ _____
Recording Secretary PATTI ADAIR, Commissioner

Date of 1st Reading: _____ day of _____, 2026.

Date of 2nd Reading: _____day of _____ , 2026.

Record of Adoption Vote:

Commissioner	Yes	No	Abstained	Excused
Philip Chang	___	___	___	___
Anthony DeBone	___	___	___	___
Patti Adair	___	___	___	___

Effective date: _____ day of _____, 2026.

CHAPTER 15.04 BUILDING AND CONSTRUCTION CODES AND REGULATIONS

15.04.010 Specialty Codes And Building Requirements Adopted; Enforcement

In the areas under the jurisdiction of the County, the County shall administer and enforce pursuant to ORS 455.153, the following specialty codes and building requirements as though the specific specialty codes and building requirements were ordinances of the County:

A. The specialty codes under ORS 447 (Plumbing; Access by Disabled Persons), 455 (Building Code) and ORS 479.510 to 479.945 (Electrical Safety Law).

1. Oregon Residential Specialty Code Section R327- Wildfire Hazard Mitigation shall apply to all of unincorporated Deschutes County and in the municipalities where their Councils have adopted Section R327 into their municipal code.

B. Mobile or manufactured dwelling parks requirements adopted under ORS 446.062.

C. Temporary parks requirements adopted under ORS 446.105.

D. Manufactured dwelling installation, support and tiedown requirements adopted under ORS 446.230.

E. Park and camp requirements adopted under ORS 455.680.

HISTORY
Adopted by Ord. 96-055 §2 on 7/10/1996
Amended by Ord. 2011-022 §2 on 7/27/2011

Amended by Ord. 2026-002 §1 on 04/01/2026

FINDINGS
WILDFIRE HAZARD BUILDING CODES - TEXT AMENDMENTS

I. APPLICABLE CRITERIA:

Title 22, Deschutes County Development Procedures Ordinance

II. BACKGROUND:

Pursuant to Senate Bill (SB) 83, Text Amendments to adopt section R327 of the Oregon Residential Specialty Code (ORSC) in unincorporated Deschutes County. Section R327 establishes fire hardening building requirements for new residential construction.

III. BASIC FINDINGS:

On June 26, 2025, the Oregon Legislature adopted SB 83[1]. This Bill repeals the State Wildfire Hazard Map which was previously adopted and administered pursuant to SBs 762[2] and 80[3]. Additionally, SB 83 allows local jurisdictions to adopt fire hardening standards for new residential development as outlined in section R327 of the Oregon Residential Specialty Code (ORSC). The proposed text amendments would establish R327 building code standards for newly constructed dwelling units and their accessory structures, with exceptions and exemptions delineated within the ORSC.

As the proposed amendments are not located within the land use sections of the Deschutes County Code (CDD), notice to the Oregon Department of Land Conservation and Development is not required. As demonstrated in the findings below, the amendments remain consistent with Deschutes County Code and the Deschutes County Comprehensive Plan.

IV. FINDINGS:

CHAPTER 22.12, LEGISLATIVE PROCEDURES

Section 22.12.010.

Hearing Required

[1] https://olis.oregonlegislature.gov/liz/2025R1/Measures/Overview/SB83
[2] https://olis.oregonlegislature.gov/liz/2021R1/Downloads/MeasureDocument/SB762/Enrolled
[3] https://olis.oregonlegislature.gov/liz/2023R1/Downloads/MeasureDocument/SB80/Enrolled

No legislative change shall be adopted without review by the Planning Commission and a public hearing before the Board of County Commissioners. Public hearings before the Planning Commission shall be set at the discretion of the Planning Director, unless otherwise required by state law.

FINDING: This criterion will be met because a public hearing was held before the Deschutes County Planning Commission (Commission) on December 11, 2025 and a public hearing was held before the Board of County Commissioners (Board) on January 14, 2026.

Section 22.12.020, Notice

Notice

A. Published Notice

1. Notice of a legislative change shall be published in a newspaper of general circulation in the county at least 10 days prior to each public hearing.

2. The notice shall state the time and place of the hearing and contain a statement describing the general subject matter of the ordinance under consideration.

FINDING: This criterion is met as notice was published in *The Bulletin* newspaper on December 1, 2025 for the Commission public hearing and December 26, 2025 for the Board public hearing.

B. Posted Notice. Notice shall be posted at the discretion of the Planning Director and where necessary to comply with ORS 203.045.

FINDING: Posted notice was determined by the Planning Director not to be necessary.

C. Individual notice. Individual notice to property owners, as defined in DCC 22.08.010(A), shall be provided at the discretion of the Planning Director, except as required by ORS 215.503.

FINDING: The proposed amendments are legislative and do not apply to any specific property. Therefore, individual notice is not required.

D. Media notice. Copies of the notice of hearing shall be transmitted to other newspapers published in Deschutes County.

FINDING: Notice was provided to the County public information official for wider media distribution. This criterion has been met.

Section 22.12.030 Initiation of Legislative Changes.

A legislative change may be initiated by application of individuals upon payment of required fees as well as by the Board of County Commissioners.

FINDING: The application was initiated by the Deschutes County Planning Division at the direction of the Board and has received a fee waiver. This criterion has been met.

Section 22.12.040. Hearings Body

A. The following shall serve as hearings or review body for legislative changes in this order:

1. The Planning Commission.

2. The Board of County Commissioners.

B. Any legislative change initiated by the Board of County Commissioners shall be reviewed by the Planning Commission prior to action being taken by the Board of Commissioners.

FINDING: This criterion is met as the Commission held a public hearing and reviewed the proposed amendments on December 11, 2025. The Board held a public hearing on January 14, 2026.

Section 22.12.050 Final Decision

All legislative changes shall be adopted by ordinance

FINDING: The proposed legislative changes included in file no. 247-25-000703-TA will be implemented by ordinances upon approval and adoption by the Board.

V. PROPOSED TEXT AMENDMENTS:

The proposed text amendments are detailed in the referenced ordinance with additional text identified by underline and deleted text by ~~strikethrough~~. Below are summary explanations of the proposed changes.

Title 15, Buildings and Construction:

Chapter 15.04. BUILDING AND CONSTRUCTION CODES AND REGULATIONS - *(See Exhibit A)*

Section 15.04.010. Specialty Codes and Building Requirements Adopted; Enforcement

The proposed changes add a new section of the Oregon Residential Specialty Code (ORSC) to implement wildfire mitigation building standards for new residential development.

Upon implementation, newly constructed dwellings and their accessory structures shall be protected against wildfire in accordance with the provisions of section R327 of the ORSC.

Notable exceptions to these standards are as follows:

1. Nonhabitable detached accessory structures with a floor area of not greater than 400 square feet located not less than 50 feet from all structures on the lot that contain habitable space.
2. Structures exempted by ORS 455.315 (Agricultural exempt buildings).
3. Detached accessory membrane-covered frame structures.

VI. CONCLUSION:

Based on the information provided herein, the staff recommends the Board of County Commissioners approve the proposed text amendments and implement the R327 wildfire mitigation building code standards in unincorporated Deschutes County for new residential development.

Effective Aug. 5, 2025
(Ref.: ORS 455.610)

2023 Oregon Residential Specialty Code Amendments

BCD Building Codes Division
Department of Consumer and Business Services

Summary: In accordance with Senate Bill 83 (2025) this amendment makes Section R327, *Wildfire Hazard Mitigation*, available for local adoption and applicable to new construction of new ORSC governed buildings.

This amendment was adopted by temporary rule effective Aug. 5, 2025 through Jan. 2, 2026. The division anticipates adopting these amendments through a permanent rule on Jan. 1, 2026.

The following amendments are adopted as part of the 2023 Oregon Residential Specialty Code (ORSC).

The changes are denoted as follows:

Blue/underline = Added code language
~~Red/strikethrough~~ = Deleted code language

SECTION R302—FIRE-RESISTANT CONSTRUCTION

R302.2.12 Townhouse roof coverings. In addition to the requirements of Chapter 9, structurally independent townhouses shall be provided with a minimum Class C roof covering, and structurally dependent townhouses shall be provided with a minimum Class B roof covering.

