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Home Hardening

Not all homes are built the same. The materials, design and construction assembly of a home plays a particularly large role in the home's likelihood of surviving a wildfire. Exposure to (a) direct flames, (b) radiant heat and (c) embers should be considered when doing work to "harden" a home.

Remember: [Flying embers](#) can destroy a home up to a mile ahead of a wildfire.

In general, we recommend that you take measures to actively reduce the likelihood of a home ignition by installing/retrofitting ignition resistant features – a practice known as **home hardening**. Below is simple list and guide of for home hardening. You can gain site specific home hardening tips and recommendations by scheduling a [Site Visit](#) with a WRWC representative today.

Roof: Roofs are highly vulnerable to wildfire ignition. Class A roofing assembly is highly recommended.

NOTE: Pay special attention to any interfaces between horizontal and vertical interfaces (juncture between roof and exterior walls) and consider utilizing non-combustible flashing in locations where ember collection is likely.

Vents: Attic, soffit, roof, gable crawl space and all other vents should be screened with 1/8" metal screening.

Windows & Window Frames: Windows are particularly vulnerable to the extreme heats that are posed by nearby fire. When windows break, homes are exposed to extreme wildfire hazards. Double-paned windows have become a standard of modern construction, utilizing tempered glass panes has become an added recommendation. In addition, the frames of the windows are another factor to consider. Window frames should be composed of a non-combustible material or, if not possible, incorporate a metal sub-frame to help the window frame retain its shape when exposed to increased heat.

Exterior Walls / Siding / Eaves / Soffits: Utilize non-combustible or ignition-resistant materials such as fiber-cement board, stucco, masonry/brick, or stone. Heavy timber construction is another ignition resistant material. NOTE: Please keep in mind that while these materials are resistant to ignition, they need to be assembled in such a manner that there is no exposure (heat or embers) to combustible materials that may lie behind these materials. These gaps may expose sheathing, or other combustible materials, which are vulnerable to ignition.

Decks: Decks are another particularly vulnerable point for home ignition. In addition, our wonderful climate in western Colorado makes decks a great feature for enjoying the outdoors while at home. There are many different decking styles, designs and materials. In general, we recommend that the decking surface NOT be

composed of wood expect for large structural components. In addition, we highly recommend that no combustible materials be growing or stored underneath a deck (regardless of decking material). If and when feasible, we recommend that decks be closed off to the ground surface level so that embers and direct heat at not allowed to heat or ignite the deck from below. Finally, enclosing the base of exposed combustible columns with a non-combustible material is recommended.

