Wildfire Prepared Rebuilding: Methods and Materials

Roadmap to Recovery (R) Webinar
Marshall Fire R2R #8 / 2020 & 20211 CA Fires R2R
June 29, 2022
About United Policyholders (UP)

• A 501(c)3 consumer-focused non-profit with a 30-year track record assisting in disaster recovery

• A trusted information resource and respected voice for insurance consumers in all 50 states

• Not for profit…not for sale

• Funded by donations and grants

• Platinum Guide Star rating (charity verification)
Team UP

• Professional staff
• Government, Business, Nonprofit partners
• Volunteers
  o Survivor to Survivor - previous catastrophic loss survivors paying it forward
  o Consumer oriented professionals
    • Damage and repair/rebuild cost estimators
    • Lawyers
    • Public Adjusters
    • Tax and Financial Planning experts
    • Construction and Real Estate professionals
Our Three Programs

Roadmap to Recovery®
– Guidance on insurance, restoring assets and getting back home after a catastrophic loss

Roadmap to Preparedness
– Helping households and communities reduce risk and be resilient to disasters and adversity

Advocacy and Action
– Upholding insurance consumer rights and protections
California 2021 Wildfire Help Library
www.uphelp.org/2021CAwildfires

- California Specific Resources with Step-by-Step Guidance
- One Click Links to Sign UP for Events And Email Notifications
- Links to Pro-consumer Professional Help www.uphelp.org/findhelp
- Sample Letters & Claim Forms www.uphelp.org/samples
- Survivors Speak Tips www.uphelp.org/survivorsspeak
- Upcoming Workshops And Resources www.uphelp.org/events

Copyright 2022. United Policyholders.
All rights reserved.
2021 Marshall Fire Help Library

www.uphelp.org/MarshallFire

- Colorado Specific Resources with Step-by-Step Guidance
- One Click Links to Sign UP for Events And Email Notifications
- Links to Pro-consumer Professional Help www.uphelp.org/findhelp
- Sample Letters & Claim Forms www.uphelp.org/samples
- Survivors Speak Tips www.uphelp.org/survivorsspeak
- Upcoming Workshops and Resources www.uphelp.org/events

Copyright 2022. United Policyholders. All rights reserved.
The Fine Print

• This workshop is intended to be general guidance only, not legal advice
• If you have a specific legal question, we recommend you consult an experienced attorney
• We do not endorse or warrant any of the sponsors or the speakers at our workshops
• We are not creating a professional/client relationship with any individual

Copyright 2022. United Policyholders. All rights reserved.
Today’s Presenters & Partners

**UP staff**
- Amy Bach, Executive Director
- Valerie Brown, Deputy Executive Director

**Professional volunteers**
- Laurie Fisher & Sarah Walker, PHNX Development
  info@phnxdevelopment.com
- Ryan Palos, 2019 Tick Fire
- Robby Schwarz, Marshall Fire New Homes Building Advisor (Boulder County Energy Smart program)

Copyright 2022. United Policyholders. All rights reserved.
Today’s Topics

1. Incorporating Wildfire Resiliency Standards into your rebuild – PHNX Development’s approach (CA)
2. The Palos Family’s resilient rebuild
3. Leveraging Insurance Funds for Resilient Rebuilding, Rebates/Incentives (CO)
4. Construction Standards & Risk Mitigation Steps
5. Building with Fire Resistant and Non-combustible Materials
6. Methods for Resilient Rebuilding
7. Landscaping & Plant Selection
8. Additional Resources

Copyright 2022. United Policyholders. All rights reserved.
Deep breath
Incorporating wildfire resiliency standards into your rebuild

- **Vulnerable:** Vinyl fencing connected to the home
- **Good:** Noncombustible roof cover
- **Vulnerable:** Wood fencing connected to the home
- **Vulnerable:** Combustible vegetation within 0-5 ft
- **Good:** Noncombustible siding
- **Good:** 0-5 ft noncombustible zone

Copyright 2022. United Policyholders. All rights reserved.
PHNX DEVELOPMENT

Copyright 2022. United Policyholders. All rights reserved.
The Palos Family’s resilient rebuild
Scoping and estimating the “as was”