Exceptions:

1. Structurally dependent townhouses may use Class C roof coverings where all of the following conditions are met:
   1.1. The townhouses are not more than two stories in height.
   1.2. The townhouses do not have more than 6,000 square feet (557 m^2) of projected roof area.
   1.3. There is not less than 3 feet (914 mm) from the extremity of the roof to the exterior lot line or an assumed lot line on all sides except for street fronts.
2. Where adopted by the local *municipality*, roof coverings for townhouses located in areas determined by the *municipality* to be "Wildfire Hazard Zones" shall be in accordance with Section R327.

SECTION R327—WILDFIRE HAZARD MITIGATION

R327.1 General. Where adopted by the local *municipality*, the provisions of this section shall apply to new *dwellings* and their *accessory structures* required ~~by a local *municipality* via local ordinance~~ to be protected against *wildfire*.

~~Nothing in the code prevents a local *municipality* from modifying the requirements of this section for any lot, property or *dwelling*, or the remodel, replacement or reconstruction of a *dwelling* within the jurisdiction, as provided in Section R104.10.~~

R327.1.1 Local adoption. The provisions of this section may be adopted in whole by a *municipality* ~~via local ordinance~~ without following ORS 455.040 or OAR 918-020-0370. ~~Where a *municipality* chooses to adopt these provisions locally, the following shall be included in the adopting ordinance:~~

~~1. Identification of areas subject to the additional construction standards of Section R327.~~

~~2. A transition plan or other measures to address subdivisions already under development at the time of local adoption.~~

~~3. A local appeal process for customers to follow. Where a *municipality* has previously adopted the provisions of Section R327 locally, the requirements of Section R327.1.1 do not apply and the existing local ordinance may continue without change, to include those based on prior iterations of this section.~~

R327.1.2 Notification. Where a *municipality* adopts Section R327 locally, ~~or where a *municipality* has previously adopted Section R327 locally,~~ the *municipality* shall notify the State of Oregon, Building Codes Division, and ~~provide a copy of the locally adopted map identifying~~ identify areas of the jurisdiction where the additional construction standards of Section R327 are required.

R327.1.3 Application. Where ~~required~~ adopted by a local *municipality* ~~via local ordinance~~, newly constructed *dwellings*~~,~~ and their *accessory structures,* ~~and new *additions* to existing *dwellings* and their *accessory structures*~~ located in areas designated by the *municipality* shall be protected against *wildfire* in accordance with this section. ~~Where existing exterior elements that are within the scope of this section are replaced in their entirety, the replacement shall be made in accordance with the provisions of this section.~~

Exceptions:

1. Nonhabitable detached *accessory structures* with a *floor area* of not greater than 400 square feet (37.2 m^2) located not less than 50 feet (15 240 mm) from all ~~other~~ structures on the *lot* that contain habitable space.
2. ~~Partial *repairs* made in accordance with Section R105.2.2.~~
2. Structures exempted by ORS 455.315.
3. Detached accessory *membrane-covered frame structures*

R327.2 Definitions. The following words and terms shall, for purposes of Section R327, have the meanings shown herein. See Chapter 2 for general definitions.

HEAVY TIMBER. For the use in this section, *heavy timber* shall be sawn lumber or glued-laminated wood with the smallest minimum nominal dimension of 4 inches (102 mm). *Heavy timber* walls or floors shall be sawn or glued-laminated planks splined, tongue-and-groove or set close together and well spiked.

IGNITION-RESISTANT 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. Such materials include any product designed for exterior exposure that, when tested in accordance with ASTM E84 or UL 723 for surface burning characteristics of building materials, extended to a 30-minute duration, exhibits a flame spread index of not more than 25, shows no evidence of significant progressive combustion, and whose flame front does not progress more than $10^1/_2$ feet (3200 mm) beyond the centerline of the burner at any time during the test.

NONCOMBUSTIBLE MATERIAL. Any material that in the form in which it is used and under the conditions anticipated will not ignite, burn, support combustion or release flammable vapors when subjected to fire or heat in accordance with ASTM E136.

WILDFIRE. Any uncontrolled fire spreading through vegetative fuels that threatens to destroy life, property or resources.

WILDFIRE EXPOSURE. One or a combination of circumstances exposing a structure to ignition, including radiant heat, convective heat, direct flame contact and burning embers being projected by a vegetation fire to a structure and its immediate environment.

R327.3 Roofing. Roofing shall be asphalt shingles in accordance with Section R905.2, slate shingles in accordance with Section R905.6, metal roofing in accordance with Section R905.4, tile, clay or concrete shingles in accordance with Section R905.3 or other *approved* roofing that is deemed to be equivalent to a minimum Class B-rated roof assembly. Wood shingle and shake roofs are not permitted on structures ~~in areas designated by the *municipality*~~ that fall within the scope of this section.

Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be fireblocked with *approved* materials, or have one layer of minimum 72-pound (32.6 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.

Where valley flashing is installed, the flashing shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72-pound (32.6 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 not less than 36-inch-wide (914 mm) running the full length of the valley.

R327.3.1 Gutters and downspouts. Where provided, ~~required, roof~~ gutters and downspouts shall be constructed of *noncombustible material*s and be provided with an *approved* means to prevent accumulation of leaves and debris in the gutter.

R327.3.2 Ventilation. Where provided, the minimum net area of ventilation openings for enclosed attics, enclosed soffit spaces, enclosed rafter spaces and underfloor spaces shall be in accordance with Sections R408 and R806.

All ventilation openings shall be covered with noncombustible corrosion-resistant metal wire mesh, vents designed to resist the intrusion of burning embers and flame, or other *approved* materials or devices.

Ventilation mesh and screening shall be a minimum of $^1/_{16}$-inch (1.6 mm) and a maximum of $^1/_8$-inch (3.2 mm) in any dimension.

R327.3.2.1 Eaves, soffits and cornices. Ventilation openings shall not be installed on the underside of eaves, soffits or cornices.

Exceptions:

1. The *building official* may *approve* eave, soffit or cornice vents that are manufactured to resist the intrusion of flame and burning embers.
2. Ventilation openings complying with the requirements of Section R327.3.2 may be installed on the underside of eaves, soffits or cornices where the opening is located 12 feet (3658 mm) or greater above *grade* or the surface below.

R327.3.3 Exterior walls. The *exterior wall covering* or wall assembly shall comply with one of the following requirements:

1. *Noncombustible material*.
2. *Ignition-resistant* material.
3. *Heavy timber* assembly.
4. Log wall construction assembly.
5. Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in ASTM E2707, complying with the conditions of acceptance listed in Section R327.3.3.2.

Exception: Any of the following shall be deemed to meet the assembly performance criteria and intent of this section:

1. One layer of $^{5}/_{8}$-inch (15.9 mm) Type X exterior gypsum sheathing applied behind the *exterior wall covering* or cladding on the exterior side of the framing.
2. The exterior portion of a 1-hour fire-resistance-rated *exterior wall* assembly designed for exterior fire exposure, including assemblies using exterior gypsum panel and sheathing products listed in the Gypsum Association *Fire Resistance and Sound Control Design Manual.*

R327.3.3.1 Extent of exterior wall covering. *Exterior wall covering*s shall extend from the top of the foundation to the roof and terminate at 2-inch (50.8 mm) nominal solid wood blocking between rafters at all roof overhangs, or in the case of enclosed eaves or soffits, shall terminate at the underside of the enclosure.

R327.3.3.2 Conditions of acceptance. ASTM E2707 tests shall be conducted in triplicate and the following conditions of acceptance shall be met. If any one of the three replicates do not meet the conditions of acceptance, three additional tests shall be conducted. All additional tests shall meet the following conditions of acceptance:

1. Absence of flame penetration through the wall assembly at any time during the test.
2. Absence of evidence of glowing combustion on the interior surface of the assembly at the end of the 70-minute test.

R327.3.4 Overhanging projections. All exterior projections (exterior balconies, carports, decks, patio covers, porch ceilings, unenclosed roofs and floors, overhanging buildings and similar architectural appendages and projections) shall be protected as specified in this section.

