WEBINAR

novacore

BUILDING FOR THE FUTURE

Climate Change, Wildfires and Resilient Design after the Los Angeles Fire Disaster

PRESENTER

Bruce N. Furukawa
Partner, Furukawa Castles LLP

WED., JUNE 25 | 2:00 - 3:00 PM ET

PJA UNIVERSITY

Today's Agenda

- PUA Overview
- Climate Change & Wildfire Threats
- Fire Resistant Materials & Emerging Tech to Reduce Risk
- Designing Defensible Space & Plans to Deter Fire Spread
- Case Studies of Successful Fire-Resilient Structures
- Current & Upcoming Regulatory Updates
- Q&A

Disclaimer

This information is not legal advice and cannot be relied upon as such. Any suggested changes in wording of contract clauses, and any other information provided herein is for general educational purposes to assist in identifying potential issues concerning the insurability of certain identified risks that may result from the allocation of risks under the contractual agreement and to identify potential contract language that could minimize overall risk.

Advice from legal counsel familiar with the laws of the state applicable to the contract should be sought for crafting final contract language. This is not intended to provide an exhaustive review of risk and insurance issues, and does not in any way affect, change or alter the coverage provided under any insurance policy.

About Our Presenter

Bruce N. Furukawa

Attorney, Furukawa Castles LLP

Bruce N. Furukawa is a Partner in the Design Professionals Defense & Counseling Group, primarily representing and counseling architects and engineers. He has represented design professionals, in a wide range of projects. As an experienced trial attorney, Mr. Furukawa has litigated complex construction delay and cost claims, construction defect, licensing issues and personal injury lawsuits.

Mr. Furukawa has special expertise in legal technology. He supervises effective and efficient collection, review, and production of electronic documents for leading design, banking, healthcare, and real estate firms.

1

PUA Overview

Meet PUA

WHEN IT COMES TO PROFESSIONAL LIABILITY

WE'RE THE PROFESSIONALS

Formed in 1990

- Stability & proven track record
- $74M+ in GWP
- 1,500+ Insureds

Four lines

- A&E
- Design-build contractors
- Miscellaneous PL
- Excess limits

Strong paper & broad coverage

- Arch – admitted
- Lloyd's – E&S

Assist in navigating difficult, complex risks and issues

- PUA Market Solutions

Value-added CE webinars via PUA University

- Library of past webinars on puainc.com

UNIVERSITY

puainc.com

Learning Objectives

- How climate change is reshaping wildfire threats across the U.S.
- Strategies for implementing fire-resistant materials and smart technologies
- Planning techniques for creating defensible space and wildfire-adaptive sites
- How to apply lessons from case studies and updated codes to your projects
- Best practices for contributing to fire-smart, resilient suburban and urban development

