

# IT'S NOT JUST ABOUT DEFENSIBLE SPACE

## STRUCTURAL SURVIVABILITY

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Woodside Fire Protection District



# STRUCTURAL SURVIVABILITY

CHANGE THE PARADIGM....FROM

Built to burn



Built to resist



# STRUCTURAL SURVIVABILITY

TO SURVIVE A WILDIRE IT MUST

PREVENT EMBERS, FIREBRANDS OR  
FLAME FROM ENTERING THE  
STRUCTURE



# STRUCTURAL SURVIVABILITY

## *MOST COMMON REASON FOR STRUCTURE LOSS*

1. Inadequate vegetation clearance around structure
2. Flammable roofing material (i.e. wood shake)
3. Inadequate vents (1/16" or larger)
4. Less than 1hr rated doors/wood fencing
5. Combustible siding (i.e. cedar shingles)
6. Single pane windows & plastic skylights
7. Vulnerable decks



# STRUCTURAL SURVIVABILITY

## FIRE SCENARIOS HOW STRUCTURES IGNITE

- ✓ **Direct flame impingement**
- ✓ **Radiant heat**
- ✓ **Ember/Firebrand exposure**

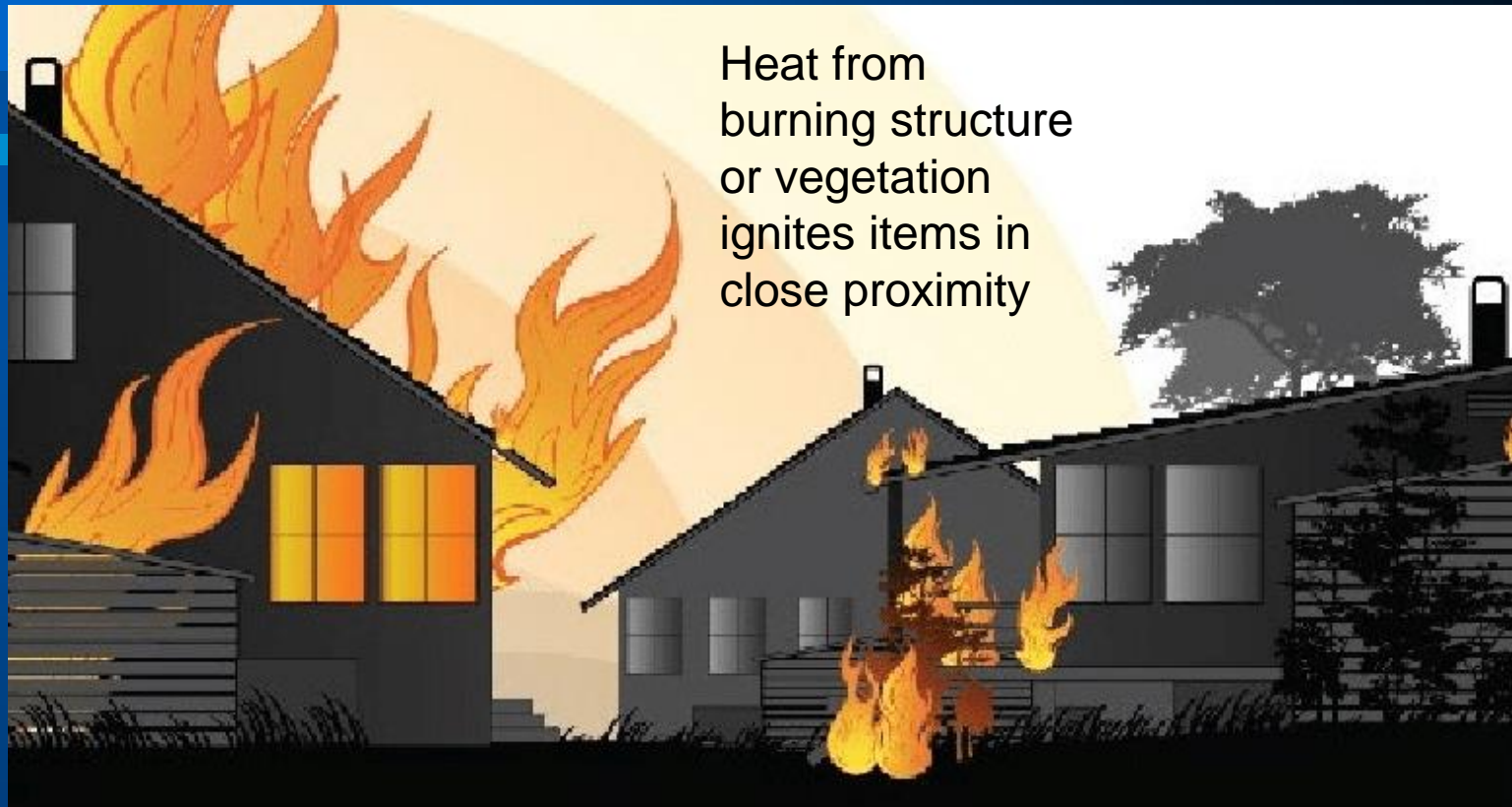


# STRUCTURAL SURVIVABILITY

## HOW BUILDINGS IGNITE

### Radiant Heat

Structure  
to structure  
ignition



Heat from  
burning structure  
or vegetation  
ignites items in  
close proximity

# STRUCTURAL SURVIVABILITY

## HOW BUILDINGS IGNITE

### Direct Flame Impingement

Flames spread and ignite what they come in contact with.

