

## Features to Consider when Rebuilding for a Healthy, Resilient, and Efficient Home

Updated building codes have created healthier, safer homes that resist extreme weather, are more durable and are less expensive to operate. This list includes additional measures to consider that can be incorporated into a new home's design to create a more resilient home that can better withstand whatever comes its way.

**Building Envelope** – Well-insulated walls and attics, and high performance windows will provide more comfort inside your home and reduce noise. High performance windows will often be fire rated, meaning they can withstand high temperatures and add protection to your home.

**Passive design** – If looking to change the footprint of your home, consider orientating it in a way that uses the sun's energy for the heating and cooling of the house. A well-designed passive solar home reduces or eliminates the need for mechanical heating or cooling by allowing the sun's free heat into the home in the winter and blocking unwanted solar heat in the summer. Passive design can save you money, provide more comfort, and supply abundant natural lighting during power outages.

**Go Electric!** – Ultra-efficient electric appliances (e.g. heat pump water heaters, ovens, ranges, dryers, etc.) can save money and increase your homes efficiency and safety by eliminating potentially harmful combustion fuels on site. You can ensure your home is ready for 21<sup>st</sup> century transportation by installing or being ready for a future electric vehicle charging station.

**Gas Appliances** – For replacement gas appliances, high efficiency appliances are the way to go. Look for direct vent, sealed combustion gas appliances and install and use properly sized kitchen exhaust fans for gas ranges and ovens to keep unhealthy exhaust gases out of the home.

**Solar or Solar Ready** – Consider adding solar or designing for future solar installations. Solar panels harness the energy from the sun to provide power for your home while saving money on utility bills.

**Energy Storage** – Solar panel systems paired with batteries creates the greatest resiliency. Battery backup can be used in emergencies for appliances such as refrigerators, select lights and outlets to continue charging cell phones, laptops, and/or power emergency medical equipment. If not ready to install energy storage systems now, consider dedicating space to allow for future installations.

**Landscape** – Landscapes should include fire safe best practices including low-growing fire-retardant plants and 30-100 feet of defensible space. Installing rainwater and greywater systems will help save water and money. Minimizing the use of lawns and prioritizing low water use and California Native plants will not only save water, but support wildlife habitat in our watershed.



In an effort to support the recovery, the Sonoma-Marin Water Saving Partnership is developing six to eight base planting and irrigation plan sets and specifications with associated engineered estimates of costs. These designs will ensure compliance with Water Efficient Landscaping Ordinance, encourage Russian-River and Bay-Friendly sustainable landscaping practices, and can incorporate green infrastructure (stormwater elements). Available April 2018.

**Water** – Sonoma County has experienced and will continue to see drought conditions. An easy way to save water and money is to install high-efficiency fixtures, clothes washers, and toilets.

**Adaptable design** – Thinking about long-term future needs, homeowners can design a home that can accommodate change with as little cost and disruption as possible. Incorporate universal design strategies that ensure buildings can be used by virtually everyone regardless of age and regardless of the occupant’s level of ability or disability.

**Sustainable and fire-resistant building materials** – A variety of building materials such as metal or clay tile roofs, stucco, concrete, rammed earth and prefabricated steel-framed wall panels can reduce waste and labor costs while accelerating construction and adding protection from wildfires. For new roofs, the Sonoma County Community Wildfire Protection Plan recommends using only materials such as Class-A asphalt shingles (including composition), slate, clay tile, metal or concrete products. The Wildland-Urban Interface practices are a great resource.

**Accessory dwelling units** – An accessory dwelling unit is a small permanent home in addition to the main house on a residential property, often called a granny unit. Adding an additional compact efficient living space can enhance opportunities to gain income via rent or to house a family member. Interested but not ready to build one now? Consider the space needed and outline it on the building plans.

## Resources

FireSafe Sonoma | [www.firesafesonoma.org](http://www.firesafesonoma.org)

Sonoma-Marin Water Saving Partnership | [www.savingwaterpartnership.org](http://www.savingwaterpartnership.org)

County of Sonoma Energy and Sustainability Division | [www.sonomacounty.ca.gov/energy](http://www.sonomacounty.ca.gov/energy)

Rebuild Green Expo | [www.rebuildgreenexpo.com](http://www.rebuildgreenexpo.com)

Department of Energy | [www.energy.gov/energysaver](http://www.energy.gov/energysaver)