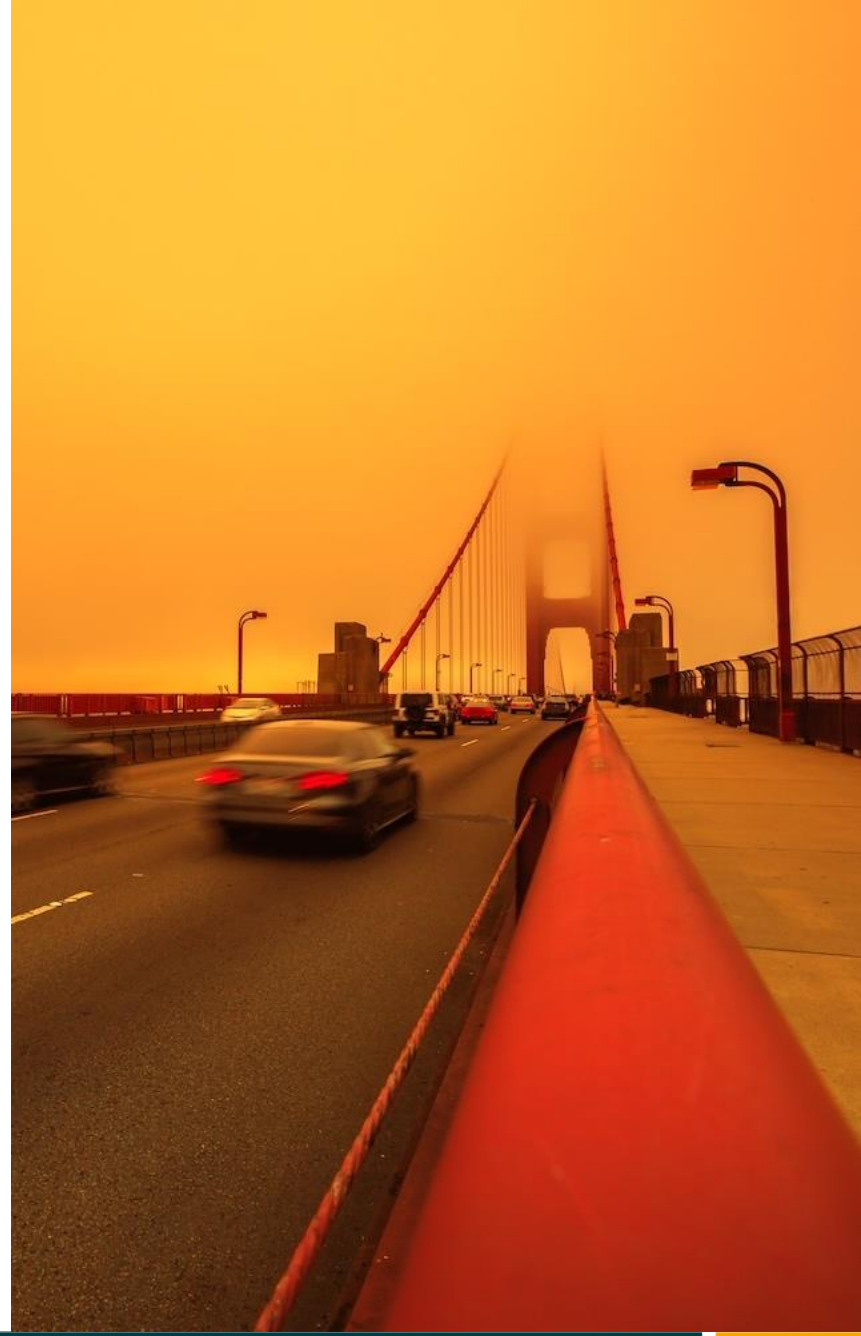
2

Climate Change & Wildfire Threats

Building for the Future:
Climate Change, Wildfires, and Resilient Design in California

In the wake of the devastating California wildfires earlier this year, the need for wildfire-resilient design has never been more urgent. As climate change accelerates the frequency and intensity of wildfires, architects and engineers in Los Angeles must adopt innovative strategies to enhance wildfire resilience. This presentation explores the impact of climate change on wildfires, their devastating effects on the built environment, and the role of fire-resistant materials, defensible space planning, and advanced technology in mitigating risks.

Through case studies and best practices, we highlight successful examples of fire-resilient structures and discuss regulatory updates shaping safer communities. By integrating these strategies, professionals can contribute to sustainable, fire-smart urban development, protecting lives and infrastructure from future disasters., and more destructive fire seasons.