R327.3.4.1 Enclosed roof eaves, soffits and cornices. The exposed underside of rafter or truss eaves and enclosed soffits, where any portion of the framing is less than 12 feet (3658 mm) above *grade* or similar surface below, shall be protected by one of the following:

1. *Noncombustible material*.
2. *Ignition-resistant* material.
3. One layer of $^{5}/_{8}$-inch (15.9 mm) Type X exterior gypsum sheathing applied behind an exterior covering on the underside of the rafter tails, truss tails or soffit.
4. The exterior portion of a 1-hour fire-resistance-rated *exterior wall* assembly applied to the underside of the rafter tails or soffit, including assemblies using exterior gypsum panel and sheathing products listed in the Gypsum Association *Fire Resistance and Sound Control Design Manual.*
5. Soffit assemblies with an underside surface that meets the performance criteria in Section R327.3.4.5 when tested in accordance ASTM E2957.

Exceptions: The following materials do not require protection required by this section:

1. Eaves and soffits where all portions of the framing members are 12 feet (3658 mm) or greater above *grade*, and 2-inch (610 mm) nominal eave fireblocking is provided between roof framing members from the wall top plate to the underside of the roof sheathing.
2. Gable end overhangs and roof assembly projections beyond an *exterior wall* other than at the lower end of the rafter tails.
3. Fascia and other architectural trim boards.

R327.3.4.2 Exterior patio and porch ceilings. The exposed underside of exterior patio and porch ceilings greater than 200 square feet (18.58 m^2) in area and less than 12 feet (3658 mm) above *grade* shall be protected by one of the following:

1. *Noncombustible material*.
2. *Ignition-resistant* material.
3. One layer of $^{5}/_{8}$-inch (15.9 mm) Type X exterior gypsum sheathing applied behind the exterior covering on the underside of the ceiling.
4. The exterior portion of a 1-hour fire-resistance-rated *exterior wall* assembly applied to the underside of the ceiling assembly, including assemblies using exterior gypsum panel and sheathing products listed in the Gypsum Association *Fire Resistance and Sound Control Design Manual*.
5. Porch ceiling assemblies with a horizontal underside that meet the performance criteria in Section R327.3.4.5 when tested in accordance with the test procedures set forth in ASTM E2957.

Exception: Architectural trim boards.

R327.3.4.3 Floor projections. The exposed underside of cantilevered floor projections less than 12 feet (3658 mm) above *grade* or the surface below shall be protected by one of the following:

1. *Noncombustible material*.
2. *Ignition-resistant* material.
3. One layer of $^{5}/_{8}$-inch (15.9 mm) Type X exterior gypsum sheathing applied behind an exterior covering on the underside of the floor projection.
4. The exterior portion of a 1-hour fire-resistance-rated *exterior wall* assembly applied to the underside of the floor projection, including assemblies using exterior gypsum panel and sheathing products listed in the Gypsum Association *Fire Resistance and Sound Control Design Manual*.
5. An assembly that meets the performance criteria in Section R327.3.4.5 when tested in accordance with ASTM E2957.

Exception: Architectural trim boards.

R327.3.4.4 Underfloor protection. The underfloor area of elevated structures shall be enclosed to *grade* in accordance with the requirements of this section, or the underside of the exposed underfloor shall be protected by one of the following:

1. *Noncombustible material*.
2. *Ignition-resistant* material.
3. One layer of $^{5}/_{8}$-inch (15.9 mm) Type X exterior gypsum sheathing applied behind an exterior covering on the underside of the floor assembly.
4. The exterior portion of a 1-hour fire-resistance-rated *exterior wall* assembly applied to the underside of the floor, including assemblies using exterior gypsum panel and sheathing products listed in the Gypsum Association *Fire Resistance and Sound Control Design Manual*.
5. An assembly that meets the performance criteria in Section R327.3.4.5 when tested in accordance with ASTM E2957.

Exception: *Heavy timber* structural columns and beams do not require protection.

R327.3.4.5 Conditions of acceptance. ASTM E2957 tests shall be conducted in triplicate, and the following conditions of acceptance shall be met. If any one of the three replicates do not meet the conditions of acceptance, three additional tests shall be conducted. All additional tests shall meet the following conditions of acceptance:

1. Absence of flame penetration of the eaves or horizontal projection assembly at any time during the test.
2. Absence of structural failure of the eaves or horizontal projection subassembly at any time during the test.
3. Absence of sustained combustion of any kind at the conclusion of the 40-minute test.

R327.3.5 Walking surfaces. Deck, porch and balcony walking surfaces located greater than 30 inches (762 mm) and less than 12 feet (3658 mm) above *grade* or the surface below shall be constructed with one of the following materials:

1. Materials that comply with the performance requirements of Section R327.3.5.1 when tested in accordance with both ASTM E2632 and ASTM E2726.
2. *Ignition-resistant* materials that comply with the performance requirements of Section R327.2 when tested in accordance with ASTM E84 or UL 723.
3. Exterior fire-retardant-treated wood.
4. *Noncombustible material*.
5. Any material that complies with the performance requirements of Section R327.3.5.2 when tested in accordance with ASTM E2632, where the *exterior wall covering* of the structure is noncombustible or *ignition-resistant* material.
6. Any material that complies with the performance requirements of ASTM E2632, where the *exterior wall covering* of the structure is noncombustible or *ignition-resistant* material.

   Exception: *Wall covering* material may be of any material that otherwise complies with this chapter where the decking surface material complies with the performance requirements ASTM E84 with a Class B flame spread rating.

Exception: Walking surfaces of decks, porches and balconies not greater than 200 square feet (18.58 m^2) in area, where the surface is constructed of nominal 2-inch (51 mm) lumber.

R327.3.5.1 Requirements for Section R327.3.5, Item 1. The material shall be tested in accordance with ASTM E2632 and ASTM E2726, and shall comply with the conditions of acceptance in Sections R327.3.5.1.1 and R327.3.5.1.2. The material shall also comply with the performance requirements of Section R327.2 for ignition-resistant material when tested in accordance with ASTM E84 or UL 723.

R327.3.5.1.1 Conditions of acceptance. ASTM E2632 tests shall be conducted in triplicate and the following conditions of acceptance shall be met. If any one of the three replicates do not meet the conditions of acceptance, three additional tests shall be conducted. All additional tests shall meet the following conditions of acceptance:

1. Peak heat release rate of less than or equal to 25 kW/ft^2 (269 kW/m^2).

2. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-minute observation period.
3. Absence of falling particles that are still burning when reaching the burner or floor.

R327.3.5.1.2 Conditions of acceptance. ASTM E2762 tests shall be conducted in triplicate and the following conditions of acceptance shall be met. If any one of the three replicates do not meet the conditions of acceptance, three additional tests shall be conducted. All of the additional tests shall meet the following conditions of acceptance:

1. Absence of sustained flaming or glowing combustion of any kind at the conclusion of the 40-minute observation period.
2. Absence of falling particles that are still burning when reaching the burner or floor.

R327.3.5.2 Requirements for Section R327.3.5, Item 6. The material shall be tested in accordance with ASTM E2632 and shall comply with the following conditions of acceptance. The test shall be conducted in triplicate and the peak heat release rate shall be less than or equal to 25 kW/ft^2 (269 kW/m^2). If any one of the three replicates do not meet the conditions of acceptance, three additional tests shall be conducted. All of the additional tests shall meet the conditions of acceptance.

R327.3.6 Glazing. Exterior windows, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire-resistance rating of not less than 20 minutes.

For questions about the 2023 ORSC, visit the division website to contact a building code specialist.

Building Codes Division

Department of Consumer and Business Services

Notice of Temporary Rule

August 5, 2025

2023 Oregon Residential Specialty Code amendments Wildfire Hazard Mitigation – Section R327 Available for local adoption

Purpose of the rule:

This rule will make amendments to the 2023 Oregon Residential Specialty Code (ORSC) that will make wildfire hazard mitigation provisions in Section R327 available for local adoption, define the scope of the section as applicable to new construction of new buildings, and require local municipalities that adopt the section locally to notify the division of the adoption and where the provisions apply.

Citation:

Amends: OAR 918-480-0010

This rule is effective Aug. 5, 2025 through Jan. 2, 2026.

