

Tuolumne County
Administration Center
2 South Green Street
Sonora, California 95370
Phone (209) 533-5521
Fax (209) 533-6549

Heather Ryan
*Clerk of the Board
of Supervisors*

BOARD OF SUPERVISORS COUNTY OF TUOLUMNE

David Goldemberg, *First District*
Kathleen Haff, *Fourth District*

Ryan Campbell, *Second District*

Anaiah Kirk, *Third District*
Jaron Brandon, *Fifth District*

MINUTES

Fire Safety Advisory Committee – July 27, 2022 @ 10:30 am

AGENDA

1. Call the Meeting to Order: Meeting called to order by Supervisor Goldemberg at 10:42 am, roll call taken. Quorum made.
 - a. Committee Members present (quorum established with members present)
 - i. Supervisor Ryan Campbell -District 2
 - ii. Supervisor David Goldemberg – District 1
 - iii. Chief Marc DiTullio - County Fire (alternate Jeff Santos)
 - iv. Sheriff Bill Pooley – Tuolumne County Sheriff
 - v. Wesley Brinegar – District 3 (absent)
 - vi. Jerry McGowan -Tuolumne Band of Me-Wuk Indians
 - vii. Glen Gotschall – Tuolumne Firesafe Council representative (absent)
 - viii. Chief Mark Ferreira – Tuolumne County Fire Chief's Association
 - ix. Dennis Randall – District 2 public representative
 - x. Scott Fremd – District 1 (absent)
 - xi. Monica Fox – Chicken Ranch Band of Me-Wuk Indians (absent)
 - xii. Eric Holly – District 4 public representative
 - xiii. Chief Aimee New – Sonora City Fire
 - xiv. District 5 – public representative (not filled)
 - b. Others present
 - i. Dore Bietz – OES Staff
 - ii. Tracey McKnight – OES Staff
 - iii. Public – Various
2. Public Comment
 - a. Questions concerning opening up public comment during Board of Supervisors meeting, public comment was open and closed and some discussion – county counsel there was no violation of the brown act.
3. Approval of minutes for June 22, 2022 –
 - a. Chief McGowan motioned to approve, seconded by Eric Holly
 - b. Vote taken all in favor, no nays, or two abstentions (Bill Pooley and Dennis Randal)

4. Old Business-

- a. Discussion and approval of changes as directed at July 5th BOS mtg to amend the Draft Hazardous Vegetation Management and submit final recommendations for August 2nd, 2022 first reading.
 - i. Board reviewed the draft and directed the changes as presented to the Fire Safety Advisory Committee.
 - ii. Committee members discussed clarifications and changes
 - iii. Staff discussed meeting with Farmers Bureau Attorney made comments and revisions to an earlier draft, the request was to remove the Williamson act in it's entirely and minor changes including definition and at this stage in the process changes to propose these types of changes. The question was asked if language could be remove regarding livestock and fuels management. Questions and concerns were discussed but no commitment to making changes were discussed.
 - iv. Dennis Randell commented that it implies it's expressed to broadly and doesn't address new development and references codes suggest to limit urbanized areas.
- b. Public Comment
 - i. Various Comments:
 - a. Properties that are currently for sale and it is overgrown, how can this be addressed regardless of the size?
 - b. Suggestion that the name of the ordinance should be renamed and the word "hazardous" should be removed as it has changed due to the Section A and B is being removed. Suggestion, Section A should remain to address the needs of the potential fire hazards. Fire breaks and fire emberz should be considered when removing language from the ordinance.
 - c. Clarification on the ½ acre or less vegetation as well as unimproved parcels of one half-acre or less shall complete a Reduced Fuel Zone of the entire parcel. With Section A being removed clarification where does it state the
 - d. Farm Bureau is not in favor of this ordinance, the items or areas have not been addressed. Feel the ordinance is flawed and large land owners are affected.
 - e. By eliminating Section A, it doesn't address dwelling specifically
 - f. If you have a larger parcel, should you have further set backs and if the property has a clear open space, what is the requirement?
 - g. Can the name of the ordinance be renamed?
 - c. Campbell motion to approve changes, Chief New provided clarifications on the changes of what it means to remove Section A. Seconded by Chief New. Vote taken with 7 yes, 2 no's and 0 abstentions. Opposed by Dennis Randall – District 2 public representative and Chief McGowan, Tuolumne Band of Me-Wuk Indians representative. Motion to approve recommendation of ordinance language changes passes and recommendation will be forwarded to Board of Supervisors.