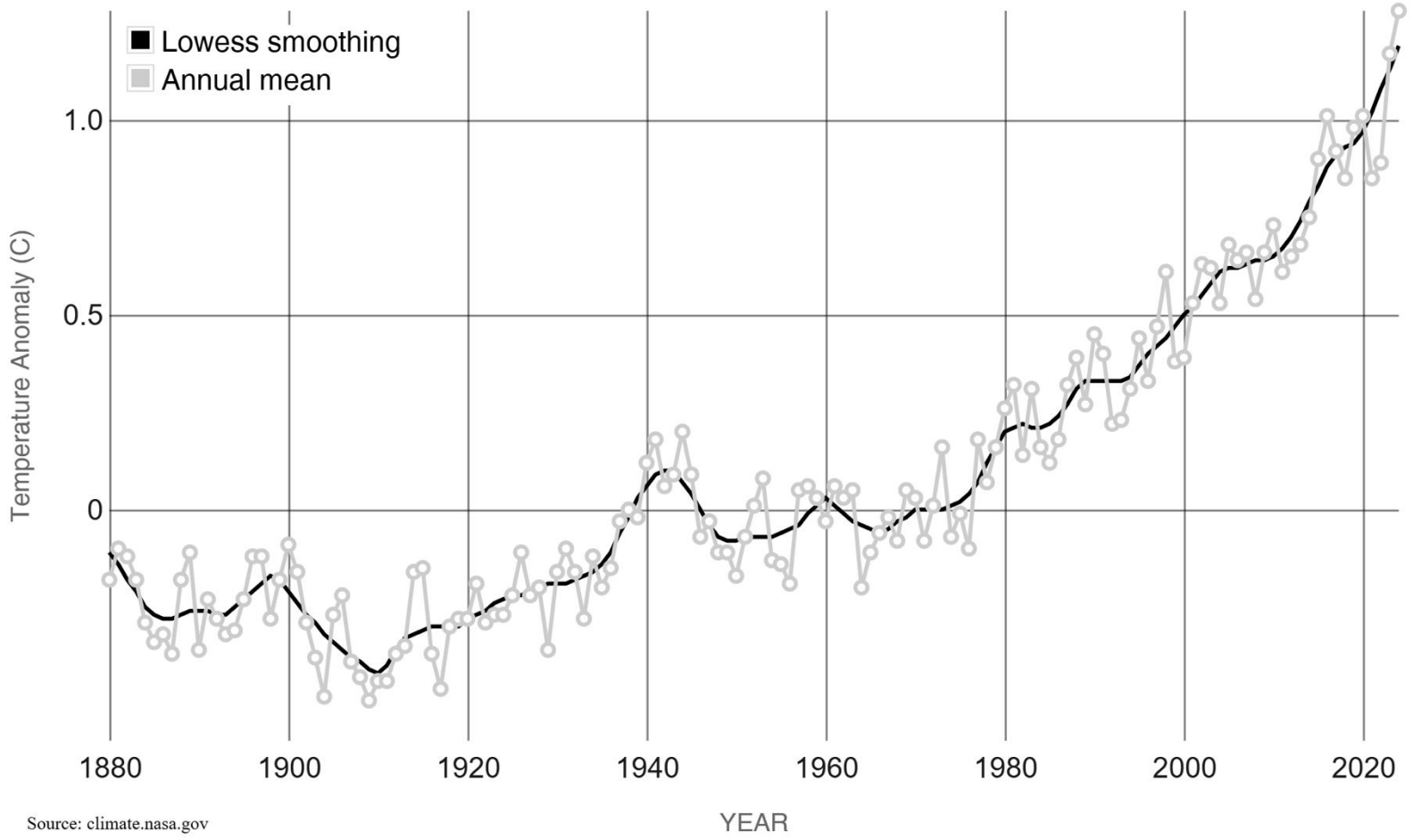


Climate Change

- Design professionals need to recognize how climate change
  - through rising temperatures
  - prolonged droughts
  - changing weather patterns

…is leading to more frequent, intense, and unpredictable wildfires. This understanding is foundational for designing buildings and communities that are better equipped to resist fire damage.

NASA Global Temp

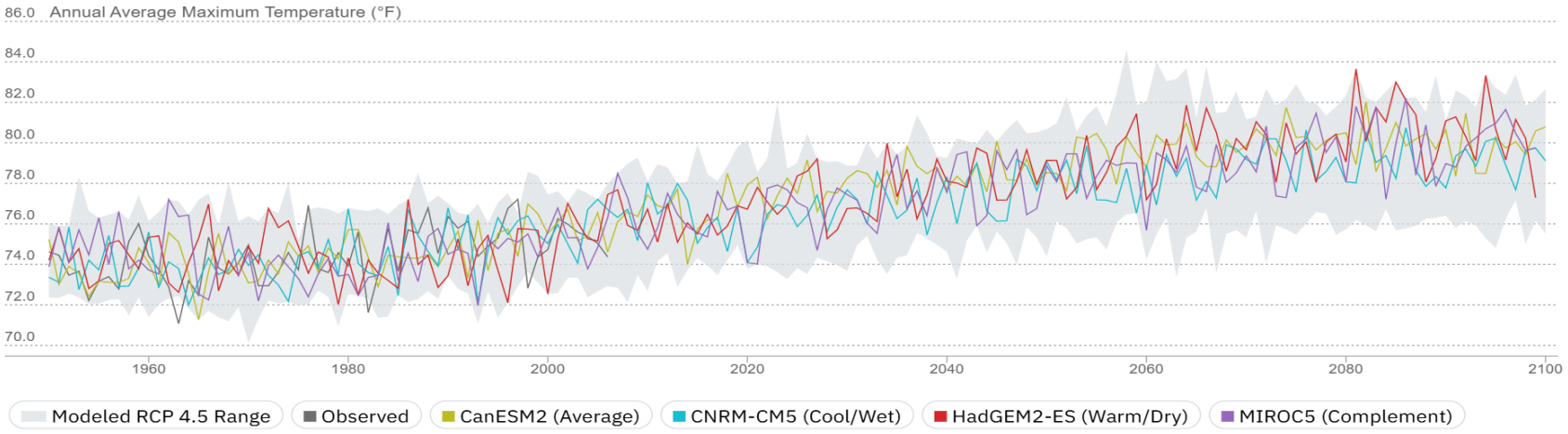


California Avg. Max Temp

LOCA Grid Cell 38.59375, -121.46875

Projected changes in **Annual Average Maximum Temperature** under a **Medium Emissions (RCP 4.5) Scenario**.

