

Natural Harmony

TEXT AND PHOTOGRAPHS BY HEIDI DAHMS FOSTER



The Mohney home nestles into the landscape above Oak Creek.

Few areas of Yavapai County offer the spectacular building sites and awe-inspiring views of red rocks that Sedona affords. This natural beauty is architect Paul Cate's palette, and he draws upon it with style and care.

Cate, who works from his studio in a restored 1928 home in Old Town Cottonwood, is overseeing the construction of two elegant homes he designed in Sedona's sensitive environment.

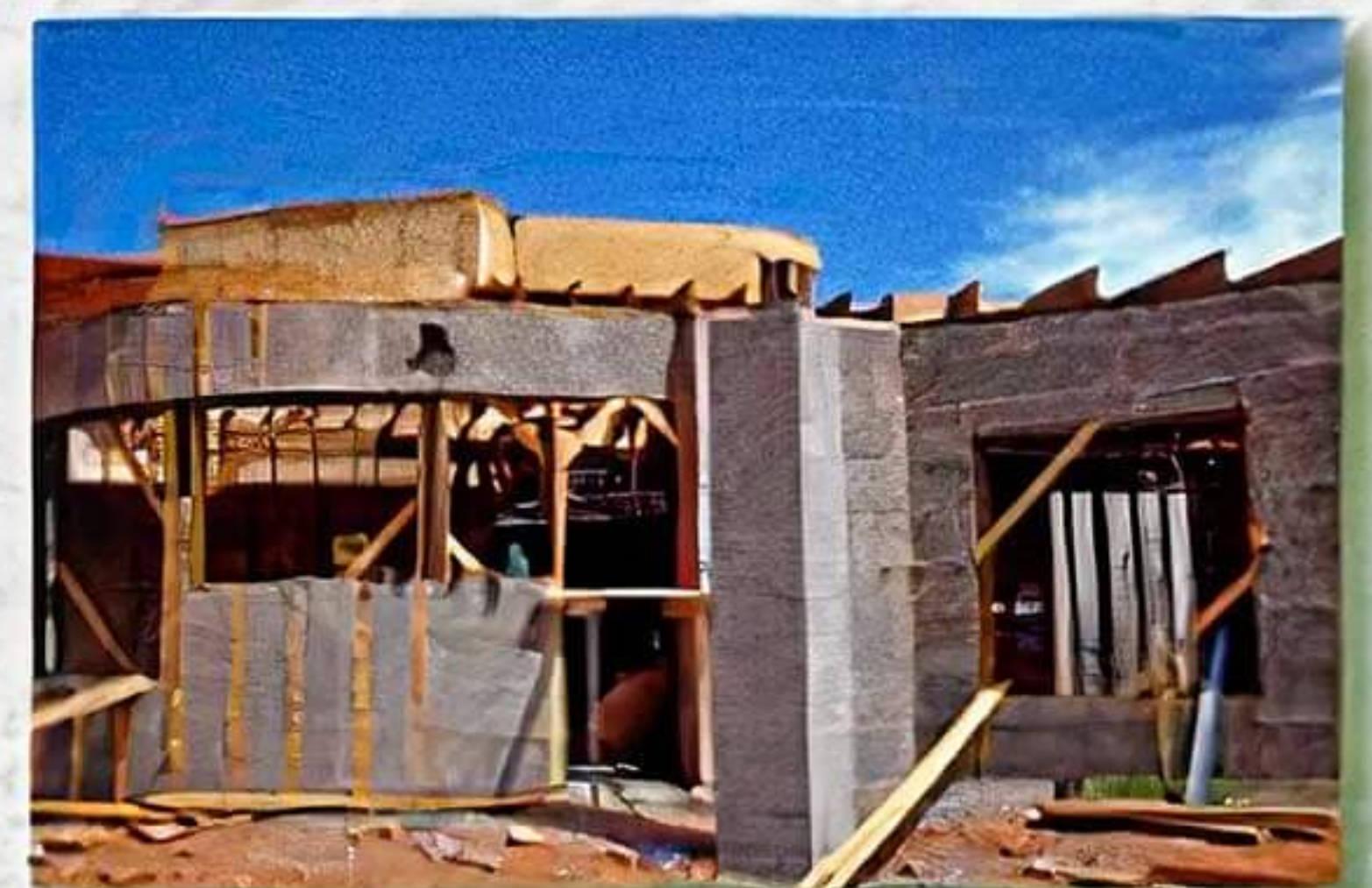
The largest and most unusual of these homes is in southwest Sedona for owners Ron and Claudine Mohney. The Mohneys' lot sits just above Oak Creek, affording more than 200 feet of lush riparian frontage with a vista of red rocks in the distance. Native cacti and other vegetation add to the desert attraction of the lot. A bonus is an