Background:

The division first made Section R327 of the ORSC available for local adoption in 2019. At that time, if a municipality decided to adopt the provisions locally it was required to map where the provisions would apply using the mapping criteria that had been developed and adopted by the Oregon Department of Forestry (ODF). In the 2021 legislative session the legislature passed Senate Bill 762 which was an omnibus statewide wildfire bill impacting all aspects of the state's planning, policy, and programs around wildfire. As a part of the work implementing SB 762 ODF withdrew its mapping criteria to give way for the planned statewide wildfire hazard map. This statewide map was also to be the basis for updated wildfire hazard mitigation provisions of the residential code which would apply in high hazard zones. Ultimately, in the 2025 session, the legislature repealed the statewide wildfire hazard map and any regulatory requirements that were to be attached to it. In place of the map, the legislature, in Senate Bill 83, directed the division to make Section R327 available for local adoption and redefined the scope of the section to apply to new construction of new buildings.

Need for temporary filing:

Senate Bill 83 is effective on passage, and the earliest that the division could get new code language approved by the Residential and Manufactured Structures Board and adopted by permanent rule would be Jan. 1, 2026. A temporary rule is justified to affect the will of the legislature more immediately and make the relevant code language available for local adoption earlier.

Summary:

Amends the Oregon Residential Specialty Code making changes to Section R327 to comply with the requirements in Senate Bill 83. Makes the section available for local adoption and applicable to new construction of new ORSC governed buildings. Will require that local municipalities report to the division if they adopt the section locally and where the section will apply.

Contact:

If you have questions or need further information, contact Eric McMullen by email at eric.t.mcmullen@dcbs.oregon.gov or by phone at 503-930-8849.

OFFICE OF THE SECRETARY OF STATE
TOBIAS READ
SECRETARY OF STATE

MICHAEL KAPLAN
DEPUTY SECRETARY OF STATE

ARCHIVES DIVISION
STEPHANIE CLARK
DIRECTOR

800 SUMMER STREET NE
SALEM, OR 97310
503-373-0701

TEMPORARY ADMINISTRATIVE ORDER
INCLUDING STATEMENT OF NEED & JUSTIFICATION

BCD 8-2025
CHAPTER 918
DEPARTMENT OF CONSUMER AND BUSINESS SERVICES
BUILDING CODES DIVISION

FILED
08/05/2025 2:57 PM
ARCHIVES DIVISION
SECRETARY OF STATE
& LEGISLATIVE COUNSEL

FILING CAPTION: Amends the Oregon Residential Specialty Code making wildfire hazard mitigation provisions available for local adoption

EFFECTIVE DATE: 08/05/2025 THROUGH 01/01/2026

AGENCY APPROVED DATE: 08/05/2025

CONTACT: Andy Boulton
971-375-7027
andrew.boulton@dcbs.oregon.gov

1535 Edgewater St NW
Salem,OR 97306

Filed By:
Andrew Boulton
Rules Coordinator

NEED FOR THE RULE(S):

The rule is needed because it was required by Senate Bill 83 which directed the division to make section R327 of the 2023 ORSC available for local adoption by a municipality wanting to make wildfire hazard mitigation provisions required within its jurisdiction.

JUSTIFICATION OF TEMPORARY FILING:

Senate Bill 83 is effective on passage, and the earliest that the division could get new code language approved by the Residential and Manufactured Structures Board and adopted by permanent rule would be January 1, 2026. A temporary rule is justified to affect the will of the legislature more immediately and make the relevant code language available for local adoption earlier.

DOCUMENTS RELIED UPON, AND WHERE THEY ARE AVAILABLE:

Rules are available from the division's rules coordinator located at 1535 Edgewater St. NW, Salem, Oregon, 97304 and are available on the division's web site: https://www.oregon.gov/bcd/laws-rules/Pages/adopted-rules.aspx.

HOUSING IMPACT STATEMENT:

Description of proposed change: (Please attach any draft or permanent rule or ordinance)
This proposed rule updates the provisions for wildfire hazard mitigation to the 2023 Oregon Residential Specialty Code (ORSC) in Section R327 that will be available for local adoption.

Description of the need for, and objectives of the rule:
Senate Bill 762 passed the Oregon Legislature during the 2021 legislative session and was signed into law by the Governor. SB 762 was an omnibus bill relating to many different aspects of wildfire preparation, prevention, and mitigation and it included directives for several Oregon agencies. The Sections of the bill that addressed fire hardening requirements and that necessitated this rulemaking were Sections 12, 12a, and 12b and they were added to the Oregon

Revised Statutes at 455.612.

During the 2025 legislative session, Senate Bill 83 repealed the mapping requirement in SB 762 and the associated regulatory directives around wildfire hazard mitigation building code provisions. In their place the bill directed the division to make Section R327 of the 2023 ORSC available for local adoption. This rule amends Section R327 to limit the scope to new construction of new buildings as required by the bill and outlines the process necessary for local adoption.

List of rules adopted or amended:
Amend 918-480-0010.

Materials and labor costs increase or savings:
This rulemaking does not create any new mandatory provisions of the code. There may be a cost increase in areas where local municipalities have adopted Section R327 and decided that the provisions should be required.

A 1,200 sq. ft. detached single family dwelling is not a common size of house built in the areas that are impacted by the implementation of SB 762. Accordingly, exact cost estimates are not commonly available for that construction type. While it isn't possible to determine the exact cost impact of these changes, several estimates were consulted during the rulemaking process which may be applicable:

- When the division first adopted Section R327 in 2019 it prepared a statement of fiscal and economic impact on that proposed rulemaking. The division estimated at the time that in jurisdictions where R327 was adopted as mandatory the cost of a typical 1,200 square foot detached single family dwelling would increase by approximately $2,500-$3,000.
- The Oregon Home Builders Association submitted estimates also originally generated when R327 was first adopted. It estimated in 2019 that the cost of a high-end home would increase by $12,500, that the cost of a production 1,200 square foot home would increase by $7,800, and that the cost of a production 2,200 square foot home would increase by $10,800. The home builders estimated that current increased construction costs would lead to a cost increase on a 1,400 square foot home of $8,200.
- The Oregon Fire Marshals Association provided documentation of a study done by the National Institute of Building Sciences that found that every dollar spent on wildfire mitigation to dwellings provided between two and four dollars of benefit.
- Headwaters economics has produced a study comparing the construction cost of a typical home to a wildfire-resistant home. The Montana study found that total construction costs for a wildfire-resistant home was 2.4% less than the construction cost of a typical home. The reduction in cost between the two homes is due to the choice of siding used by the study on a typical home. The study applied wood siding to the typical home which is significantly more expensive than the fiber cement siding on the wildfire resistant home. If the typical home instead had used fiber cement siding, the wildfire-resistant home would have had a cost increase versus the comparator home using base code materials.

Based on this information the division anticipates a possible cost increase for a 1,200 sq. ft. detached single family dwelling that has to comply with the increased construction standards of R327 over the baseline Oregon code of $2,500. However site specific factors, changes in material cost and other potential local requirements may change the exact impact on any particular construction project and lead to higher or lower cost impacts.

Estimated administrative construction or other costs increase or savings:
The proposed rules do not impose any additional administrative requirements.

Land costs increase or savings: N/A

Other costs increase or savings: None.

*Typical-Single story 3 bedrooms, 1 ½ bathrooms, attached garage (calculated separately) on land with good soil conditions with no unusual geological hazards.

AMEND: 918-480-0010

RULE SUMMARY: Amends the Oregon Residential Specialty Code making changes to Section R327 to comply with the requirements in Senate Bill 83. Makes the section available for local adoption and applicable to new construction of new ORSC governed buildings. Will require that local municipalities report to the division if they adopt the section locally and where the section will apply.

