

A History of Defensible Space Requirements in California

presented at the

**Board of Forestry and Fire Protection
Changes to Defensible Space Codes / Implementing
Zone Zero Workshop**

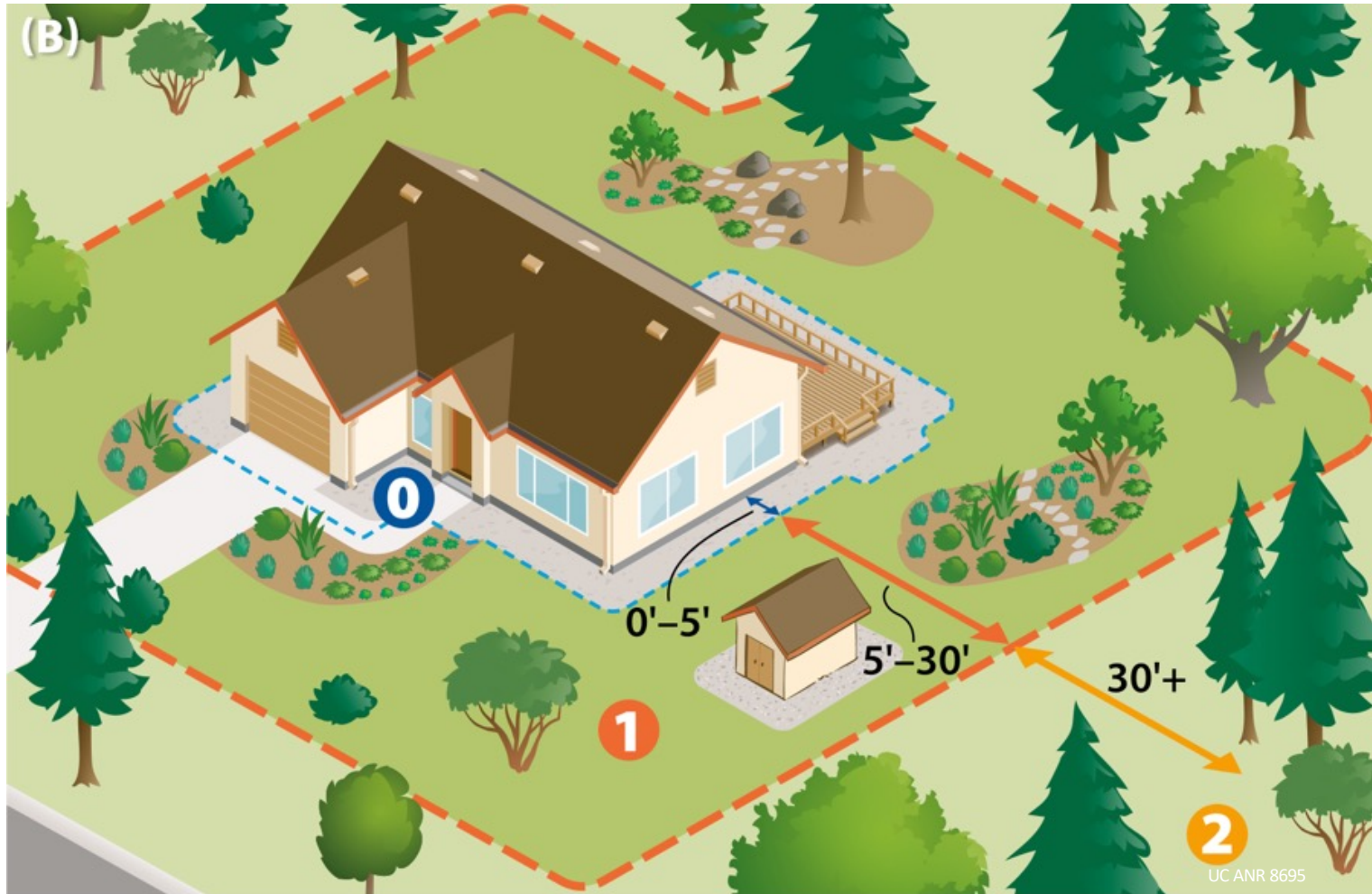
Sacramento, CA

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Steve Quarles

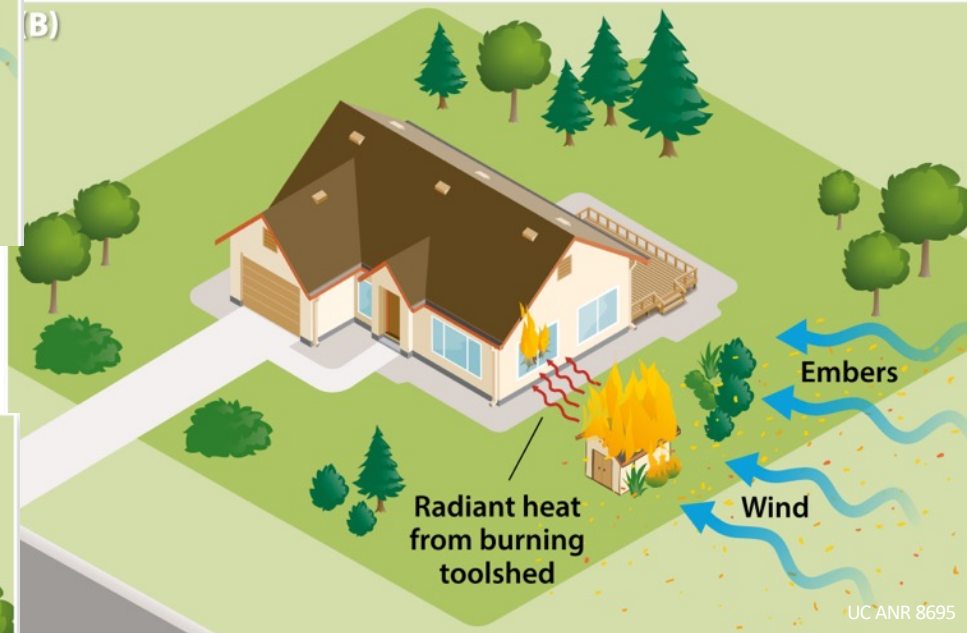
UCCE Advisor Emeritus

Defensible Space on the Property





Three Exposures



Importance of Wind-blown Embers



Materials Versus Details – Ember Exposure

“... the resistance to (wild)fire is determined more by the details of construction than by the materials used in the walls.”

—G.J. Barrow, after the 1944 Beaumaris Fire in Australia



Newspaper reports from 1929 fire in Mill Valley, CA acknowledging the importance of embers

“Houses burned while trees around them didn’t ...”

“During its mad career, the fire leaped three of the wide fire trails that had been cut along the mountain side to prevent the very thing that happened that night.”

“New fires are starting in a score of places ...”

“Direct” and “Indirect” Ignition Scenarios



Radiant Heat Exposure



Tubbs Fire – Coffey Park



<http://calfire-forestry.maps.arcgis.com/apps/PublicInformation>



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Home Survival: A Coupled Approach



- Vegetation and other combustibles on the property: Selection, Location and Maintenance
- Home: Construction materials and design features

Seismic and Wildfire

- Earthquake
 - Hayward (1868)
 - San Francisco (1906)
 - Long Beach (1933)
 - ✓ Field Act
- Wildfires
 - Wheeler Fire (1947)
 - Refugio (1955)
 - Malibu/Zuma (1958)
 - Bel Air (1961)
 - Weldon (1964)
 - ✓ PRC 4291 (1965)

1982 – California enacts PRC 4201 – 4204. State Responsibility Areas (SRA) classified into Fire Hazard Severity Zones.