5. New Business – none

6. Reports/Presentation

- a. Office of Emergency Services – tabled to allow time for presenter.
- b. Cal Fire 4291 Presentation – Assembly Bill 3074, passed into law in 202, requires a third zone for defensible space. This law requires the Board of Forestry and Fire Protection to develop the regulation for a new ember-resistant zone (Zone 0) within 0 to 5 feet of the home by January 1, 2023. Cal Fire Representative Gary Whitson gave a presentation and answered questions to the committee. Not action required.
 - i. No public comment given.

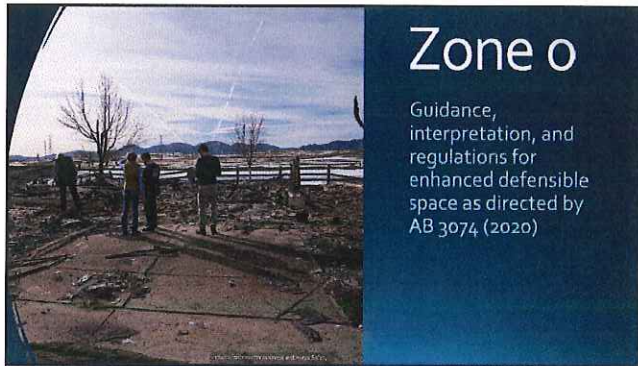
7. Working groups

- i. Communication and Education Outreach workgroup updated on outreach.
- ii. Governance Workgroup no updates other than work on ordinance.
- iii. Emergency Planning workgroup – no updates.

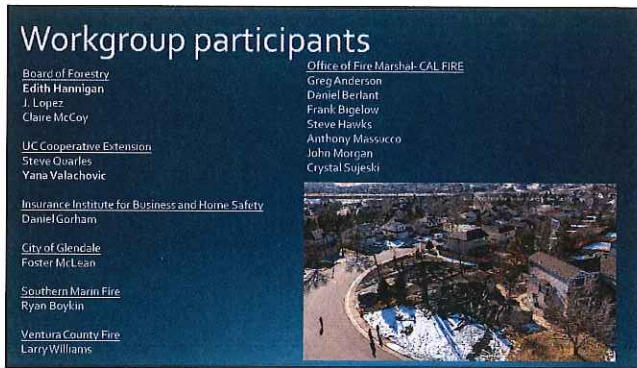
8. Next Meeting and Adjournment

- a. Meeting adjourned at 12:30pm
- b. Next regular Fire Safety Advisory Committee Meeting – **August 24th @ 10:30 am**

DRAFT



1



2



3

DEFENSIBLE SPACE PRC 4291 EVOLUTION

- 1960'S PRC 4291 required 30' of clearance around structures (Zone 1)
 - o Intent was to keep structure fires out of the vegetation
- 2005 increased clearance to 100' (Zone 2)
 - o Goal was to allow structures to withstand fire without support
- 2020 Created Zone 0
 - o Developed to combat embers and radiant heat exposures

4

Purpose- Zone 1



Zone 1 is the 5-30' perimeter of the building and attached decks

Zone 1 reduces the likelihood of fire burning directly to the structure.

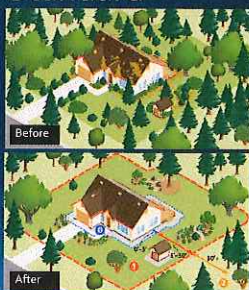
This is accomplished by modifying fuels and creating a discontinuity between planting groups that limits the pathways for fire to burn to the structure and reduces the potential for near-to-building ember generation and radiant heat exposures.