CHANGES TO RULE:

918-480-0010
Amendments to the Oregon Residential Specialty Code ¶

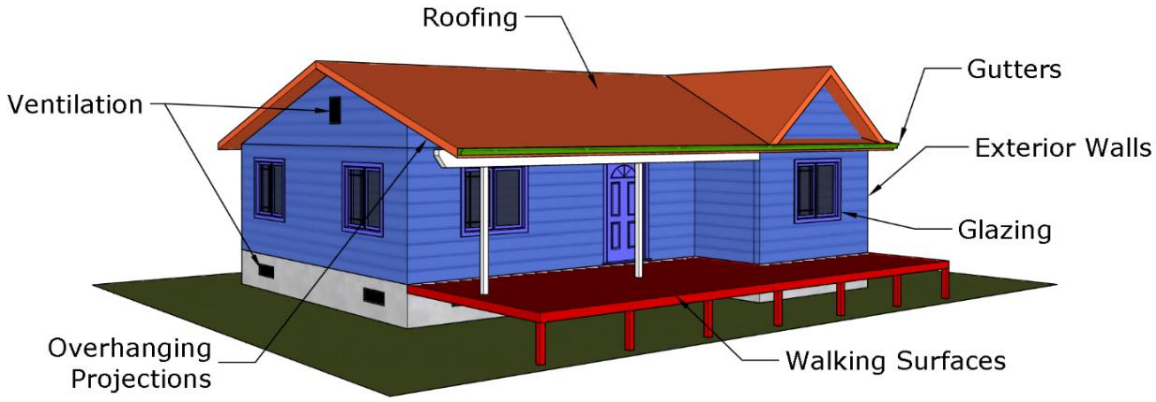
(1) The Oregon Residential Specialty Code is amended pursuant to OAR chapter 918, division 8. Amendments adopted during the code-cycle for inclusion into the Oregon Residential Specialty Code are placed in this rule, showing the section reference and a descriptive caption.¶
(2) Effective October 1, 2024, the 2023 Oregon Residential Specialty Code Section R310.1 is amended for emergency escape and rescue openings that do not open to a public way.¶
(3) Effective April 1, 2025, the 2023 Oregon Residential Specialty Code Section R302.3 is amended to include attached stacked two-family dwellings with increased fire separation at the vertical demising walls between each stacked two-family dwelling.¶
(4) Effective August 5, 2025, the Oregon Residential Specialty Code Section R327 is amended for additional wildfire hazard mitigation provisions that are available for local adoption. ¶
[Publications: Publications referenced are available for review at the division. See division website for information on where to purchase publications.]
Statutory/Other Authority: ORS 455.020, ORS 455.110, ORS 455.610
Statutes/Other Implemented: ORS 455.610

Estimated cost of hardening your home

Building Codes Division
Department of Consumer and Business Services

The estimated cost increase above standard prescriptive construction is approximately [+2% to +11%] - including labor and materials[1,2].

A wide array of variables impact this estimated baseline increase, including but not limited to; initial materials selected, size and shape of dwelling, size and number of projections and decks, eave heights, number and type of vents, number and type of windows, and similar customer design considerations. Various exterior elements commonly included in popular base home designs throughout the northwest already meet the requirements of Section R327 of the Oregon Residential Specialty Code such as architectural asphalt shingles for roofing, fiber-cement siding products, and code-compliant glazing and fenestration.



Ventilation

Vent openings covered with fine mesh, or designed to resist flame and embers

$^{1}/_{16}$" mesh screen = $2.82 per sq. ft.
Fire-rated vents = $100 - $200 per vent

Roofing

Metal panels, standing seam, or even architectural asphalt composite shingles

Arch. asphalt shingles = $4 per sq. ft.
Metal roof panels = $14.85 per sq. ft. <> Slate roofing = $17.23 per sq. ft.

Note: 80% of homes in the Northwest use compliant asphalt shingles as a base design choice

Gutters

Noncombustible materials such as aluminum, capped to prevent debris accumulation

Aluminum gutters - $9.55 PLF
Caps/covers = $7.66 PLF

Overhanging projections

Projections enclosed on the underside by materials consistent with wall covering options

Fiber-cement soffit = $3.76 per sq. ft.
Exterior gypsum sheathing = $3 per sq. ft.

Exterior walls

Exterior covering such as fiber-cement or aluminum. Exterior gypsum sheathing options

Fiber-cement lap siding = $11.39 per sq. ft.
Note: Approx. 34% of homes in the Northwest use fiber-cement siding as a base material choice

Decks & walking surfaces

Noncombustible or ignition-resistant materials. 2-inch nominal lumber allowed for small decks

Concrete platform or slab = $11 per sq. ft.
Proprietary decking products = varied, up to $12 PLF

Glazing

Multi-paned windows, glass block, fire rated, or tempered/laminated windows and skylights

Minimum code compliant glazing and fenestration meets hardening criteria – no cost increase

[1] https://headwaterseconomics.org/wp-content/uploads/2022_HE_IBHS_WildfireConstruction.pdf
[2] https://www.Homewyse.com

Construction Costs for Wildfire-Resistant Homes

A comparison between California Wildland-Urban Interface Code (CWUIC) Part 7, IBHS Wildfire Prepared Home Base, and IBHS Wildfire Prepared Home Plus

Fall 2025

Insurance Institute for Business & Home Safety®

HEADWATERS ECONOMICS

Construction Costs for Wildfire-Resistant Homes

A comparison between California Wildland-Urban Interface Code (CWUIC) Part 7, IBHS Wildfire Prepared Home Base, and IBHS Wildfire Prepared Home Plus

Authors

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This report was produced by Headwaters Economics with generous support from the USDA Forest Service and private foundations. This organization is an equal opportunity provider. The recommendations in this document are general suggestions aimed at reducing the risk of wildfire damage to a single-family home. Implementing these suggestions does not guarantee the prevention of damage. Every property and situation is unique, and we recommend consulting with local fire authorities or professionals for advice tailored to specific conditions. The organizations that produced this report are not liable for any damages or losses that may occur by following these recommendations.

HEADWATERS ECONOMICS

P.O. Box 7059 | Bozeman, MT 59771

https://headwaterseconomics.org

Table of Contents

Executive Summary

In January 2025 the County and City of Los Angeles was devastated by catastrophic wildfires that destroyed more than 16,000 structures. As rebuilding efforts begin, constructing homes to wildfire-resistant standards is essential to strengthening long-term community resilience and reducing future wildfire losses.

California, a leader in wildfire mitigation, enforces some of the nation's most comprehensive building regulations through its Building Code Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure), which outlines materials and construction methods for exterior wildfire exposure in the higher wildfire hazard areas of the state. Homeowners and builders can comply through prescriptive or performance-based approaches, offering flexibility in achieving wildfire resistance. On January 1, 2026, Chapter 7A will become Part 7 (Title 24) of the California Wildland-Urban Interface Code (CWUIC).

Complementing state efforts, the Insurance Institute for Business & Home Safety (IBHS) has developed the Wildfire Prepared Home (WFPH) program—along with its enhanced Wildfire Prepared Home Plus (WFPH Plus) designation—to standardize mitigation practices nationwide. The IBHS Wildfire Prepared program provides a systems-based approach to wildfire risk reduction through mitigations to the structure and defensible space that reduces the risk of home ignition from embers (WFPH Base) and flames/radiant heat (WFPH Plus). This study provides detailed wildfire-resistant building material cost estimates for constructing homes that meet these standards, with specific pricing for key components such as roofing, eaves, siding, windows/doors, decks, and landscaping within the critical 0-5 foot noncombustible zone. The three different wildfire-resistant scenarios are compared to building material costs for a home constructed with "traditional" non-wildfire resistant building materials.

Analyzing the costs for wildfire-resistant measures beyond five feet from the home, such as the surrounding defensible space, and the space between homes was beyond the scope of this project. However, these areas also require attention. Reducing fuels between homes, including vegetation, outlying buildings, and fencing, disrupts pathways for fire and embers to spread between neighbors. Ultimately, home and property wildfire mitigation strategies are most effective when every home in the neighborhood participates.

Outcomes from this analysis suggest that wildfire-resistant building material costs for a one-story, 1,750-square-foot, single-family home (with an estimated total construction cost value of $500,000) do not significantly increase the costs relative to traditional non-wildfire-resistant home construction (i.e., homes not subject to CWUIC Part 7). Key findings from this analysis include:

- **Building to IBHS WFPH Base standards yields a potential savings of more than $4,000** compared to CWUIC Part 7 due to no gutter guard requirement, open eave building material considerations, and non-tempered windows.
- **Building to WFPH Plus adds approximately $2,000** in wildfire-resistant materials over CWUIC Part 7. For a 1,750 SF single-level home, added features include enclosed eaves, noncombustible soffits, and double-tempered windows.
- **Building to CWUIC Part 7 adds about $13,000 over traditional construction costs** due to features like flame- and ember-resistant vents, open eave building material considerations, metal gutter systems, fire-rated wallboard for exterior walls, dual-paned single tempered windows, and a 0-5 foot noncombustible zone (rock mulch and metal fence).