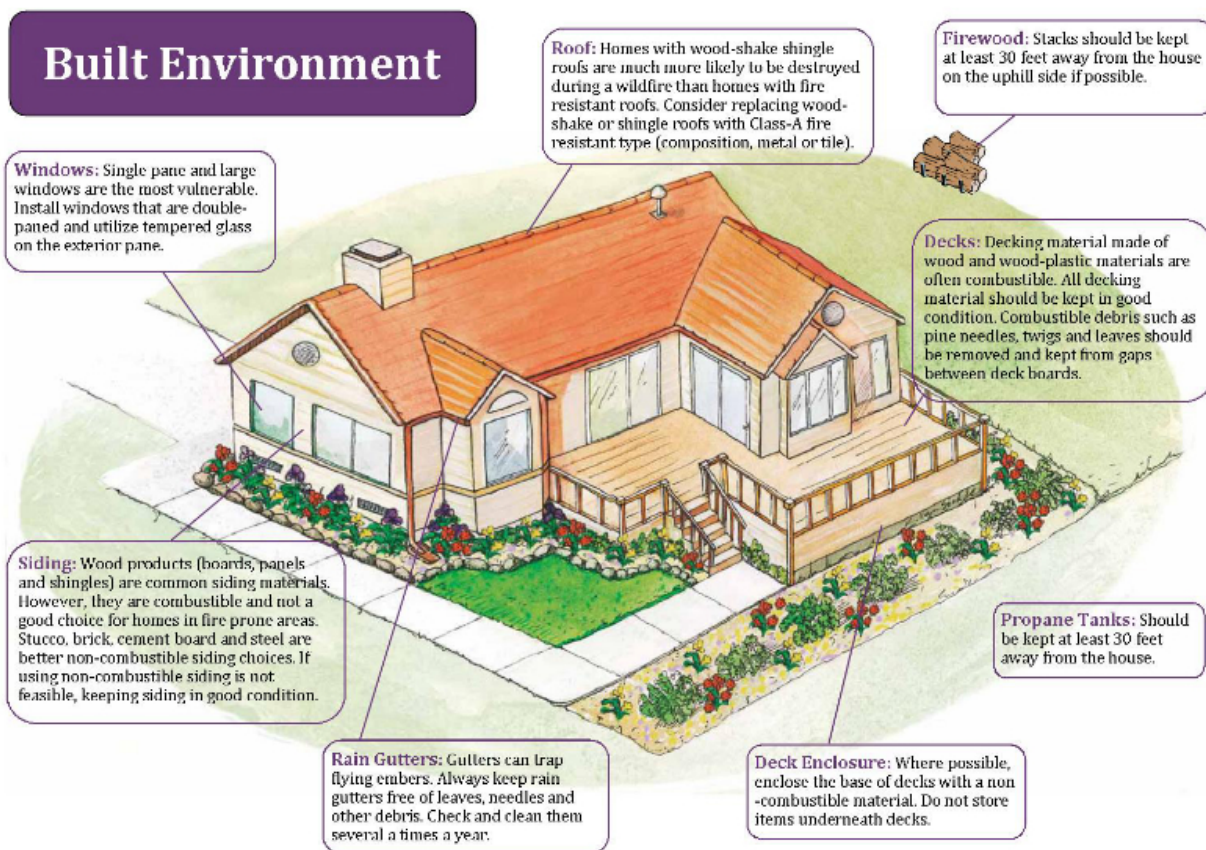
Fencing: There are many needs and uses for fencing. In the Wildland Urban Interface, we recommend using non-combustible materials for any fencing that is attached, or in any way connected to, a home or structure.

Gutters: We recommend that gutters be composed of non-combustible materials and installed such that the leading edge of the roof is finished with a metal drip edge so that no wood sheathing is exposed. That drip edge should extend in to the gutter. If you have nearby large trees which drop leaves, needles or sticks on to your roof, we recommend installing a gutter cap to reduce annual maintenance.

Chimneys: Any chimney that serves a fireplace or other heating appliance should have an approved spark arrester installed. Spark arresters will serve to reduce the chance of a spark from your home from starting the outside of your home on fire.

Home Perimeter Hardened Zone: The ground surface immediately adjacent to your home and/or decking should be developed in to a hardened zone. Most home perimeter hardened zones are developed using a layer of weed fabric on the soil surface which is then covered in rock. Regardless of the design, the hardened zone should contain zero combustible materials (no wood based mulch!) and should extend out at least three to five feet from the base of your home, deck or any other attached projections.

Near Home Combustibles: Any material that is combustible and is near your home is a wildfire vulnerability. We recommend that any and all combustible materials that are within 30 feet of your home be removed from this area (especially during the wildfire season). Examples of near home non-vegetative combustibles include: decorative wreaths and displays, patio furniture, firewood, propane tanks (home & grill), playground equipment, other homes, outbuildings, Vegetation near the home is also critical and should be considered when developing, enhancing or maintaining your [Defensible Space](#).



Further Reading and Additional Resources:

[City of Colorado Springs Fire Department Division of the Fire Marshal. Ignition Resistant Construction Design Manual: A guide to smart construction and wildfire mitigation in the wildland/urban interface. 2nd Edition. \(2014\).](#)

[Quarles, Stephen L., Vlachovic, Yana, Nakamura, Gary M, Nader, Glenn A., and Michael J. De Lasaux. Home Survival in Wildfire-Prone Areas: Building Materials and Design Considerations. University of California Agriculture and Natural Resources. Publication 8393. \(2010\).](#)

[Orange County Ready, Set, Go! \(readyssetgooc.org\). Home Hardening Page \(http://readyssetgooc.org/home-hardening/\)](#)