

YOUR HOME: GREEN

A fresh start

When their old house was blown down in a storm, one family rebuilt with a new focus -- sustainable living.

By Jaci Conry | December 6, 2009

This secluded home on Martha's Vineyard was a long time in the making. For more than 20 summers, Doug and Margot Rothman had roughed it on their 22-acre property in Chilmark overlooking the Elizabeth Islands and Aquinnah Lighthouse. "The original house was incomplete," says Margot. "We basically lived in the basement and camped outside." Then in 2007, the couple, who have three sons, began a renovation that would create a new foundation for the existing house. However, after the old house was moved, a storm literally blew the structure in on itself.

"It was a tragic situation," Doug says. Trees had been cut down to accommodate moving the house, and the new site had already been excavated. "We felt that we had destroyed a lot. So when it came time to rebuild, we really wanted to ease the impact on the environment."

Phil Regan of Hutker Architects, which has offices on the Vineyard and in Falmouth, got back to work restoring the landscape and designing a new house that could earn LEED certification -- that's a building-industry rating system that promotes environmentally friendly construction. Last month, the Rothmans' property was the first home on the island to earn the designation.

The one-level house comprises four wings: the living room, the kitchen and family room, the master suite, and the boys' bedrooms are each separate spaces designed to take advantage of unique views and opportunities for natural light. "The house is very much about being part of the landscape," says Doug. "We are outside constantly, and when we're inside, we want to feel like we're still experiencing the outdoors."

Since the home's design called for 50 percent of the wall space to be floor-to-ceiling windows and doors -- to maximize light as well as cooling breezes in the summer -- the glass and the frames needed to be highly insulated, as did the rest of the home. A spray-foam product called Icynene was used to tightly fill the house framing, and an extra layer of insulation was added under the roof rafters. One key to the LEED certification is its geothermal heating and cooling system, which uses a pump to cool air (in summer) or heat it (in winter) deep underground and draw it into the house.

Eco-friendly materials were also used in much of the home. The exterior is unvarnished cedar; it will weather to gray. Window surrounds and kitchen cabinets are made of low-maintenance mahogany from a certified sustainable supply, and the kitchen counters are Fireslate, a lightweight, heat-resilient surface made from concrete, sand, and water. Interior walls are paneled with mushroom board, a material recycled from boxes used to grow mushrooms commercially. "Enzymes in the soil of the mushroom beds eat away the soft wood, leaving an attractive raised grain that resembles aged barn board, yet it's newer material, so it lasts longer," says project architect Greg Ehrman.

To conserve water, the bathrooms got low-flow vanity fixtures and dual-flush toilets. The landscape, planted with native plants and meadow grasses, doesn't require irrigation.

The home is certainly a change for the Rothmans, who live most of the year in Avon, Connecticut. "We feel extremely lucky to have the house," says Doug. "We had to pinch ourselves as it was coming together, because we'd been living in a basement for 20 years." He adds, "It's going to be in our family for a long, long time."

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