MODELED HISTORICAL		FUTURE PROJECTIONS		FUTURE PROJECTIONS	
Baseline (1961-1990)		**Mid-Century (2035-2064)**		**End-Century (2070-2099)**	
30 YEAR AVG	30 YEAR RANGE	30 YEAR AVG	30 YEAR RANGE	30 YEAR AVG	30 YEAR RANGE
74.2 °F	71.3–77.2 °F	78.4 °F	75.5–81.9 °F	79.8 °F	77.2–83.7 °F



Source: Cal-Adapt. Data: LOCA Downscaled CMIP5 Climate Projections (Scripps Institution of Oceanography), Gridded Observed Meteorological Data (University of Colorado Boulder), LOCA Derived Products (Geospatial Innovation Facility).

Top 20 Most Destructive California Wildfires

	FIRE NAME *(CAUSE)*	DATE	COUNTY	ACRES	*STRUCTURES*	DEATHS
1	**CAMP** *(Powerlines)*	November 2018	Butte	153,336	18,804	85
2	**EATON** *(Under Investigation)**	January 2025	Los Angeles	14,021	9,413	18
3	**PALISADES** *(Under Investigation)**	January 2025	Los Angeles	23,707	6,833	12
4	**TUBBS** *(Electrical)*	October 2017	Napa & Sonoma	36,807	5,636	22
5	**TUNNEL - Oakland Hills** *(Rekindle)*	October 1991	Alameda	1,600	2,900	25
6	**CEDAR** *(Human Related)*	October 2003	San Diego	273,246	2,820	15
7	**NORTH COMPLEX** *(Lightning)*	August, 2020	Butte, Plumas, & Yuba	318,935	2,352	15
8	**VALLEY** *(Electrical)*	September 2015	Lake, Napa & Sonoma	76,067	1,955	4
9	**WITCH** *(Powerlines)*	October 2007	San Diego	197,990	1,650	2
10	**WOOLSEY** *(Electrical)*	November 2018	Ventura	96,949	1,643	3
11	**CARR** *(Human Related)*	July 2018	Shasta County, Trinity	229,651	1,614	8
12	**GLASS** *(Undetermined)*	September 2020	Napa & Sonoma	67,484	1,520	0
13	**LNU LIGHTNING COMPLEX** *(Lightning/Arson)*	August 2020	Napa, Solano, Sonoma, Yolo, Lake, & Colusa	363,220	1,491	6
14	**CZU LIGHTNING COMPLEX** *(Lightning)*	August 2020	Santa Cruz, San Mateo	86,509	1,490	1
15	**NUNS** *(Powerline)*	October 2017	Sonoma	54,382	1,355	3
16	**DIXIE** *(Powerline)*	July 2021	Butte, Plumas, Lassen, & Tehama	963,309	1,311	1
17	**THOMAS** *(Powerline)*	December 2017	Ventura & Santa Barbara	281,893	1,063	2
18	**CALDOR** *(Under Investigation)*	September 2021	Alpine, Amador, & El Dorado	221,774	1,003	1
19	**OLD** *(Human Related)*	October 2003	San Bernardino	91,281	1,003	6
20	**JONES** *(Undetermined)*	October 1999	Shasta	26,200	954	1

"Structures" include homes, outbuildings (barns, garages, sheds, etc) and commercial properties destroyed.
This list does not include fire jurisdiction. These are the Top 20 regardless of whether they were state, federal, local or tribal responsibility.
*Numbers not final *DINS Disclaimer: These numbers are preliminary based on aerial assessments dedicating heat sources which can include chicken coops, outbuildings, sheds, water containers, etc. *Validated inspections are currently being ground-verified by Damage Assessment Teams.

4/3/2025

Driving after LNU Fire August 2020
364,000 acres


Woolsey Fire 2018

Recent LA Fires

Background: January 7–31, 2025 LA wildfires

- Burned 57 k acres
- Destroyed/damaged >18 000 structures
- Caused 30 fatalities and
- Displaced more than 200,000 people