Structure to  
structure  
ignition



# STRUCTURAL SURVIVABILITY

## HOW BUILDINGS IGNITE

### Ember Propagation

Wildland to  
structure or  
structure to  
structure



Embers & firebrands can travel airborne, even without wind, more than a mile.



# STRUCTURAL SURVIVABILITY

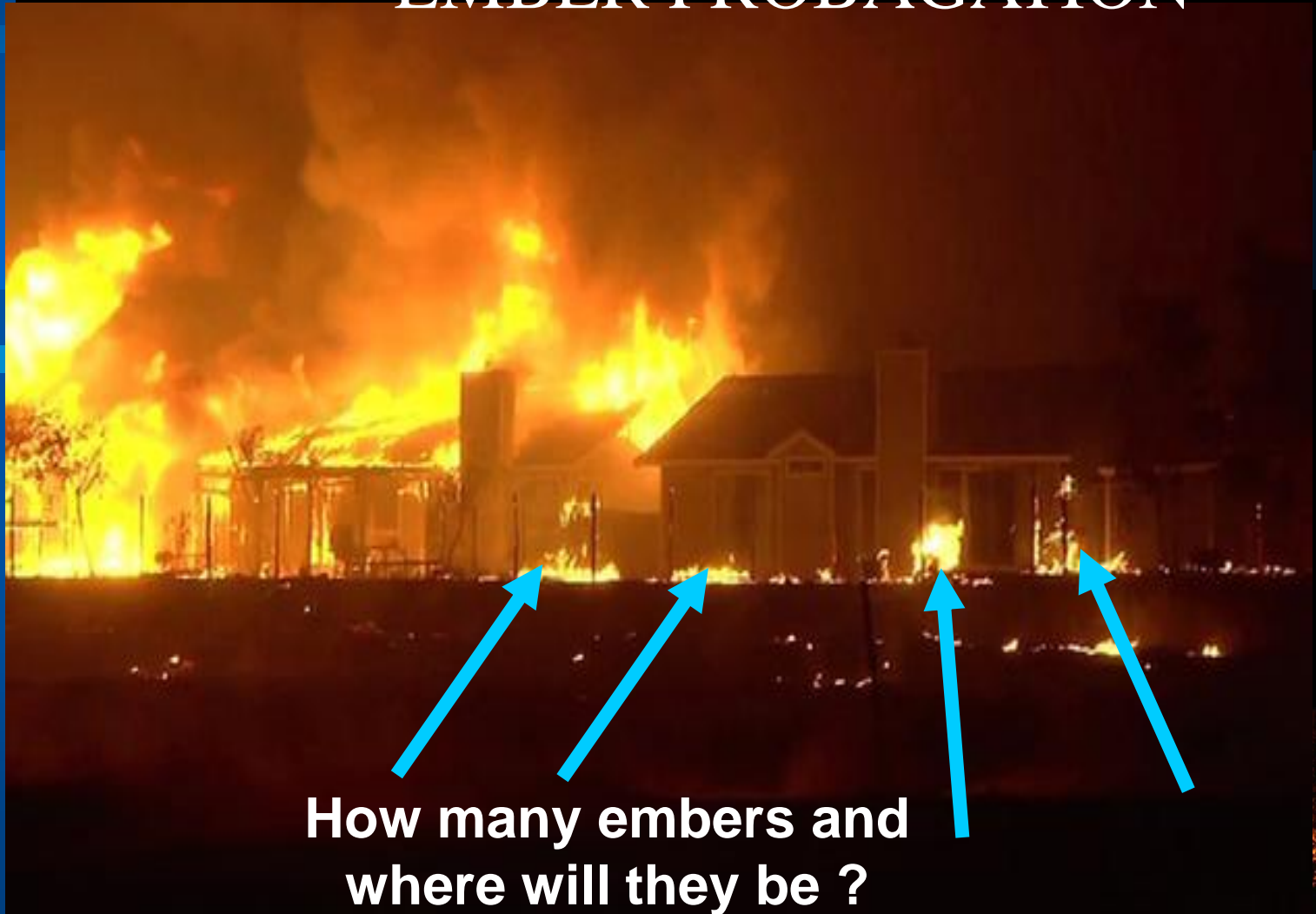
THE MOST LIKELY SCENARIO!