When constructing a new home, many wildfire-resistant building material costs are comparable to non-wildfire resistant material costs. As indicated with previous studies, some of the most effective strategies to

reduce structure vulnerability to wildfire are relatively affordable. Risk-reduction strategies such as removing flammable materials from on top of and under the deck, clearing gutter systems, removing vegetation and debris from the roof, ensuring a 0-5 foot noncombustible zone, and relocating flammable materials from underneath the home are critical maintenance tasks with little to no cost to the homeowner.

Analysis from this study is explicit to wildfire-resistant building materials and did not capture the full building material costs for constructing an entire home. Values are based on a representative home in Altadena, California with a total estimated construction cost of around $500,000. In other words, there are many other additional components and assemblies within a home that are not required for wildfire-resistant construction and are therefore not included in this analysis.

Similarly, there are building materials indicative of home construction preferences in Altadena, California that were assumed in this analysis. For example, common building material assemblies and design practices for this area in southern California include a tiled roof covering, fiber-cement siding, and concrete pour-on-grade patio. Additionally, since the model home was a pour-on-grade foundation, no foundation vents are included in the analysis.

The estimated costs for constructing a wildfire-resistant home are derived from a detailed analysis of a specific model home (see Methods& Assumptions section), which provides a clear, standardized baseline for evaluating material and design upgrades. While these figures are highly tailored to the size, layout, and features of that model home, findings from this research offer valuable insights into the broader cost implications of adopting wildfire-resistant practices for a variety of structure types. Differences in individual home components – for example, open eave construction versus enclosed eave construction – will influence associated cost considerations. Many of the expenses for improved wildfire resistant construction, such as wildfire resistant roofs, gutter systems, siding, venting, and a noncombustible zone—can be reasonably extrapolated to larger or more complex homes, though actual costs will vary depending on scale, architectural complexity, site-specific conditions, and materials selected.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Roof	**Subtotal:**	**$25,321**	**$26,311**	**$26,311**	**$26,311**
Eaves	**Subtotal:**	**$1,900**	**$4,284**	**$3,681**	**$5,253**
Exterior Walls	**Subtotal:**	**$11,461**	**$13,569**	**$13,578**	**$13,591**
Windows/ Doors	**Subtotal:**	**$8,431**	**$11,391**	**$8,431**	**$12,241**
Deck	**Subtotal:**	**$1,968**	**$1,968**	**$1,968**	**$1,968**
Zone 0	**Subtotal:**	**$1,106**	**$3,742**	**$3,742**	**$3,742**
	TOTAL (+18% inflation):	**$59,223**	**$72,293**	**$68,099**	**$74,465**
	Comparison to Traditional	$-	$13,070	$8,876	$15,242
	Comparison to CWUIC Part 7	$-	$-	$(4,194)	$2,172

Methods & Assumptions

Reducing home ignitions from wildfire requires understanding the different types of fire exposures a home might face. Homes burn down in three ways:

- Wind-blown embers traveling ahead of a wildfire can land on combustible material and ignite spot fires. Direct and indirect ember ignition scenarios are the most common cause of ignitions.
- Radiant heat from a nearby fire can ignite combustible materials. The effect of radiant heat depends upon the duration of the exposure, distance, and the intensity of the heat.
- Direct flame contact occurs when flames spread to touch a building or combustible material.

The three standards used in this analysis address one or more of the three types of fire exposure. While IBHS WFPH Base primarily addresses ember exposure, CWUIC Part 7 and IBHS WFPH Plus are intended to reduce vulnerability from all three types of ignition exposure.

The cost analysis for this study was based on a representative typical one-story, 1,750-square-foot, single-family home (footprint specifications measuring approximately 35 feet by 50 feet) in Altadena, California. Estimated costs are provided for constructing the home's roof, under-eave area, exterior walls, windows and doors, deck, and near-home landscaping (also known as Zone 0 or the 0-5 foot noncombustible zone) to wildfire-resistant standards. Suggested building materials considered southern California-specific housing trends, general homeowner material and design preferences, and structure and property characteristics. Mitigation measures for broader property management at the parcel level and minimizing fuels between homes, while critical in reducing wildfire risk to the primary structure, were beyond the scope of this project. These measures include maintaining defensible space and modifying sheds, outlying buildings, and other potential vulnerabilities.[1]

Findings are adapted from results originally published in Headwaters Economics' report, *Construction Costs for a Wildfire-Resistant Home: California Edition* (2022) and *Building to Wildfire-Retrofitting a Home for Wildfire Resistance: Costs and Considerations* (2024).[2]

Building materials were selected based on their local availability and when possible, costs were verified with a national database (RS Means, 2023) for standard construction costs. Construction costs for building materials were calculated as a per-unit value. For instance, costs to replace individual windows, including glass and frame, were calculated and reported separately from the cost of an exterior wall. An inflation adjustment of 18% was added to total costs for each scenario to account for building material cost data collected in 2023.

Because of extensive variability in site conditions, composition, design, and building materials of home construction, it is difficult to assign an explicit cost for a single structure or group of structures. This research is therefore intended to provide an estimate of building materials for improved wildfire resistance.

The subsequent sections of this report provide an overview of the primary exterior home components most vulnerable to fire exposure and estimated costs for related wildfire-resistant building materials. It is important to note the estimates do not include contractor markup costs such as labor, overhead, and profit, which can significantly increase baseline building material costs. Residents and homeowners should consult local contractors for accurate, place-based construction costs.

1 Insurance Institute for Business & Home Safety. (2023). IBHS Early Insights: Lahaina Fire – 2023. Retrieved from https://ibhs.org/wp-content/uploads/IBHSEarlyInsights-LahainaFire.pdf

2 Barrett K and Quarles SL. (2024). Retrofitting a Home for Wildfire Resistance: Costs and Considerations. Headwaters Economics. Retrieved from https://headwaterseconomics.org/natural-hazards/retrofitting-home-wildfire-resistance/

Building Material Costs

Roof

Roofs are highly vulnerable to ignition due to their relatively large horizontal surface area. Many Class A fire-rated roof covering options are available with the most common being asphalt fiberglass composition shingled roof. Two vulnerable features of the roof edge can affect the vulnerability of the roof to ignition. These include roof covering profiles where a gap exists between the roof covering and roof sheathing (i.e., the roof deck) and gutters at the roof edge where vegetative debris can accumulate.

For this analysis, a tiled roof was assumed for all four scenarios and is the preferred roof covering for Altadena, CA. For the wildfire-resistant homes (CWUIC, WFPH Base, WFPH Plus), flame- and ember-resistant vents, metal flashing for roof valleys, and a fire-resistant underlayment were included in the cost analysis.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Roof	Roof covering	Tile	Tile	Tile	Tile
	Flashing	None	Metal	Metal	Metal
	Underlayment	Felt	Synthetic/Fire-resistant	Synthetic/Fire-resistant	Synthetic/Fire-resistant
	Roof gaps/openings	Bird stopping	Bird stopping	Bird stopping	Bird stopping
	Roof vents (ridge)	Plastic	Flame/ember-resistant vents	Flame/ember-resistant vents	Flame/ember-resistant vents
	Subtotal:	**$25,321**	**$26,311**	**$26,311**	**$26,311**

Under-Eave Area

Eaves play an important role for building design but they also create vulnerabilities and pathways for the building to ignite. Embers can travel through vents in the eave into the attic or accumulate in gaps between blocking and rafters in open-eave construction. Should flames reach the under-eave area, open eaves can also trap heat. Once there is an ignition in the under-eave area, fire will spread laterally more quickly.

Vents in the under-eave area allow air to enter the attic space. During a wildfire, vent openings can allow the entry of wind-blown embers into the interior attic space. If combustible materials in the attic ignite, the house can burn from the inside out. Newer vents have been designed to resist the intrusion of flames and embers.