Palisades Fire 1/11/2025


Eaton Fire 2025

3

Fire Resistant Materials & Emerging Tech to Reduce Risk

Urgency of Wildfire-Resilient Design

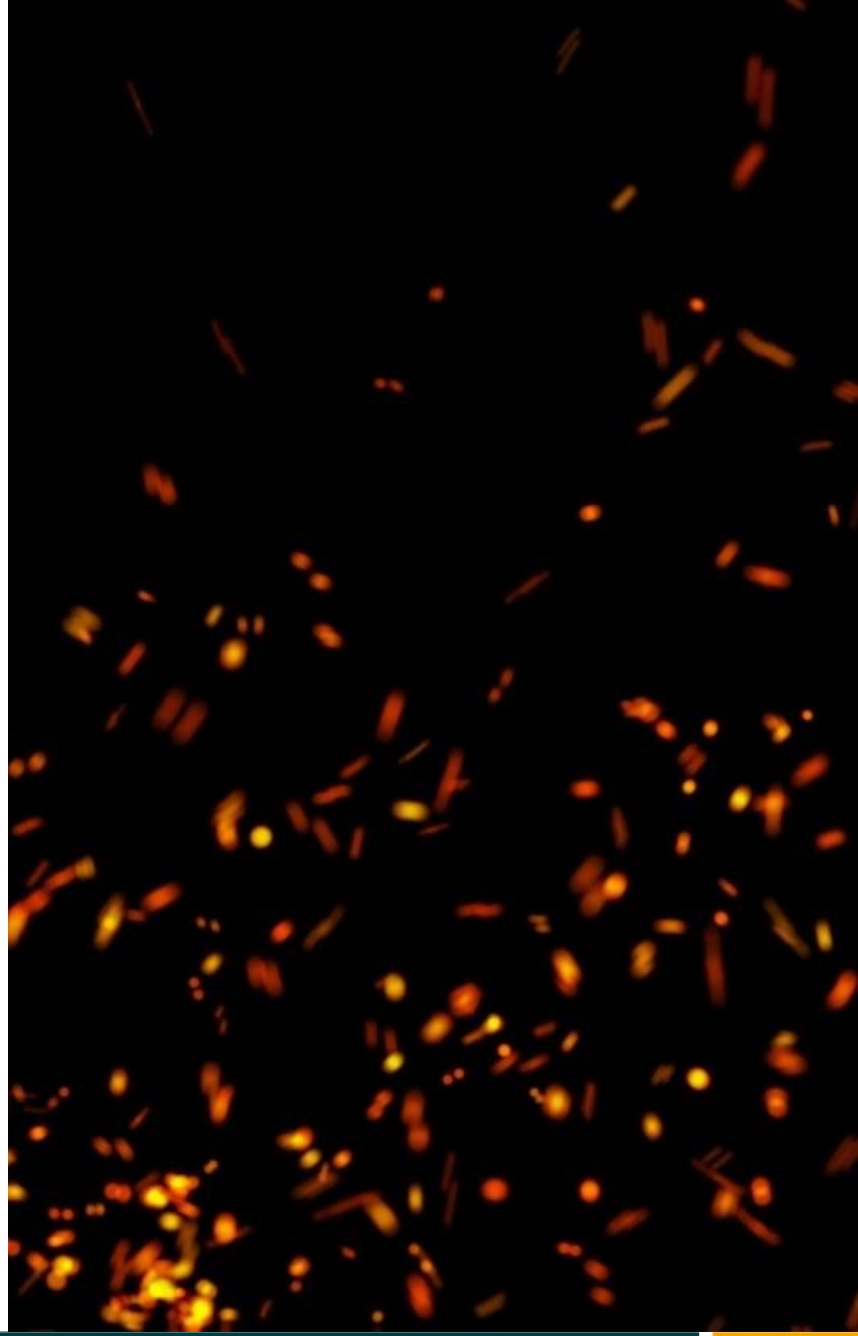
- California wildfires in 2025 have highlighted design vulnerabilities
- Climate change is increasing fire frequency and intensity
- Architects and Engineers must lead in fire-resilient development

Causes of Building Ignition

- Embers
- Radiant heat
- Direct flame
- The building materials can create a vulnerability to ignition.
- Untreated wood siding, shingles or decks
- Some plastics and synthetics used in windows, sofffits, or facades can deform, melt, or emit flammable gases under high heat contributing to ignition

Ember Penetration Points

- Lightweight, vented, or poorly sealed materials — like vinyl siding or ridge vents — can allow embers to enter attics, crawlspaces, or wall cavities, initiating internal ignition



Radiant Heat Vulnerability

- Single-pane Glass can shatter under thermal stress, allowing heat and embers to enter the interior.
- Thin or combustible wall systems can transmit radiant heat, ignite internal contents, and accelerate fire spread within the structure.
- These weaknesses compromise the building envelope, making homes more susceptible to total loss.

4

Designing Defensible Space & Plans to Deter Fire Spread

Fire-Resistant Materials and Technology

- Use of non-combustible materials (concrete, metal, tempered glass)
- Fire-retardant coatings and treatments
- Smart detection systems and remote monitoring tools

Defensible Space and Site Planning

- Zones 0, 1, and 2: Layered vegetation management
- Use of hardscaping and clearance around structures
- Site layout that minimizes ignition risks

Design Professional Liability

- Can design professionals be liable for failing to anticipate climate change and how climate change can increase wildfire damage?