An additional purpose of this zone is to provide a defensible zone for fire personnel to stage and take direct action

5

Zone 1- 5-30' Current Standard

- Remove all dead plants, grass and weeds
- Remove dead or dry leaves and pine needles from your yard, roof and rain gutters
- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney
- Remove or prune flammable plants and shrubs near windows
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Relocate wood piles to Zone 2.
- Remove vegetation and items that could catch fire from around and under decks, balconies and stairs
- 10 feet of bare mineral soil around outbuildings plus 10 additional feet of no vegetation



6

Purpose- Zone 2



Zone 2 is the 30-100' perimeter of the building and attached decks, or to the edge of the property line

Zone 2 actions are designed to reduce the potential behavior of an oncoming fire in such a way as to drop an approaching fire from the crown to the ground.

Fuel modification includes removing dead vegetation and reducing living vegetation to eliminate fuel ladders and create vegetation separation between individual or islands of trees or shrubs.

These vegetation modification requirements are more significant for those properties with steeper terrain, larger and denser fuels, highly volatile fuels, and areas subject to frequent fires.

Additional benefits of the Zone 2 include facilitating direct defense actions, improving the function of Zones 0 and 1 by reducing the flame heights, and the potential for ember generation and radiant heat exposure to structures.

7

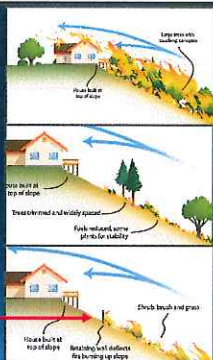
Zone 2- 30-100'

Current Standard

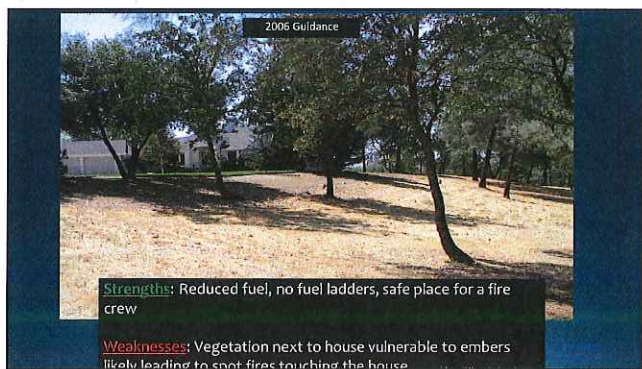
- Cut or mow annual grass down to a maximum height of 4 inches.
- Create horizontal space between shrubs and trees.
- Create vertical space between grass, shrubs, and trees.
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches.
- All exposed wood piles must have a minimum of 10 feet of clearance, down to bare mineral soil, in all directions.

Recommendations:

In cases of construction on a slope, in a shrub or grass vegetation type, recommend the use of noncombustible retaining wall down-slope of building



8



Strengths: Reduced fuel, no fuel ladders, safe place for a fire crew

Weaknesses: Vegetation next to house vulnerable to embers likely leading to spot fires touching the house

9

What does AB 3074 require?

Creation of an ember resistant zone within 5 feet of a structure.

- For the purpose of this section, a structure for an ember-resistant zone shall include any attached deck.
- Interpretation of what is required in this zone is ongoing.

The requirement for an ember resistant zone shall not take affect for new structures until the Board of Forestry and Fire Protection updates the regulations.

1. Draft will go to BOF in August
2. 45 day review
3. Public Comment (60 day review)
4. Might take effect for new structures as early as January of 2023

Requirements for existing structures shall take effect one year after the effective date for the new structures.