already constructed area at creek side for barbecues and enjoyment of the outdoors.

The finished home will be 3,750 square feet, but because it is two stories and carefully sited on the lot, the actual footprint is small. The house is tucked so well into the landscape that visitors can hardly see the structure until they are almost upon it.

Cate took great care to position the home for the least impact but most enjoyment of its lovely site. Its interestingly placed columns and curved walls give a hint of the elegant dwelling that will be the finished product. From the first floor, large windows will enhance the views of natural landscape, and the patios and gardens to come.

Despite their home's size, Cate said the Mohneys wanted to be as "off the grid," or use as little conventional electricity,



as possible. He specified RASTRA® walls for the lower floor, and SIP, or structural building panels, for the upper story. RASTRA® is an insulated concrete form made of recycled, expanded polystyrene beads and mixed with concrete. SIP panels are made of expanded polystyrene usually sandwiched between two oriented strand, or recycled, boards constructed of leftover materials from wood processing. Both create a high mass, environmentally friendly wall panel.

RASTRA® has the benefit of being



Architect Paul Cate discusses construction progress with homeowner Claudine Mohney.

impervious to insects and virtually fireproof, Cate said. He knows, because when the technology first came out, he obtained a piece and he and a friend tried to set it on fire. "We torched it. The top quarter inch melted slightly," he said. "There was a little non-toxic 'poof,' which we found was moisture, then it stabilized. It doesn't combust."

Cate said these types of highly insulated walls allow architects more freedom in the design process, because it is not as crucial to place the home for optimum passive solar energy. Rather, designers can use active energy systems on a smaller scale.

Inside the home, Cate specified 4-inch panels to provide insulation for the rooms in which the owner wanted to prevent sound transfer.

The Mohney home will take advantage of Sedona's scenery. At right, architect Paul Cate stands on the Mohnays' rooftop.

While highly insulated conventional homes have caused health problems for some occupants, green building doesn't have that problem, Cate said, because part of its philosophy is to use nontoxic materials. Additionally, he said, most green design uses excellent cross ventilation to refresh the interior air, and codes require an adequate ventilation system.

Interior partitions of the Mohney home will be constructed of light gauge steel frame, rather than wood. Most of this material, Cate said, is recycled scrap metal that has been melted down and re-extruded into steel frame.

The roof of the home will be I-joists, an engineered wood product that uses about half the wood fiber of regular lumber, and finished with plywood. The design calls for 12-inch-thick insulation with Icynene, a sprayed foam product that will give the roof an insulation value of R-42.

"The entire (home) envelope will be R-40 or plus (insulation value)," Cate said. The average home, he said, might achieve R-22 with great attention to insulation and other causes of energy loss.

Designing a lovely, environmentally friendly home is not a quick process. Cate said it can take six to nine months, and another nine months or so to build. But the end result is well worth the time in energy efficiency, beauty and lasting value.

The Mohney home shows the care they and Cate took in designing a living space in harmony with Sedona's gorgeous views without harming its sensitive environment. ▽

RESOURCES

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