- The answer is yes, and the possibility of these claims is more likely in the wake of the recent fires.

Why?

- The damages are significantly higher, and there are changes to the codes that are quickly changing. Also, new technology may interfere with the design professional's prior process for design and permitting.

Design professionals have a duty to perform services in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances at the same time and in the same or similar locality (“Standard of Care”).

Unfortunately, complying with this simple standard can be tricky, and the door is often open for someone to argue after a problem develops that the architect or engineer did not exercise the required level of care.

Duty of Care

- Claims against design professionals by owners and even tenants is more possible
- In California and in many other states, the relationship and duty owed to parties does not necessarily require a contractual relationship
- Beacon Residential case.

Claims Against Design Professionals

- We have seen an increase in claims against design professionals by owners, HOA's and subsequent buyers where there is significant damage to the residence.

Claims Against Design Professionals (cont.)

- Claims for negligent design due to failure to meet codes despite obtaining a building permit.
- Claims of negligent design causing delays in the permitting process. i.e. multiple submissions or not understanding process
- Claims of negligence for failing to anticipate costs for the design, such as requiring installation of fire hydrants, fire suppression systems, roads.

Defending These Claims

- Designing to meet the code may not necessarily be the Standard of Care if other design professionals in the area design to consider climate change or local fire hazards.
- Accordingly, you can argue that climate change has altered the baseline for what is considered “reasonably foreseeable” in the context of design.
- As wildfires, floods, and extreme weather events become more frequent and intense, architects and engineers are expected to account for these risks in their planning, even if historically such hazards were considered remote.