Best practices for ignition resistance of an under-eave area are to enclose the eave with noncombustible soffit material and install flame- and ember-resistant vents ("WUI" vents). For this analysis, an enclosed eave was assumed for WFPH Plus construction, including a continuous linear flame- and ember-resistant vent. For the other home scenarios, an open eave design was assumed with applicable building materials considerations for vents and soffit.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Eaves	Design	Open	Open	Open	Enclosed
	Exposed roof deck	Wood	Noncombustible - fiber cement	Wood	N/A
	Soffit	None	None	None	Noncombustible - fiber cement
	Soffit vents	Circular - resin	Circular flame/ember-resistant	Circular flame/ember-resistant	Linear flame/ember-resistant
	Gaps/openings (vents)	None	Fire-rated caulk	Fire-rated caulk	Fire-rated caulk
	Gutters	Vinyl	Metal	Metal	Metal
	Gutter guard	None	Metal	None	Metal
	Drip edge	None	Metal	Metal	Metal
	Subtotal:	**$1,900**	**$4,284**	**$3,681**	**$5,253**

Exterior Walls

Exterior walls and components in the wall assembly can be vulnerable if exposed to embers, flames, or prolonged radiant heat from burning items located close to the home. These exposures can ignite combustible siding and the resulting flames can spread vertically and laterally to other wall components such as windows and the under-eave area. Additional considerations for the exterior wall include exterior wall vents such as gable, forced air, and foundation vents.

For this analysis, fiber-cement siding and trim were assumed for all four home scenarios and based on common building material preferences for Altadena, CA. Since the model home is a pour-on-grade foundation, no foundation vents were included in this analysis.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Ext Walls	Siding	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement
	Trim	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement
	Wallboard	None	Gypsum	Gypsum	Gypsum
	Forced Air vents	Vinyl	Vinyl	Vinyl w/ louver	Metal w/ louver
	Subtotal:	**$11,461**	**$13,569**	**$13,578**	**$13,591**

Windows and Doors

The glass of the window is vulnerable to breaking from exposure to radiant heat or direct flame contact. When glass in a window breaks, the combustible materials inside the home can be more easily ignited from the flames and/or embers that enter into the home. Wood- and vinyl-framed windows can burn or melt when exposed to radiant heat or flames, allowing the glass to fall out of the frame and flames and/or embers into the home.

Doors, including window glass set in doors, and door frames can fail for the same reasons as windows. Embers can accumulate in the small gaps between the door and frame, resulting in ignition of the door-framing and weather-sealing material including garage, pedestrian, and front doors.

A variety of different windows were assumed for this analysis and based on assumptions of traditional home construction compared to wildfire-resistant (and energy efficiency) requirements. For both the traditional home and WFPH Base, a vinyl-framed, single hung, dual-paned window with non-tempered (annealed) glass was assumed. For compliance with CWUIC Part 7 and energy efficiency standards, a dual-paned, single-tempered casement vinyl-framed window was analyzed. For the highest wildfire-resistance to prolonged radiant heat (WFPH Plus), a dual-paned, double-tempered metal-clad casement window was priced out.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Windows	Sliding glass window (48" x 36")	Vinyl framed; dual-paned, non-tempered annealed glass (single hung)	Vinyl framed; dual-paned, single tempered (casement)	Vinyl framed; dual-paned, non-tempered annealed glass (single hung)	Dual paned double tempered metal-clad glass window (casement)
Doors	Pedestrian	Wood	Wood - solid core	Wood - solid core	Wood - solid core
	Side door	Wood	Wood - solid core	Wood - solid core	Wood - solid core
	Sliding glass patio	Vinyl	Vinyl	Vinyl	Vinyl
	Garage	Aluminium	Aluminium	Aluminium	Aluminium
	Subtotal:	**$8,431**	**$11,391**	**$8,431**	**$12,241**

Attached Deck

Similar to a roof, a deck has a large horizontal surface area and can be vulnerable to embers and under-deck flames. A burning deck can expose the side of the house to extended radiant heat and/or direct flame contact. The deck walking surface and structural support members, as well as what is stored on or below the deck, are therefore important considerations. Enclosing the under-deck area with metal mesh screening can minimize the accumulation of vegetative debris, vegetation, and other combustible materials.

Most commonly used deck board products (including wood and plastic composite boards) are combustible. Decks with noncombustible walking surfaces include lightweight concrete or a flagstone product. Regardless of the walking surface, decks are typically supported by solid wood joists, beams, and columns that will be vulnerable to ignition if nearby combustible materials ignite.

For purposes of this study and based on homeowner preferences for the Altadena area in southern California, a concrete pour-on-grade patio was assumed for all four home scenarios. A pour-on-grade patio eliminates consideration of a structural support system including joists, beams, and columns that are required for an elevated decking assembly and are not included in this analysis.

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Deck	Decking surface	Concrete pour-on-slab patio	Concrete pour-on-slab patio	Concrete pour-on-slab patio	Concrete pour-on-slab patio
	Subtotal:	**$1,968**	**$1,968**	**$1,968**	**$1,968**

Zone 0 (0-5 foot noncombustible zone)

Landscaping makes the home vulnerable when it ignites and allows fire to burn directly to the home. Ignition of near-home combustible materials (e.g., mulch, plants, fencing, vegetative debris and other combustible materials) from embers allows flames to touch the home regardless of how well broader vegetation management (defensible space) has been implemented and maintained.

Eliminating fuels within five feet of the home is an important mitigation strategy. The type of vegetation, mulch, and other near-home landscaping features and combustible materials in this zone including fencing, will affect the home's vulnerability to ember ignitions and the potential for radiant heat and direct flame contact.

This analysis considers mulch and fencing in the material selection within the 0-5 foot noncombustible zone. For the traditional home, bark mulch and a wood fence (including posts) were evaluated. For the three wildfire-resistant home scenarios, rock (pea gravel) mulch and a metal fence were analyzed. While there are many types of fencing, materials included in this study were for privacy fencing (versus a boundary fence such as wrought iron).

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Zone 0	Mulch	Cedar bark	Gravel	Gravel	Gravel
	Fencing	Wood	Metal	Metal	Metal
	Subtotal:	**$1,106**	**$3,742**	**$3,742**	**$3,742**

Conclusion

In conclusion, this analysis reinforces that incorporating wildfire-resistant building materials—whether through California Wildland-Urban Interface Code (CWUIC) or the IBHS Wildfire Prepared Home (WFPH) standards—can be achieved at a relatively modest increase in cost compared to traditional construction. For a one-story, 1,750-square-foot mid-range home valued at $500,000, building to WFPH Base increases total construction costs by 2% over a traditional home (and by 3% for WFPH Plus).

The estimated costs for building a wildfire-resistant home are based on a detailed assessment of a specific model home, providing a standardized baseline for evaluating material and design upgrades. Although tailored to that home's unique size and features, the findings offer broader insight into the potential costs of adopting wildfire-resistant construction across different types of homes. Variations in design elements—such as open versus enclosed eaves—affect overall expenses. Many fire-resistant upgrades, including roofing, siding, vents, gutters, and a 0-5 foot noncombustible zone, can be extrapolated to larger or more complex homes, though actual costs will vary with scale, design complexity, site-specific conditions, and building materials.

These investments provide meaningful protection against wildfire risks, especially when paired with simple, low-cost maintenance actions like clearing debris and maintaining a noncombustible zone. While this study focused on building materials, it also highlights the broader importance of community-wide mitigation, including managing defensible space and reducing fuel continuity between neighboring properties. As wildfire threats intensify across the West, the findings here suggest that building wildfire-resistant homes is both feasible and financially practical—an essential step toward safeguarding communities in high-risk areas.

Appendix: Cost and Materials Tables

Wildfire-Resistant Construction & Costs (2025)
Data Tables
Cost Estimates 2023-2024

ABOUT THE DATA

Pricing is from local suppliers and RSMeans,a national database of construction materials, labor, and contractor O&P costs. Findings are adapted from results originally published in Headwaters Economics' report, Construction Costs for a Wildfire-Resistant Home: California Edition (2022) and Building to Wildfire-Retrofitting a Home for Wildfire Resistance: Costs and Considerations (2024).