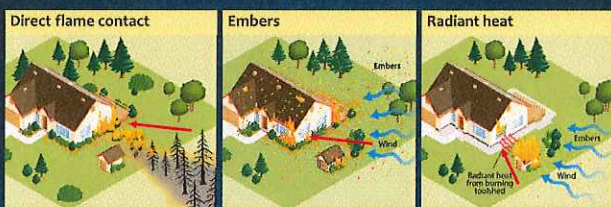
10

Zone Zero applies to SRA and VHFHZ in LRA



11

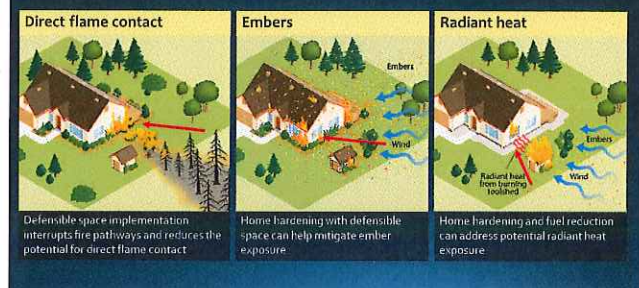
Three types of fire exposures



- Defensible space strategies have focused on how to reduce direct flame contact.
- Preparing for embers and radiant heat exposures takes a different approach.

12

Techniques to reduce exposures



13

Purpose- Zone 0



Zone 0 is the 0-5' perimeter of the building and attached decks

Zone 0 reduces the likelihood of structure ignition by reducing the potential for direct ignition of the structure from flame contact, by embers that accumulate at the base of a wall, and/or indirect ignitions when embers ignite vegetation, vegetative debris or other combustible materials located close to the structure that result in either a radiant heat and/or a direct flame contact exposure to the structure.

Zone 0 is the horizontal area within the first five feet around the structure and any outbuildings and attached decks, and stairs. The zone also includes the area under attached decks and stair landings.

Zone 0 is a critical component of structure defense and, when coupled with Zones 1 and Zone 2, is essential to defensible space.

14

Items commonly located in Zone 0

- Rock, pavers, statuary, fountains, cement
- Mature tree
- Irrigated and mowed lawn
- Synthetic lawn
- Irrigated, non-woody plants
- Decorative structures
- Gate or fence that attaches to the building
- Parallel fence
- Covered storage facilities
- Landscape materials
- Potted plants
- Garbage, recycling receptacles
- Vehicles
- HVAC, heat pumps
- Outdoor kitchens
- Attached patio covers
- Portable BBQs
- Pet and animal structures

15

Workgroup recommendations

Not recommended

Covered storage facilities (3/7)
Potted plants: combustible pot (5/7)
Gate or fence that attaches to the building (0/7)
Landscape materials (1/7)
Synthetic lawn (3/7)
Decorative structures (1/7)

Allowable

Rock, pavers, statuary, fountains, cement (7/7)
Mature tree (7/7)
Parallel fence (7/7)
Irrigated and mowed lawn (5/7)
Irrigated, non-woody plants (5/7)
Potted plants: noncombustible pot (5/7)

Educational Approach

Garbage, recycling receptacles
Vehicles
HVAC, heat pumps
Outdoor kitchens
Attached patio covers
Portable BBQs
Pet and animal structures

Labeled Workgroup report 12/14/21 by John C. Lee

16

Highest standard

No combustibles (vegetation, mulch, wooden structures) and no trees

Allowances: 7 of 7

- Rock or other noncombustible mulch product (i.e., gravel, lava, decomposed granite)
- Statuary, fountain
- Attached decks and stairs
- Cement or stone pavers

Benefits

Reduces the potential damage from ember deposition (and ignition), creating the potential for direct flame contact, and radiant heat exposure to the structure within the first 5 feet.

Considerations

- Reduces need for interpretation from the D space inspector or Authority Having Jurisdiction (AHJ)
- Easiest to maintain
- Retrofitting (existing buildings) will be more costly than implementing for new construction
- Easier to implement with new construction



17

Synthetic lawn- No

(1 of 7 supported this allowance)

Considerations

- Petroleum-based product.
- IBHS experiments suggest smoldering ignition. A MIST study suggested significant BTU production and flame heights.
- Combustible materials may accumulate on the surface. Ignition would result in a flaming exposure.
- Hazard does not change seasonally



18

Combustible decorative structure- **No**

Trellis, pergola, shade covering, planters, privacy wall, etc

If these structures are a part of the deck, they would not be evaluated; however, the vegetation would be evaluated.