• Essential to settling your dwelling insurance claim fairly

• Essential in negotiating substitute materials and methods

• Like kind and quality/substantially equivalent construction
Policy benefits to replace your dwelling:

– Dwelling
– Other Structures
– Extended Replacement? (commonly 25%, 50% or 100%)
– Debris Removal - usually 5% PER coverage
– Code Upgrade Coverage (Ordinance & Law)
– Inflation Coverage
Base limits plus endorsements plus policy wording = your max available benefits

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dwelling</strong></td>
<td><strong>300,200</strong></td>
<td><strong>225,200</strong></td>
<td><strong>120,100</strong></td>
</tr>
<tr>
<td><strong>Other Structures</strong></td>
<td><strong>30,100</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Person Property</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Loss of Use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Section II**

<table>
<thead>
<tr>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Liability</strong></td>
<td><strong>Medical Payments to Others</strong></td>
</tr>
<tr>
<td>(Personal Injury &amp; Property Damage)</td>
<td>Each Accident</td>
</tr>
<tr>
<td>Each Occurrence</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>

**Section II**: Additional Residence Premises if any located: (Number, Street, City, State)

---

This policy does not provide Earthquake Insurance. This policy does not provide Flood Insurance.

**Basic Policy Premium**

Forms and Endorsements made part of this policy at time of issue.
- **Homeowners Policy - Special form** - $1000 Deductible (HO-3).
- **Name Change Endorsement** (60 1000 12 13)
- **Lender's Loss Payable Endorsement** (438 REUNS).
- **Limited Home Replacement Cost Endorsement - 150% of Cov A (HO-28).**
- **Replacement Value Endorsement Personal Property (HO-29).**
- **$1000 Deductible (HO-60).**
- **Workers' Compensation & Employers' Liability - CA (HO-90).**
- **Private Residence Employees - Class 0910.**

**Building Code Upgrade Limit** - **$75,050.00**

Copyright 2022. United Policyholders. All rights reserved.
Combining Coverages (CA only)

- Allows RC amounts due for Other Structures to be used to rebuild the Primary Structure without requiring actual replacement of the Other Structures

  “In the event of a covered loss relating to a state of emergency, as defined in Section 8558 of the Government Code, an insured under a residential property insurance policy shall be permitted to combine payments for claims for losses up to the policy limits for the primary dwelling and other structures, for any of the covered expenses reasonably necessary to rebuild or replace the damaged or destroyed dwelling, if the policy limits for coverage to rebuild or replace the primary dwelling are insufficient. Any claims payments for losses pursuant to this subdivision for which replacement cost coverage is applicable shall be for the full replacement value of the loss without requiring actual replacement of the other structures or contents. Claims payments for other structures in excess of the amount applied towards the necessary cost to rebuild or replace the damaged or destroyed dwelling shall be paid according to the terms of the policy.”

*Cal Ins Code 10103.7*
Extended Replacement Coverage

• Most HO policies sold today have “extended replacement” provisions.
• These provide additional funds to replace your home when your Coverage A limits are inadequate to repair/replace your dwelling.
• Most language is included in the Loss Settlement section, or added by Endorsement.
• The naming varies, look for “extended” “replacement”.
• Limits vary from 10% to 200% .
• Most policies apply the extended benefits only to Coverage A.
• Some policies apply ERC to A, B and C.
Code Upgrade Coverage

• Some add it as an extra limit, some do not.

• Pays for upgrades to your home that you are required to add, based upon a building ordinance or law, to bring THE HOME YOU LOST up to current codes.

• Check endorsements, as policy is often modified.

• Policies for 2021 CA fires should contain 10% min.
Code Upgrade/Ordinance & Law

Option OL - Building Ordinance or Law.

1. Coverage Provided.
   The total limit of insurance provided by this Building Ordinance or Law provision will not exceed an amount equal to the Option OL percentage shown in the Declarations of the Coverage A limit shown in the Declarations at the time of the loss, as adjusted by the inflation coverage provisions of the policy. This is an additional amount of insurance and applies only to the dwelling.

