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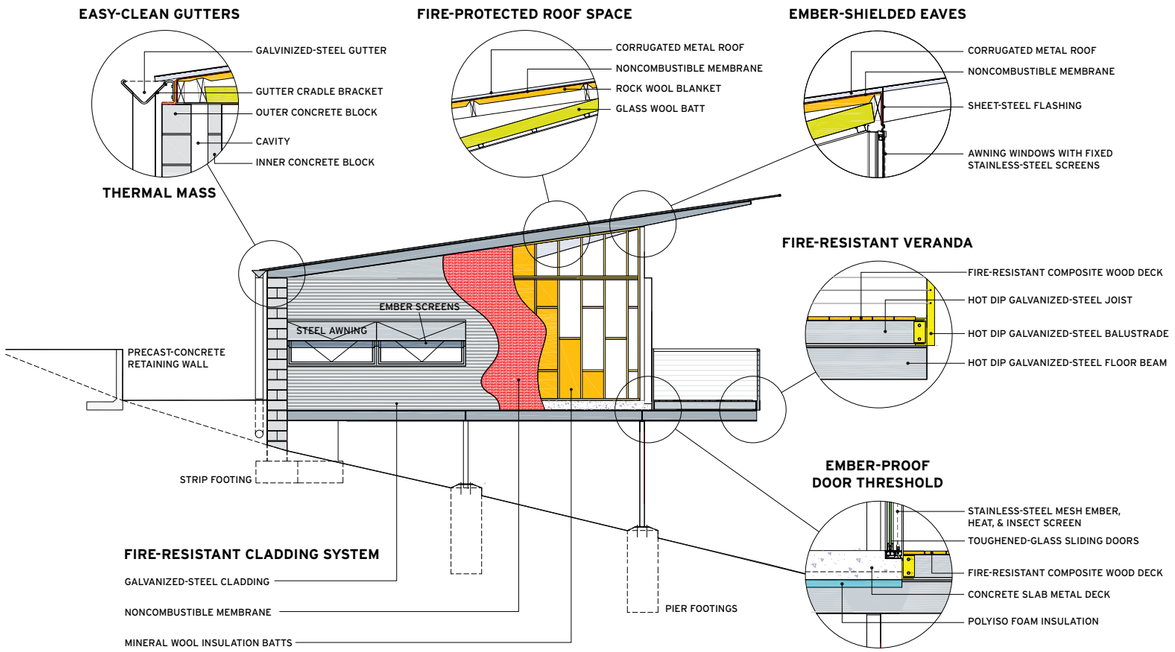

KARRI FIRE HOUSE'S FIRE-RESISTANT STRATEGIES

IMAGES: © ANDREW HALSALL (BOTTOM); IAN WEIR (TOP AND OPPOSITE)

Idaho, shows that human-induced climate change nearly doubled the area affected by forest fires in the American West over the past three decades. Their study, published in the *Proceedings of the National Academy of Sciences*, analyzed satellite data according to eight different metrics, concluding that anthropogenic climate change was responsible for an additional 16,000 square miles of forest fire area between 1984 and 2015.

Many California architects now believe that catastrophic wildfires may well represent the new normal. Last season's blazes "weren't an anomaly; they are a sign of what's to come," says Brandon Jorgensen, a Napa-based designer. He has assembled a group of Bay Area practitioners to propose solutions for building in fire-prone areas. In addition to organizing an exhibit slated for next fall in Napa, the team plans to examine the state's Wildland-Urban Interface (WUI) regulations—guidelines intended to protect life and property where wildfire risk is high—and then recommend changes to code officials.

Some of the region's architects are focused on rebuilding as quickly as possible. Julia Donoho, chair of the AIA Redwood Empire's

TREEHOUSE The Karri Fire House is built to the second-highest of six levels of resilience specified by Australian code. Its entry facade (opposite) is largely masonry, but the eastern elevation (above) opens to views of the surrounding eucalyptus forest.

Firestorm Committee and an attorney as well as an architect, is advocating a "whole neighborhood" reconstruction effort that would coordinate contractors and homeowners in certain areas in an attempt to rebuild en masse and expedite reconstruction. She says that 10 builders are interested in such an approach for Coffey Park—an especially hard-hit development in Santa Rosa. A group-reconstruction process is moving forward in another Santa Rosa development, the Mark West Estates, where one contractor is building about 80 houses.

As the rebuilding effort gets off the ground, other architects are putting forward ideas to bring life to devastated neighborhoods. For instance, Byron Kuth and Elizabeth Ranieri, principals of the San Francisco firm Kuth Ranieri, propose small popup shelters that could be distributed throughout a neighborhood and offer shade, cell phone charging powered by rooftop photovoltaic panels (PVs), and a place where homeowners could meet with their contractor or architect. They are also proponents of easing restrictions on accessory dwelling units—often referred to derisively as mother-in-law apartments. Such structures, which many jurisdictions have frowned upon because they increase density, could allow homeowners to rebuild in phases, serving first as their short-term housing before being turned into a home office or a rental apartment.

As design teams start to develop long-term solutions, they will need to consider vegetation along with structure. "Almost every bit of landscape acts as a fuel," warns Stephanie Landregan, the former chief landscape architect of the Mountains Recreation & Conservation Authority, an agency dedicated to the preservation of open space and parkland in and around Los Angeles. Among her recommended strategies are a defensible space around buildings, use of water-retaining plants such as succulents, and avoidance of branches that overhang the roof.

But before building or planting anything in a fire-ravaged landscape, project teams will have to prepare the land, including stabilizing sites and grading. These operations can help prevent catastrophic events like the mudslides that occurred in the immediate aftermath of the Thomas Fire. The procedures can provide important safeguards against more insidious erosion and runoff collecting in storm drains and polluting rivers and streams. In California, the Army Corps of Engineers has removed much of the scorched debris and ash, which contain heavy metals and other toxins. However, runoff from exposed slopes denuded of vegetation, and the sediment it carries with it, still poses a threat to aquatic ecosystems, according to Jessica Pollitz, a project manager in the Petaluma office of civil consultants Sherwood Design Engineers. (Her firm is working on several post-fire residential projects in the north Bay Area, including one with Kuth Ranieri). In some cases the charred soil can become hydrophobic, further hindering infiltration and exacerbating the problem, she points out.

Architects involved in the recovery effort and looking for fire-resistant precedents can be found elsewhere, not just in California, or the United States. One designer who created his practice around wildfire design is Ian