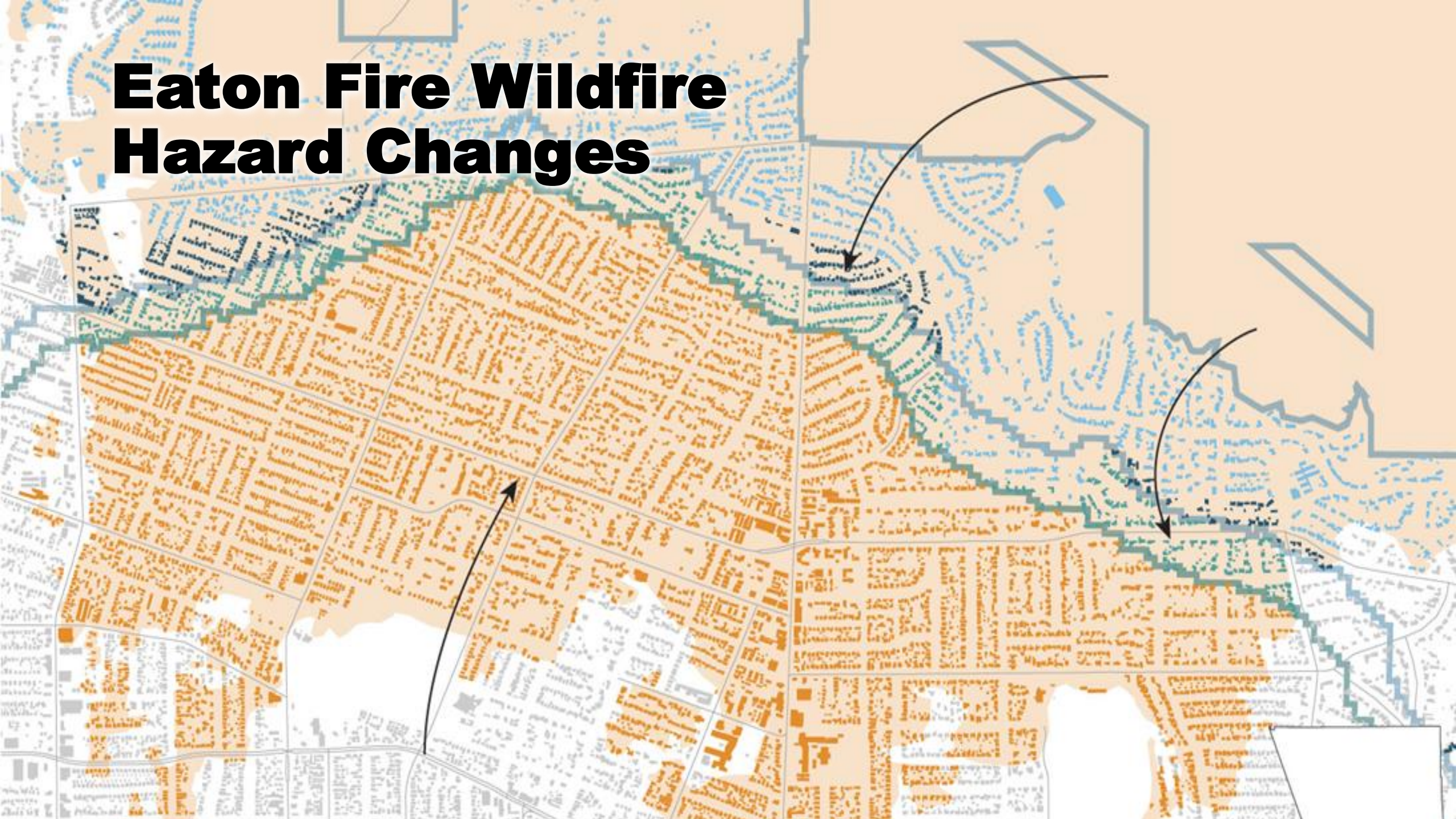
Wildfire Design In CA

- In California, the California Building Code includes Chapter 7A for Wildland-Urban Interface (WUI) Fire Areas.
- Design professionals need to confirm if the WUI applies to the project, and if so, they must incorporate a number of requirements under this chapter.

Key Requirements Under the WUI

- Roofing (§705A.2)Must be Class A fire-rated. No wood shake roofs unless treated and tested to meet performance standards.
- Vents (§706A) All attic, soffit, and foundation vents must resist ember intrusion. Mesh openings limited to ≤ 1/8 inch. Vents must be covered with corrosion-resistant, noncombustible materials.
- Eaves, Soffits, and Fascia (§707A)Must be constructed with ignition-resistant or noncombustible materials. Closed eave construction is often required.
- Exterior Walls (§708A)Siding must be noncombustible or ignition-resistant (e.g., stucco, fiber-cement).Combustible components (e.g., foam) must be protected with approved layers.
- Windows and Glazing (§709A)Dual-pane with one tempered layer required. Glazing must meet wildfire performance standards to reduce breakage from radiant heat.
- Doors (§710A)Exterior doors must be solid core or have fire-resistant cladding.
- Underfloor Areas (§711A)Must be enclosed or use noncombustible skirting. Openings should comply with ember-resistant vent standards.

Eaton Fire Wildfire Hazard Changes



5

Case Studies of Successful Fire-resilient Structures

Implementation of Resilient Design

Pepperdine's Malibu campus has been repeatedly threatened by wildfires yet, has survived major fire events such as the 2018 Woolsey Fire. 98,000 acres burned in the Woolsey fire.

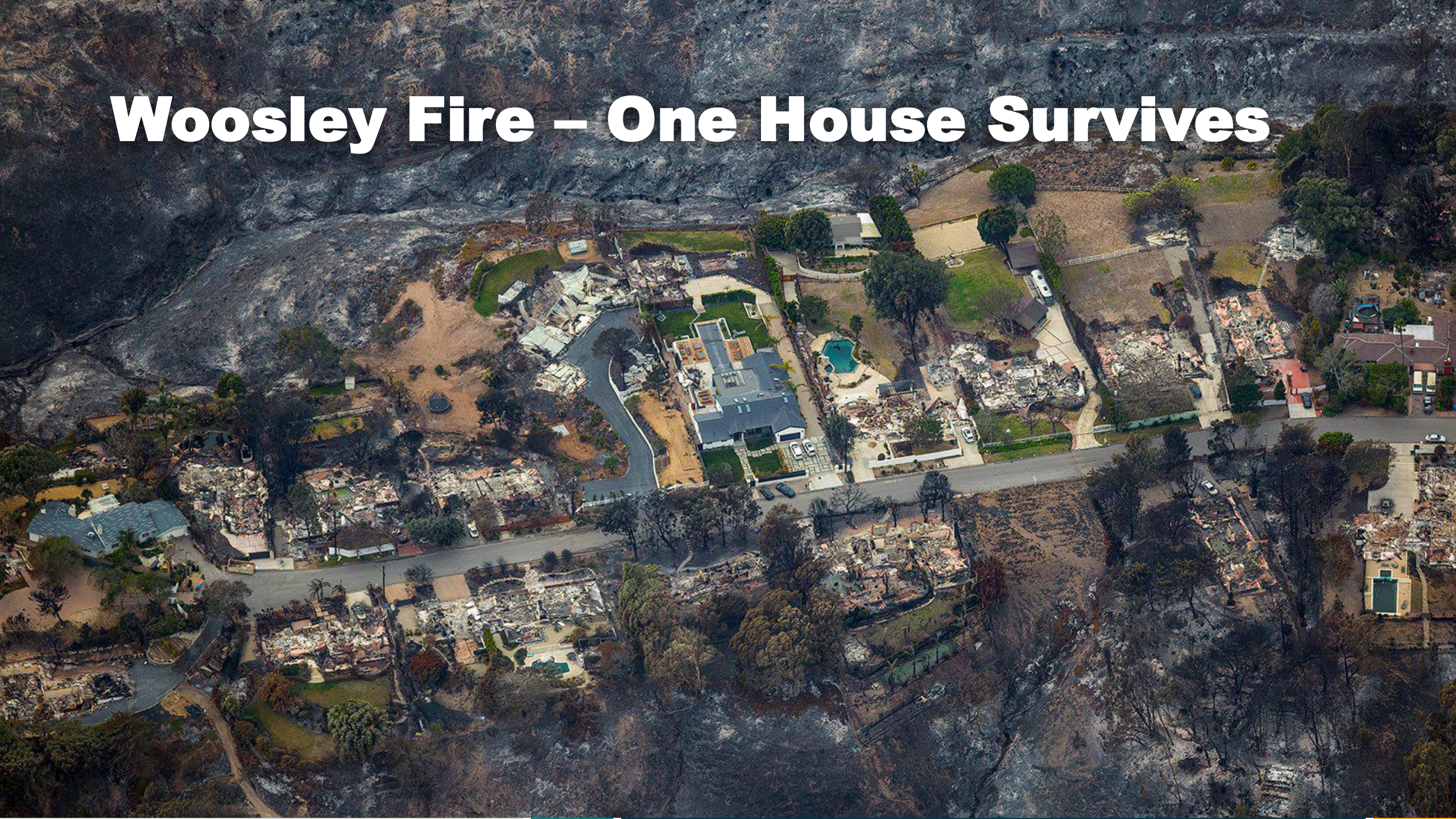
Key strategies include:

- Strategic use of irrigated green buffer zones instead of combustible vegetation
- Use of noncombustible and ignition-resistant materials across key structures
- Internal emergency water sources (cisterns and tanks) and defensible design
- Collaboration with local fire departments for site-specific response planning
- Building spacing and massing designed to prevent lateral flame spread


Pepperdine University
Pepperdine University

Pepperdine University

Woosley Fire – One House Survives



Pacific Palisades Home

- Metal roofing
- Fiber cement panels
- Dual-pane windows
- Ember-resistant screens, and Gravel defensible zones. 5ft zone

6

Current & Upcoming Regulatory Updates

AI Software for Plan Check

Archistar's AI e-check tool

- The state, in collaboration with Los Angeles City and County, launched Archistar's AI-powered e-check software in April–May 2025. It uses computer vision, machine learning, and automated rules to instantly screen building plans for compliance with local zoning and building codes, streamlining permit review for wildfire-impacted homeowner
- Gov. Newsom, Mayor Bass, and LA County supervisors endorsed the tool, noting it can reduce plan review times from weeks to mere hours
- Archistar is already being used in other jurisdictions like San Francisco and Seattle

Comment: The use of this software may change the Standard of Care for architects, because now if they do not use it, they may be submitting designs with errors or omissions that would have been caught by the software and can be accused of causing delays in getting a permit for the client.

Takeaways and Call to Action

- The wildfires that have devastated California underscore the escalating risks tied to climate change, environmental oversight failures, and gaps in local emergency planning. Architects are uniquely positioned to respond to these challenges—not only by designing buildings with greater wildfire resilience, but also by influencing broader recovery efforts rooted in sustainability.
- By embracing this responsibility, design professionals can help shape communities that are more resistant to fire damage and better prepared for future climate-related events.
- Stay informed about legal and material innovations
- Collaborate across disciplines to enhance community safety

Questions and Concluding Remarks

Obtaining CE Credits

To obtain a certificate that you participated, email Brad Lynch at blynch@puainc.com

Architects must self-report their participation to the AIA for continuing education credits

Certificates of Completion for are available on request.

This program does not include content that may be deemed or construed to be an approval or endorsement by the AIA of any material of construction or any method or manner of handling, using, distributing or dealing in any material or product. Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Questions?

COURSE CONTENT

Bruce N. Furukawa, Esq.

Furukawa Castles LLP

800 Airport Blvd., Suite 504

Burlingame, CA 94010

(415) 510-2823 (direct)

(415) 652-6597 (mobile)

bruce@furukawacastles.com

INSURANCE PROGRAMS

Sandip R. Chandarana

J.D., Program Director

Professional Underwriters Agency (PUA)

2803 Butterfield Road, Suite 260

Oak Brook, IL 60523

(630) 861-2330

sandip@puainc.com