2. Damaged Portions of Dwelling.
   When the dwelling covered under COVERAGE A - DWELLING is damaged by a Loss Insured we will pay for the increased cost to repair or rebuild the physically damaged portion of the dwelling caused by the enforcement of a building, zoning or land use ordinance or law if the enforcement is directly caused by the same Loss Insured and the requirement is in effect at the time the Loss Insured occurs.

   When the dwelling covered under COVERAGE A - DWELLING is damaged by a Loss Insured we will also pay for:

Copyright 2022. United Policyholders. All rights reserved.
ADDITIONAL PROPERTY COVERAGE

7. **Building Ordinance or Law Coverage.** Damage to building or personal property we cover caused by a Building or Personal Property Loss We Cover will be settled on the basis of any ordinance or law that regulates the construction, repair or demolition of this property.

   This coverage does not apply:
   
a. to loss caused by the peril of **earthquake**;

b. to loss to any undamaged portion of the building or personal property we cover;

c. unless you choose to repair or rebuild your home at its present location.

We do not cover:

a. the loss in value to any covered building or other structure due to the requirements of any ordinance or law; or

b. the costs to comply with any ordinance which requires any *insured* or other to test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, *pollutants*.

This is not an additional amount of insurance.

SPECIAL LIMIT OF LIABILITY

In the event of a covered loss resulting from an Insurance Services Offices® declared catastrophe for the state in which the *residence premises* is located, the limit available for Building Ordinance or Law Coverage shall be increased by 100%.
Sample building code upgrades


1. Tempered windows
2. Limited vents in foundation, eves and soffit
3. Fire resistant exterior siding
4. Limitations on deck materials and construction
5. Fire resistive roofing materials

City of Santa Rosa
SRCity.org/rebuild
SonomaCountyRecovers.org

Residential Building Code (2019 Title 24, Part 2.5, CRC)

1. Soils Report
2. Residential Fire Sprinklers
3. Electrical code requirements for ground fault interrupters and arc fault circuit breakers
4. Seismic and wind design changes
5. Water efficient fixtures
6. Separate electrical circuits for bathrooms and laundry
7. Smoke alarm and carbon monoxide detector
8. Additional hardware required for seismic compliance
<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical - ARC Fault, Occupancy Sensors LED's 200 AMP Panel</td>
<td>$8,500.00</td>
</tr>
<tr>
<td>Compared to 100-125 AMP, Smoke and Carbon Monoxide Detectors</td>
<td></td>
</tr>
<tr>
<td>Additional Plugs</td>
<td></td>
</tr>
<tr>
<td>Paint - Low VOC</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>Fire Sprinkler (Design, Installation, Inspections)</td>
<td>$8,500.00</td>
</tr>
<tr>
<td>Special Inspections (Soils, Rebar, Concrete)</td>
<td>$2,500.00</td>
</tr>
<tr>
<td>Recycle of Materials</td>
<td>$1,250.00</td>
</tr>
<tr>
<td>Plumbing - Tankless, Efficient Water Heater, No Lead or Solder, Low</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>Water Flow, Toilets, Faucets, etc.</td>
<td></td>
</tr>
<tr>
<td>HVAC</td>
<td>$4,000.00</td>
</tr>
</tbody>
</table>

Copyright 2022. United Policyholders. All rights reserved.
### Fire Sprinklers

- **4.00 SF Walls**
- **5.00 SF Walls & Ceiling**
- **0.11 SY Flooring**
- **4.00 LF Ceiling Perimeter**

**Height: 1'**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>UNIT PRICE</th>
<th>TAX</th>
<th>O&amp;P</th>
<th>RCV</th>
<th>DEPRE.</th>
<th>ACV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intruder alarm panel</td>
<td>1.00 EA</td>
<td>513.37</td>
<td>21.86</td>
<td>107.06</td>
<td>642.29</td>
<td>(0.00)</td>
<td>642.29</td>
</tr>
<tr>
<td>Concealed fire sprinkler system (SF of bldg)</td>
<td>3353.00 SF</td>
<td>3.74</td>
<td>318.74</td>
<td>2,571.78</td>
<td>15,430.74</td>
<td>(0.00)</td>
<td>15,430.74</td>
</tr>
<tr>
<td>Ball valve - brass - 1&quot;</td>
<td>2.00 EA</td>
<td>50.82</td>
<td>2.84</td>
<td>20.88</td>
<td>125.36</td>
<td>(0.00)</td>
<td>125.36</td>
</tr>
</tbody>
</table>