RSMeans is updated quarterly, includes average construction cost indices from more than 970 cities, and uses the latest negotiated labor costs for average wages in 30 major cities. Prices include the cost of material as installed (i.e., material plus estimated labor and contractor overhead and profit costs). In some cases, pricing was not available through *RSMeans* and costs were derived from building subject matter expert, supplier, or local distributors.

Pricing includes analyzed building material costs available locally (e.g., at Home Depot and Lowes) and when possible, verified costs with a national database for standard construction costs. In most cases, demolition, labor, and contractor overhead are not included in building material costs.

COLUMN DEFINITIONS

Assembly: major groupings, or systems, of features such as roof, eaves, exterior walls, windows/doors, and deck.

Component: describes the part of the assembly that was priced.

Traditional: building materials conventionally used in a non-wildfire-resistant home

CWUIC Part 7: California Wildland-Urban Interface Code (CWUIC), Title 24 Part 7 for wildfire-resistant home construction

IBHS WFPH Base: Minimum criteria to meet IBHS Wildfire Prepared Home designation, such as creating the 0–5 Foot Noncombustible Zone, upgrading building features, and maintaining the defensible space surrounding the parcel to 30 feet.

IBHS WFPH Plus: Additional protective measures beyond the WFPH Base for key building features of the home, and to achieve enhanced wildfire-resistance to flame and radiant heat.

ABOUT HEADWATERS ECONOMICS

Headwaters Economics is an independent, nonprofit research group. Our mission is to improve community development and land management decisions.

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Table 1: Building materials costs for wildfire-resistant standards

Assembly	Component	Traditional	CWUIC Part 7	IBHS WFPH Base	IBHS WFPH Plus
Roof	Roof covering	Tile	Tile	Tile	Tile
	Flashing	None	Metal	Metal	Metal
	Underlayment	Felt	Synthetic/Fire-resistant	Synthetic/Fire-resistant	Synthetic/Fire-resistant
	Roof gaps/openings	Bird stopping	Bird stopping	Bird stopping	Bird stopping
	Roof vents (ridge)	Plastic	Flame/ember-resistant vents	Flame/ember-resistant vents	Flame/ember-resistant vents
	Subtotal:	**$25,321**	**$26,311**	**$26,311**	**$26,311**
Eaves	Design	Open	Open	Open	Enclosed
	Exposed roof deck	Wood	Noncombustible - fiber cement	Wood	N/A
	Soffit	None	None	None	Noncombustible - fiber cement
	Soffit vents	Circular - resin	Circular flame/ember-resistant	Circular flame/ember-resistant	Linear flame/ember-resistant
	Gaps/openings (vents)	None	Fire-rated caulk	Fire-rated caulk	Fire-rated caulk
	Gutters	Vinyl	Metal	Metal	Metal
	Gutter guard	None	Metal	None	Metal
	Drip edge	None	Metal	Metal	Metal
	Subtotal:	**$1,900**	**$4,284**	**$3,681**	**$5,253**
Exterior Walls	Siding	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement
	Trim	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement	Noncombustible - fiber cement
	Wallboard	None	Gypsum	Gypsum	Gypsum
	Forced Air vents	Plastic	Plastic	Vinyl w/ louver	Metal w/ louver
	Subtotal:	**$11,431**	**$13,569**	**$13,578**	**$13,591**
Windows	Sliding glass window (48" x 36")	Vinyl framed; single-paned, non-tempered annealed glass (single hung)	Vinyl framed; dual-paned, single tempered (casement)	Vinyl framed; single-paned, non-tempered annealed glass (single hung)	Dual paned double tempered metal-clad glass window (casement)
Doors	Pedestrian	Wood	Wood - solid core	Wood - solid core	Wood - solid core
	Side door	Wood	Wood - solid core	Wood - solid core	Wood - solid core
	Sliding glass patio	Vinyl	Vinyl	Vinyl	Vinyl
	Garage	Aluminium	Aluminium	Aluminium	Aluminium
	Subtotal:	**$8,431**	**$11,391**	**$8,431**	**$12,241**
Deck	Decking surface	Concrete pour-on-slab patio	Concrete pour-on-slab patio	Concrete pour-on-slab patio	Concrete pour-on-slab patio
	Subtotal:	**$1,968**	**$1,968**	**$1,968**	**$1,968**
Zone 0	Mulch	Cedar bark	Gravel	Gravel	Gravel
	Fencing	Wood	Metal	Metal	Metal
	Subtotal:	**$1,106**	**$3,742**	**$3,742**	**$3,742**
	TOTAL (+18% inflation):	**$59,223**	**$72,293**	**$68,099**	**$74,465**
	Comparison to Traditional	$-	$13,070	$8,876	$15,242
	Comparison to CWUIC Part 7	$-	$-	$(4,194)	$2,172

Table 2: Minimum criteria to meet wildfire-resistant standards

Component	CWUIC Part 7	IBHS WFPH	IBHS WFPH+
Roof covering and underlayment	Requires a Class A fire-rated roof covering. Plug gaps at ends (i.e., bird-stopped, fire-stopped). A minimum 36-inch-wide mineral-surfaced asphalt fiberglass composition cap sheet must be installed under metal valley flashing. Where the roof profile results in a gap between the covering and the roof deck, a mineral-surfaced asphalt fiberglass composition cap sheet must be installed over the roof surface.	Class A (cover or assembly)	Class A (cover or assembly)
Roof vents	WUI vents on horizontal/ vertical planes or non-corrosive 1/16" to 1/8" screen on a sloped roof.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen on a sloped roof.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen on a sloped roof.
Skylights (not included in analysis)	Glass unit must be dual-paned, single tempered and protected with noncombustible, non-corrosive 1/16" to 1/8" screen.	N/A	Glass unit must be dual-paned, single tempered and protected with noncombustible, non-corrosive 1/16" to 1/8" screen.
Eaves	Soffited or open-eave allowed. If open-eave, nominal 2x material (or greater) is required as blocking and rafters. Exposed roof deck shall be constructed of a material that is noncombustible, or ignition-resistant, or tested for 10-minute direct flame contact, or have a one-hour fire rating on the exterior side of the framing.	N/A	Noncombustible soffit for enclosed eave; Materials approved for 1 hour fire resistance, or 2-inch nominal dimension lumber).
Eave/soffit vents	WUI vents on horizontal/ vertical planes; non-corrosive 1/16" to 1/8" screen.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.
Gutter System (downspouts, gutter, guard, drip edge)	Noncombustible gutters and downspouts. Gutter cover material unspecified. Metal drip edge assumed.	Noncombustible gutters and downspouts. No gutter guard req'd. Metal drip edge assumed.	Noncombustible cover. Metal drip edge assumed.
Siding	Five options for compliance: 1) noncombustible material, 2) ignition-resistant material, 3) heavy timber construction, 4) log wall assembly, or 5) assembly complying with SFM 12-7.	6-inches of noncombustible material on the base of the wall (cover).	Noncombustible covering
Gable vents	WUI vents on horizontal/ vertical planes.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.
Dryer vents	N/A	Louver required over vent opening	Louver required over vent opening
Foundation vents	WUI vents on horizontal/ vertical planes. (Not included in this analysis due to pour-on-grade foundation)	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.	WUI vents or vents covered with noncombustible, non-corrosive 1/16" to 1/8" screen.
Windows	Four options for compliance: 1) multipaned glazing with a minimum of one tempered pane, 2) glass block units, 3) fire-resistance rating of not less than 20 minutes, or 4) meeting performance requirements of SFM 12-7A-2.	N/A	Dual-paned; double tempered glass or fire-resistance rating of not less than 20 minutes.
Doors	Noncombustible; ignition-resistant covering; or 20 minute fire rated door; or solid core; weather stripping req'd for gaps in the door and door opening (>1/8").	N/A	Noncombustible; ignition-resistant covering; or 20 minute fire rated door; or solid core.
Decking surface	Noncombustible; Ignition resistance materials, fire treated wood.	N/A	Noncombustible
Mulch	Noncombustible	Noncombustible	Noncombustible
Fencing	Noncombustible within 5 feet.	Noncombustible within 5 feet.	Noncombustible within 5 feet. No parallel (back-to-back) combustible fences within 5 feet of each other (5-30 feet from house).