

Why Homes Burn in a Wildfire

What poses the greatest risk to homes in Oakmont Village during a wildfire? Flying embers. To appreciate the significance of this threat it is necessary to understand the various ways homes can ignite during a wildfire.

During a wildfire, and with certain exceptions for some homes on the outside perimeter of Oakmont, the first house to catch fire in a contiguous cluster of homes will ignite directly or indirectly from flying embers. Direct ignition occurs, for example, when embers enter the attic or crawl space through vents, or accumulate around the foundation at the base of combustible siding.



Indirect ignition occurs when embers ignite landscaping or something else near the home, such as a combustible fence, shed or furniture, which then ignites the home via direct flame contact or radiant heat, the other two ways fire spreads.

During the 2017 Tubbs Fire, it was flying embers that crossed six lanes of Highway 101 to reach Coffey Park, where the fire spread structure-to-structure via embers, flames and radiant heat, destroying most of the homes in that community.

Within Oakmont Village, a suburban setting very similar to Coffey Park, flames and radiant heat will not cross a street, but flying embers will, potentially igniting another vulnerable house in another cluster, where flames and radiant heat will be able to ignite adjacent homes.

Protecting every home in Oakmont Village from flying embers could potentially prevent any home from burning during a wildfire. This is, of course, far easier said than done. But research shows that having defensible space, especially within five feet of the home, known as Zone Zero, combined with hardening of the home itself in various ways, are proven to reduce losses during wildfires. Research has also found that “substantial reductions in losses are achievable when community-wide actions can be applied.”

To help achieve those substantial, community-wide reductions, the Firewise Task Force is encouraging all Oakmont Village homeowners to request a free Defensible Space and Home Hardening Assessment to help protect their homes from the threat of wildfires. Request your free assessment by adding your name to the sign-up sheet at the Firewise Task Force’s table or by visiting <https://oakmontvillage.com/article/firewise-assessment-request/> on the Web.

Additional information is also available online at <https://oakmontvillage.com/firewise-actions>.

Source: “Fire risk to structures in California’s Wildland-Urban Interface” article in *Nature Communications* magazine <https://www.nature.com/articles/s41467-025-63386-2>