**Building Code Upgrades Totals:**

- **QTY:** 343.44
- **UNIT PRICE:** 2,699.72
- **TAX:** 16,198.39
- **ACV:** 16,198.39

Copyright 2022. United Policyholders. 
All rights reserved.
The Art of Negotiation

• Equivalent construction
• Documenting costs for adjuster to address concerns of “betterment”
• Building a more wildfire resilient home is win-win (you and insurer)
REBUILDING BETTER

Resources for planning, designing, and constructing high-performance homes that are more resilient to future climate crises.
Deep Breath
Construction standards predicted to reduce wildfire risk

UP’s “WRAP” initiative:

- Identify methods and materials that qualify a structure as “Wildfire Prepared”
- Develop a set of standards that reflects cutting edge knowledge of what works to reduce wildfire risk
  - Get those standards embedded as “official”
  - Require insurers to incentivize and reward compliance with those standards

13 effective mitigation actions

- IBHS standards likely to mirror WRAP list
- Wildfire Partnership standards likely to mirror WRAP list
- Some insurers are already rewarding risk reduction with discounts or expanded eligibility
**MITIGATED DWELLING QUALIFICATION MEASURES**

**ACTIONS 1-4**

**Roofs**
The dwelling has a well-maintained Class A roof. Where gutters are present, the roof includes a metal drip edge.

For homes with metal or tile roofs, gaps greater than 1/8 inch between roofing and sheathing have been blocked to prevent debris accumulation and ember entry.

**Vents**
Exterior vents (e.g., foundation, gable, under eave, and roof vents) incorporate a 1/8 inch metal mesh or are designed for flame and ember resistance (Wildland Flame and Ember Resistant (WUI) vents approved and listed by the California State Fire Marshall or WUI vents listed to ASTM E2886).

**Fences**
Any wooden fences that attach to the dwelling structure shall incorporate only noncombustible materials (fencing or gating) in the last 5 feet before the attachment point(s) to the structure.
Decks
All combustible materials (e.g., grass, shrubs, or stored materials) must be removed from underneath attached wooden decks or stairways and maintained at least 5 feet away from the decks’ or stairways’ perimeters.

Other Attached Structures (arbors, pergolas, trellis)
Any other structure that is attached to the dwelling structure must be made of noncombustible materials.

Buildings less than 25 feet from the Dwelling Structure or Attached Decking
If another structure (e.g., a dwelling, garage, barn, shed or commercial building) is within 25 feet of the dwelling, the dwelling’s exterior wall that faces the nearby structure meets a one-hour fire rating and includes noncombustible cladding.

Windows
Where windows face the nearby structure, the windows either include dual-paned glass with at least the exterior pane is tempered glass or the windows have deployable metal shutters.
Wildland Urban Interface (WUI) Compliance Checklist
CBC CHAPTER 7A and CRC SECTION R337
The purpose of this handout is to assist in the protection of life and property by increasing the ability of the building to resist fire intrusions. New construction shall comply with the Wildland Urban Interface requirements of current Code.