**Ember/Firebrand exposure**



# STRUCTURAL SURVIVABILITY

## EMBER PROBAGATION



# STRUCTURAL SURVIVABILITY

## BUILDING ELEMENTS YOU NEED TO FOCUS ON

- ✓ ROOF COVERINGS
- ✓ VENTS
- ✓ DOORS / FENCES
- ✓ EXTERIOR SIDING
- ✓ EXTERIOR WINDOWS / SKYLIGHTS
- ✓ DECKS



# STRUCTURAL SURVIVABILITY

## BUILDING ELEMENTS

### ROOF COVERINGS

Watch out for those valley and hips !

Maintenance is key



# STRUCTURAL SURVIVABILITY

## ROOF COVERINGS



Proper installation plays a major role, even with non combustible materials.



# STRUCTURAL SURVIVABILITY

## ROOF COVERINGS

Maintenance & type of material go hand in hand.



# STRUCTURAL SURVIVABILITY

## ATTIC & OTHER VENTS



# STRUCTURAL SURVIVABILITY

## ATTIC & OTHER VENTS

Homes can have a multitude of vents.

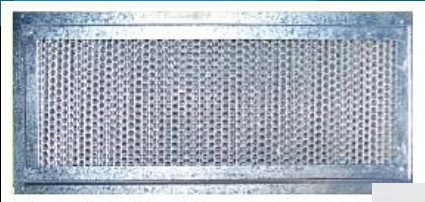




# STRUCTURAL SURVIVABILITY

## ATTIC & OTHER VENTS

Use vents that prevent embers from entering the interior of the structure .



**VULCAN  
&  
Brandguard**  
Use ember  
trapping  
technology



# STRUCTURAL SURVIVABILITY

## DOORS

1hr doors



Look for vulnerable areas



Auto locking or magnetic pet doors



# STRUCTURAL SURVIVABILITY

## FENCES

If its attached to the house it should be fire resistant or non combustible.



# STRUCTURAL SURVIVABILITY

**WINDOWS** – Use dual pane or tempered

Plant only low growing vegetation under windows



# STRUCTURAL SURVIVABILITY

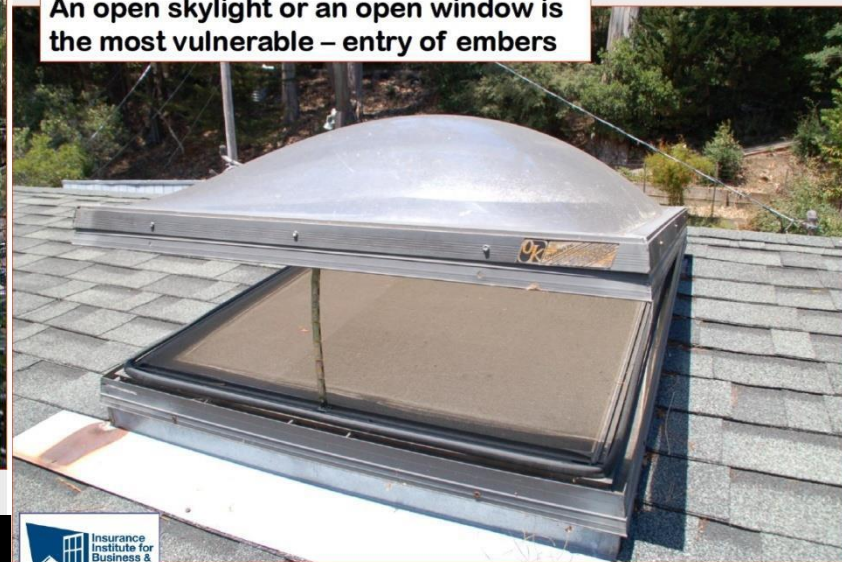
## SKYLIGHTS

Skylight on steep-slope roof:  
- radiant heat exposure



Use metal screen on  
operable skylights

An open skylight or an open window is  
the most vulnerable – entry of embers



Use tempered or dual  
pane skylights not plastic



# STRUCTURAL SURVIVABILITY

## DECKS



# STRUCTURAL SURVIVABILITY

## DECKS

This deck has  
NO chance of  
survivability.



# STRUCTURAL SURVIVABILITY

## *DECKS, STAIRS & TRELLIS*

Embers can easily ignite vines and almost any lightweight trellis.

Don't allow a wick of fire to reach your structure.





# STRUCTURAL SURVIVABILITY

## SIDING



Combustible wood siding is vulnerable to radiant heat, flame impingement and embers.



# STRUCTURAL SURVIVABILITY

## The Exterior Wall Is Your Home's Armor

Consider a noncombustible skirting if you choose wood siding on your home



# STRUCTURAL SURVIVABILITY

Do not create a wick of burning material leading to your structure...that goes for much too.



# STRUCTURAL SURVIVABILITY

## Assess Your Home

- Roof
- Vents
- Doors/Fences
- Siding
- Windows/Skylights
- Deck
- Defensible Space



# STRUCTURE SURVIVABILITY

MAKE YOUR HOME THE WINNER IN  
WILDFIRE RESILIENCY

THANK  
YOU