(1 of 7 supported this allowance)

Considerations

- Will help with public support
- Depending on the dimensions of the combustible materials and arrangement, these structures may compromise the fire protection benefits.
- These structures weather, vulnerability increases over time.
- Structures on decks are often unpermitted and added later.



19

Attached fence or gate- **No**

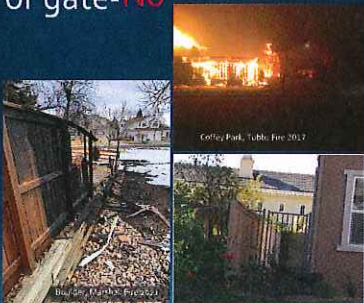
Combustible attachment

(0 of 7 supported this allowance)

Considerations

- A combustible fence can transmit fire to the home via an attached gate.
- The gate can be replaced using noncombustible materials.

Perpendicular attachment is the concern.



20

Photo from an experiment at IBHS where combustible mulch ignited a wood fence.

The metal gate and rock mulch in Zone Zero prevented the fire from spreading to the building.



21

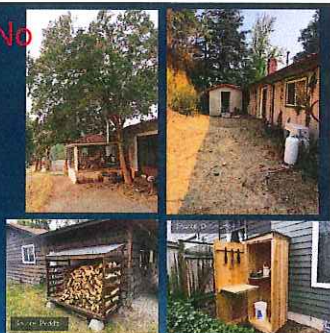
Storage structures-**No**

Not built to 7A standards

(0 of 7 supported this allowance)

Considerations

- Helps with public support
- Difficult to implement
- If made of ignition resistant material or ignition resistant construction, could these be allowable?



22

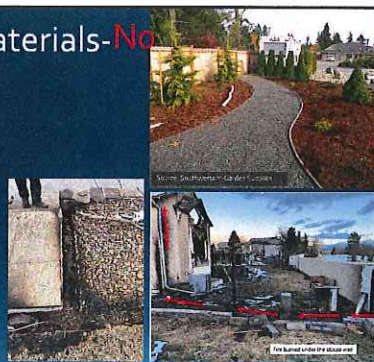
Landscape materials-**No**

Woody mulch, combustible boards

(0 of 7 supported this allowance)

Considerations

- Wood mulch is highly flammable
- Wood or petroleum-based boards are the concern; some can be made of metal or cement
- Used to separate garden beds and their placement can lead to the house or follow fence lines
- The concern is especially when in contact with the house in Zone 0



23

Landscape materials-**No**

Lumber or round logs, railroad ties, creosote-treated, pressure-treated

(1 of 7 supported this allowance)

Considerations

- Always combustible
- Used as retaining walls
- Fences are often adjacent
- Logs can be used to make garden bed separation or create height
- Can be buried



Marshall Fire 2021

24

Potted plants, combustible pot-**No**

Wine barrel, wood pot, plastic
(0 of 7 supported this allowance)

Considerations

- What plant?
- Maintained?
- Irrigated?
- Near to window?

25

Mature tree- **Yes, if**

Bole within or touching the Zone 0
Branches 10' above the roof and from the chimney, not under the eaves, and no ladder fuels
(7 of 7 supported this allowance)

Considerations

- May help in gaining public support
- Trees provide shade (Green Energy Code consideration)
- Trees provide a regular source of needles, leaves, branches, and other items that will accumulate on or near the building.
- Tree type likely matters, with a greater tolerance for hardwoods over conifers. The bole of palm trees are very fibrous.
- Will inspectors be able to identify tree types or tree characteristics?
- Could have a recommendation to remove trees in Zone 0.