- Roof is free of leaves, needles, and/or dead vegetation. All roof gutters have debris guards installed. (CRC R337.5.4)
- Exterior wall coverings are noncombustible, ignition resistant, heavy timber, log wall or fire resistive construction. (CRC R337.7)
- Exterior wall coverings extend from the foundation to the roof and terminate at 2 inch nominal solid blocking between rafters and overhangs. (CRC R337.7.3.2)
- Open/enclosed roof eaves and soffits, exterior porch ceilings, floor projections, under-floor areas and undersides of appendages comply with ignition resistant or noncombustible construction requirements. (CRC R337.5-9)
- Roof is a class A fire rated/listed roofing assembly. For high hazard fire zones. (CRC R337.5)
- Spaces created between roof coverings and roof decking are fire stopped by approved materials or have one layer of minimum 72lb mineral surfaced non-perforated cap sheet complying with ASTM D 3909. (CRC R337.5.2)
- Where valley flashing is installed, the flashing is not less than 26gage and installed over not less than one layer of minimum 72lb mineral surfaced non-perforated cap sheet and at least 36 inches wide running the full length. (CRC R337.5.3)
- Attic gable and eaves above 12ft and under-floor ventilation are fully covered metal wire mesh, vents, or other materials that have a minimum 1/16 inch and maximum 1/8 inch openings, non-combustible and corrosion resistant. All other eave vents shall be listed/approved to resist the intrusion of flame and burning embers. (CRC R337.6)
Building with fire resistant materials:
Structured Insulated Panels (SIP)
Building with fire resistant materials: James Hardie & Montana Timber products
Building with fire resistant materials: Insulated Concrete Forms (ICF)
Building with fire resistant materials: Other Proprietary Systems

- Tridipanel (foam panels within steel grids and as you put the panels together, you blow concrete on them)
- BONE Structure (pre-fabricated steel framing wrapped in noncombustible insulation; Canada-based homebuilding company)
- Durisol (fire-resistant wall material)
- E-Tech homes (engineered components)
- Timber Tech decking
Building with non-combustible materials: Autoclaved Aerated Concrete

http://www.aerconaac.com/

Copyright 2022. United Policyholders. All rights reserved.
Note: Any adobe building within the state of CA will be required to have its structural system designed by a licensed structural engineer for seismic reasons.
The House That Doesn’t Burn

Turning Mud into Wildfire Resilient Housing

by Kat Kerlin | June 30, 2021

Ph.D. candidate Nitin Kumar pulls a newly made block from a form at Bainer Hall. The team creates small batches of earth blocks to test its resiliency qualities. (Karin Higgins/UC Davis)

https://www.ucdavis.edu/climate/news/wildfire-resistant-housing

Copyright 2022. United Policyholders. All rights reserved.
Deep Breath
METHODS FOR RESILIENT REBUILDING

• First 5 Feet
• Siting your home
• Defensible space
• Updated codes
Development near slopes should be set back far enough from the slope’s edge to provide safety from flames moving up the slope or lapping over the edge. The safety area depends on the height of buildings and potential flame lengths of burning vegetation on the slope.

https://anrcatalog.ucanr.edu/Details.aspx?itemNo=8680
ACTIONS 9 - 11

Defensible Space and Landscape
Minimum of 6 inches of noncombustible clearance between the ground and the exterior siding of the dwelling.

Within the first 5 feet of any dwelling or attached decks, no combustible materials (e.g., woody plants, combustible mulch, stored items) are present around the building or deck(s) or below the deck(s).

For the landscape from 5-30 feet from structure (or property line if closer), the connectivity of vegetation leading to the dwelling structure has been eliminated. The lower branches of trees have been limbed up at least 6 feet above underlying or adjacent shrubs to eliminate fuel ladder connectivity. The landscaping is irrigated and maintained. Vegetation may be grouped and surrounded by areas of irrigated and mowed grass or hardscaping.
ACTIONS 12 - 13

For the landscape from 30-100 feet from the structure (or property line if closer), there is separation between shrubs and trees, dead branches and leaves have been removed, lower branches of trees are pruned to curtail the spread of fire and to eliminate fuel ladders.

For dwellings on or adjacent to steep slopes (e.g., slopes greater than 35 degrees), landscape mitigation has been extended downslope and beyond the 100 feet perimeter, where possible, to reduce direct flame contact with or preheating of the dwelling or the underside of any decking.
The purpose of this handout is to assist in the protection of life and property by increasing the ability of the building to resist fire intrusions. New construction shall comply with the Wildland Urban Interface requirements of current Code.