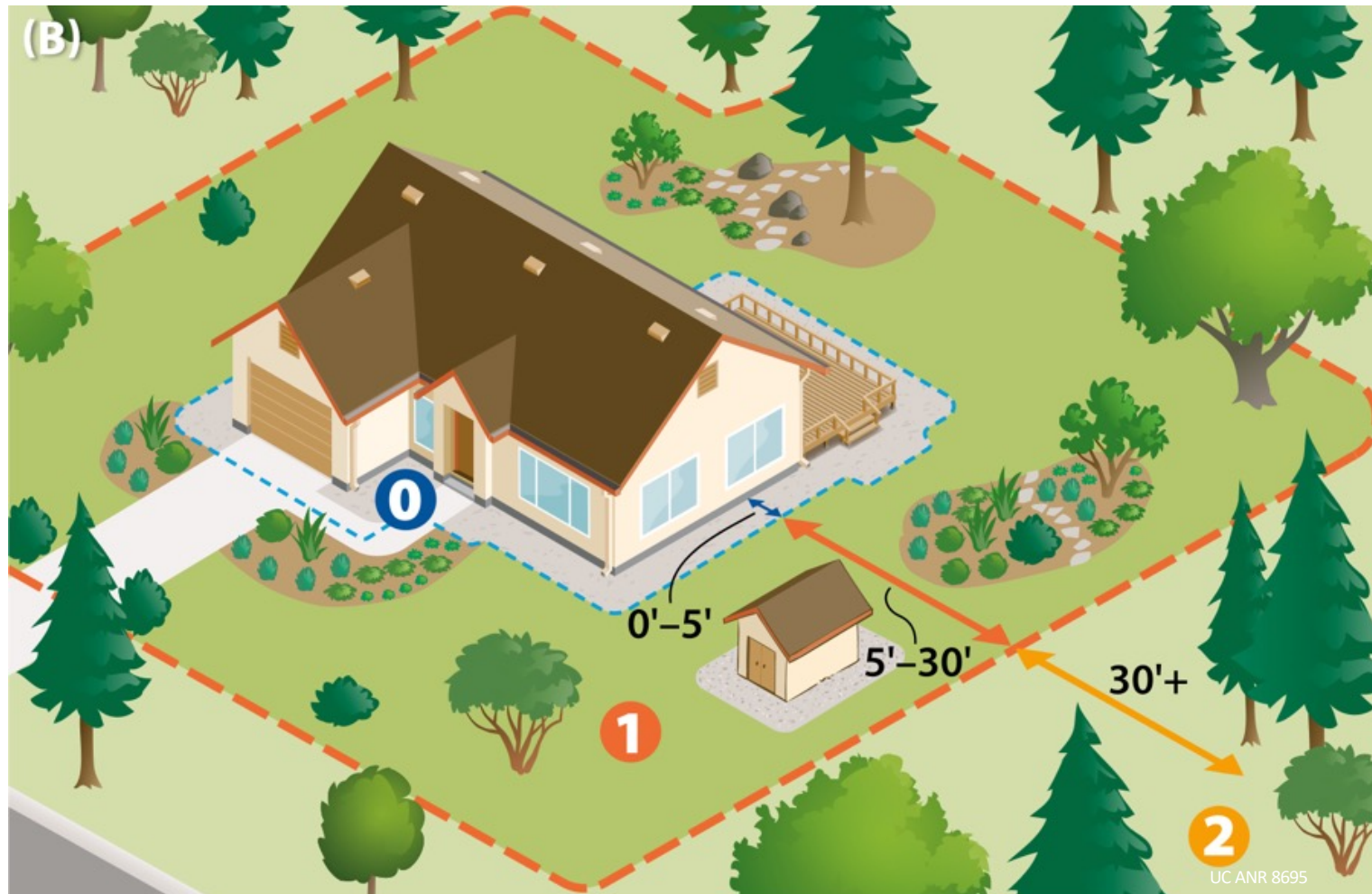
1992 – Following Oakland-Berkeley Hills fire, passage of Bates Bill (AB 337). Local Responsibility Areas (LRA) assessed based on accumulated fuels, topography, fire weather, building density.

2006 – Defensible Space increased from 30 to 100 feet.

- ✓ 1997 FEMA allocates significant funds to California.
- ✓ R&D of additional fire prevention information (Structure Ignition Assessment, Fire Environment Modification, and other programs).
 - Grants to University of California Forest Products Laboratory began in 1997 - development of protocols that became SFM 12-7A standards initiated at this time.
- ✓ AB 1216 (Vargas) Introduced 2003 - prepare regulations that would ultimately become Chapter 7A, California Building Code

- ✓ 2003 Blue Ribbon Commission thought that building standard authorized by AB 1216 was an important component to the wildland fire problem in California. Wildland Urban Interface Building Standard (WUICBS) green-lighted.
- ✓ August 16, 2004, Chief Grijalva appointed (13th) State Fire Marshal of California.
 - Chapter 7A committee appointed by Chief Grijalva and began meeting January 2005.
- ✓ WUIBS (and referenced SFM Standards) adopted by California Building Standards Commission, September 2005.

Defensible Space on the Property



Zone "A" consists of the area from immediately adjacent to the house to a distance of approximately five feet. The primary purpose of this zone is to have the least flammable type of landscaping adjacent to the house to prevent ignition from firebrands and direct exposure from flames. Considerations for Zone A are:

- Remove native shrubs and trees, unless they are deciduous or low growing.
- Remove pine needles and redistribute to bare areas elsewhere.
- Plant low growing, high moisture content vegetation such as lawn, flowers, and groundcovers. Remove plant material once it has cured. Use supplemental irrigation to keep plants green in this zone.

Smith, E. and G. Adams. 1991. Incline Village / Crystal Bay Defensible Space Handbook. University of Nevada Reno, SP-91-06. 57 pp.

0-5 ft Zone

Near-Home, Zone A, Noncombustible, Low-Combustible, Immediate,
Zone 0, Ember-resistant

- University of Nevada Reno (Living with Fire Program) – 1991
 - 1999, Living With Fire Program started. Recommendation for 0-3 feet and then 0-5 ft “noncombustible zone”
- University of California Cooperative Extension – 2005 or so forward
- Insurance Institute for Business & Home Safety – 2011 forward
- National Fire Protection Association / Firewise – 2015 or so forward (“Immediate Zone”)
- AB 3074 (Friedman)– 2020 - establishes an ember-resistant zone within five feet of a structure -- “Zone 0”
- Board of Forestry and Fire Protection – 2021 – starts working on wording for regulation



Thank you for your
attention!

Steve Quarles
steve.quarles@berkeley.edu