26

27

Irrigated/mowed grass

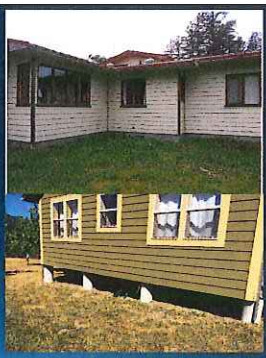
Yes, if:

Max height 2-3 inches

(5 of 7 supported this allowance)

Considerations

- May help in gaining public support.
- Thatch can burn under certain conditions.
- Homeowner practices vary, and this requires sufficient water to maintain grass during dry conditions (including drought).
- Grass is a one-hour fuel
- Without water, plant conditions change quickly.
- The vertical noncombustible zone could be helpful for the allowance of a mowed and dry lawn.



28

Irrigated, non-woody, herbaceous plantings, separated- Yes, if:

All ground cover ($\leq 3"$ in height) and plants ($\leq 16"$ in height) shall be minimally set back from structures, decks, and other plants a 5 times the height of the plant or 12-inches, whichever is greater. Ground covers and plants shall have high water content. No combustible mulch.

(5 of 7 supported this allowance)

Considerations

- Will help with public support
- The more vegetation allowed in Zone 0, the more likely the fire protection benefits will be compromised.
- Plants shed leaves and will require ongoing maintenance.
- Noncombustible mulch could be between plantings.
- This green vegetation can catch leaves, needles, and other debris, allowing for anticipated accumulations of combustibles.
- Note that the vertical zone may need to increase in height if these combustibles are allowable.
- Succulents could be difficult to evaluate as many thatch and can be woody (e.g., ice plant is woody).



29

Potted plants, noncombustible pot

Yes, if:

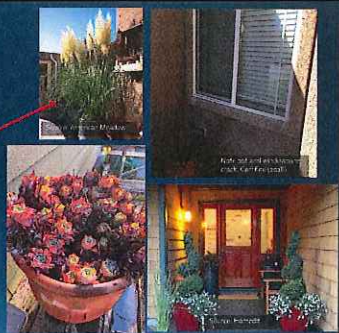
✓ Ceramic, metal, cement

✓ Two ft max vegetation height

(5 of 7 supported this allowance)

Considerations

- What plant?
- Maintained? irrigated?
- How many pots?
- Near to window?
- Near to combustible siding?



30

Parallel fence- Yes

(7 of 7 supported this allowance).

Committee reluctantly accepts for existing construction.

Considerations

- Helps with public support
- More difficult to implement for existing construction
- Combustible fences directly ignite from embers on a privacy fence, less likely on a good neighbor fence
- Embers ignite adjacent vegetation that can ignite the fence.
- Use of a steel fence along the property line, parallel to neighboring homes, would provide protection should one home ignite (Australia Bushfire CRC study)
- Could home hardening actions be used to mitigate the presence of the fence? Boxed in eaves? Tempered glass windows? Clad the fence in metal roofing? Recommended or required mitigations?



31

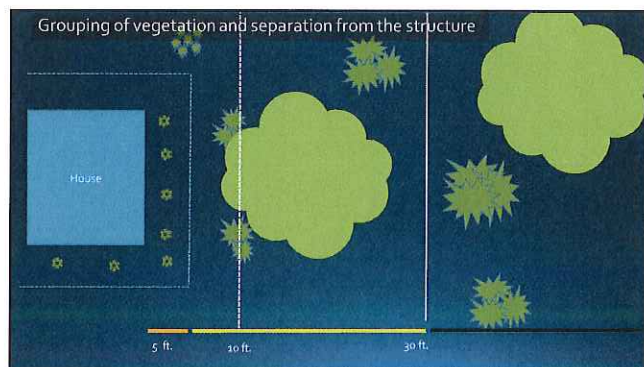
Use an educational strategy for:

- ✓ Garbage, recycling receptacles
- ✓ Vehicles
- ✓ HVAC, heat pumps
- ✓ Outdoor kitchens
- ✓ Attached patio covers
- ✓ Portable BBQs
- ✓ Pet and animal structures



32

Grouping of vegetation and separation from the structure



33

Transition Examples



Images courtesy of the Insurance Institute for Business and Home Safety.

34



Images courtesy of the Insurance Institute for Business and Home Safety.

35