- Remove all flammable vegetation within 30 ft of building
- Reduce fuel vegetation for the next 70 ft
- Remove tree limbs from within 10 ft of chimney outlet
- Eliminate dead wood from trees overhanging structure For more information, visit: http://www.readyforwildfire.org/
- Roof is free of leaves, needles, and/or dead vegetation. All roof gutters have debris guards installed. (CRC R337.5.4)
Methods

0-5 feet from structure

Reducing vegetation in the 0-5 ft zone nearly doubles a property’s wildfire survival rate.
Methods

5-30 feet from structure
The importance of defensive space and landscaping

The presence of vegetation around a home increases its chances of being destroyed - but by how much?

**Survived Woolsey Fire (2018)**

By removing fuel around their homes, more than one-third of properties involved in wildfires could have reduced their chances of destruction by up to 50%.

**Destroyed in Tubbs Fire (2017)**

Buildings that had at least half of the area within 5 feet of their home covered by vegetation were destroyed in a wildfire 78% of the time.

Copyright 2022. United Policyholders.
All rights reserved.
Effective landscape management practices helped protect this home in the 2012 Waldo Canyon Fire in Colorado Springs, CO. Photo: National Interagency Fire Center

Noncombustible stucco and effective landscape management protected this house during the Carr Fire in Redding, CA in 2018. Photo: FEMA
LANDSCAPING & PLANT SELECTION
Firewise plants

Firewise Plant Materials

Fact Sheet 6.305  Natural Resources Series | Forestry

By F.C. Dennis*  https://extension.colostate.edu/topic-areas/natural-resources/firewise-plant-materials-6-305/

California Native Plant Society Fire Recovery Guide
https://www.cnps.org/give/priority-initiatives/fire-recovery
Fire smart landscaping

PREPARE FOR WILDFIRE

FIRE SMART LANDSCAPING
A fire smart landscape isn’t necessarily the same thing as a well-maintained yard. This type of landscape uses fire-resistant plants that are strategically planted to resist the spread of fire to your home. Fire resistant plants are great in California because they are often drought tolerant, too.

• https://www.readyforwildfire.org/prepare-for-wildfire/get-ready/fire-smart-landscaping/
• https://www.calwater.com/conservation/be-water-wise-and-fire-wise/
• https://extension.colostate.edu/topic-areas/natural-resources/firewise-plant-materials-6-305/

Copyright 2022. United Policyholders.
All rights reserved.
ADDITIONAL RESOURCES
Rebuilding Better (Boulder County)

https://rebuildingbetter.org/

REBUILDING BETTER

Resources for planning, designing, and constructing high-performance homes that are more resilient to future climate crises.

Copyright 2022. United Policyholders. All rights reserved.
Rebuilding for a Resilient Recovery (California)

https://www.next10.org/publications/rebuilding-resilient

Copyright 2022. United Policyholders. All rights reserved.
Additional Resources

- https://ibhs.org/wildfire-prepared-home/
- https://www.resilientdesign.org/fundamentals-of-resilient-design-designing-homes-for-wildfire-resilience/
- https://www.northbaybusinessjournal.com/article/industrynews/new-california-laws-build-on-research-into-wildfire-resistant-construction/
- https://firesafemarin.org/harden-your-home/
- https://www.cafiresci.org/research-publications
- https://rebuildingbetter.org/
- https://cgbg.org/resources
CALIFORNIA DEPARTMENT OF INSURANCE

Wildfire resources and insurance information

FOR FREE, PERSONAL ASSISTANCE WITH YOUR CLAIMS OR UNDERINSURANCE ISSUES

CALL US AT: 1 800 927 4357

OR GO ONLINE: insurance.ca.gov

Copyright 2022. United Policyholders. All rights reserved.
Colorado Division Of Insurance
For Free, Personal Assistance With Your Claims Or Underinsurance Issues
To File a Complaint Online:  www.doi.colorado.gov
By Email:  dora_insurance@state.co.us
Or Call:  (303)894-7499
Thank you California funders
Thank you Colorado funders
• Register. It’s free.
• Write in your questions.
• Get an answer from an expert in construction, insurance, laws and disaster recovery.