

Parkville couple takes great care in building eco-house

By Bridget Heos

Photography by Kelly Parker and Rick Robson

A local artist handcrafted the home's signature inlaid-wood floor compass from four species of recycled wood from Elmwood Reclaimed Timber. It greets visitors at the door and is visible from the top of the stairs.

GREEN HOMES

When Kelly Parker and Rick Robson set out to build a home in Parkville, they knew they wanted it to be energy efficient. They stayed true to that goal — and then some.

Using reclaimed lumber, earth-friendly materials and work by local artists, they created a home that is easy to live in — and easy on the earth's resources. It wasn't, however, easy to build. The homeowners did most of the work themselves — from constructing walls to laying tile. This required an unbelievable number of hours in the evenings and on weekends.

Parker said that while it was hard work, she and Robson enjoyed the process.

"It definitely was not a hardship," she said. "I loved it."

As a former owner of both a home building and a remodeling company, Robson had experience. Parker was a quick study. For instance, going only on what she read about framing openings for doors and windows the night before, she constructed a large wall and only needed help raising it.

Robson is now a principal environmental chemist at Hallmark. Parker, a biochemist by training, also works at Hallmark as a corporate compliance program administrator.

Robson said the home, which they've nicknamed Sycamore Shadows because of its woody setting, gives them a good feeling.



Left: Husband and wife team Rick Robson and Kelly Parker did a considerable amount of the construction and finish work on their eco-friendly home in Parkville. Right: The shell of the house was erected in 10 hours using structural insulated panels (SIPs), which provide a high insulation factor in the walls and roof.

Reclaiming Timber

The house is by no means perfect — and that's on purpose. The wood, for instance, was reclaimed from old buildings or had been rejected by other builders for its non-uniformity.

"I didn't want anything to look like it came off the assembly line," Parker said. "I call it a handcrafted house."

The couple purchased most of the wood from Elmwood Reclaimed Timber in Smithville, but a few rustic pieces came from trees that had died on the property. A great example is a walnut log mantel over the fireplace that was cut from a tree on the lot.

The wood includes ash floors with walnut accents and Kentucky coffee tree cabinets. Spalted hackberry and walnut make up the countertops.

The ceiling over the stairs is made of American wormy chestnut paneling taken down from a wall at Hallmark. The larvae that left the distinctive looking wormholes in the wood unfortunately led to the death of the tree species in the early 1900s.

Choosing Earth Friendly Materials

The husband-wife team chose materials carefully throughout the house. The walls, for instance are covered

with a product called Loma by the company American Clay. It is essentially an earthen plaster. Upstairs, recyclable carpet tiles are used in the bedrooms.

Where there is shelving in closets and the pantry, the couple used wheat board made from wheat straw. This is not only a renewable material, but also smells of fresh bread.

"I didn't want anything to look like it came off the assembly line. I call it a handcrafted house."

Kelly Parker, Parkville homeowner

Of course, when it comes to choosing environmentally-friendly materials, there are sometimes difficult decisions. For instance, in the bathroom, the couple chose natural stone, which requires less energy to make than synthetic tile. On the other hand, the natural stone is mined, which is generally not an earth-friendly process.

"We've had some interesting conversations," Robson said. "As humans, we can't help but have some effect."



Top: The outside of the house is primarily covered in HardyPlank fiber cement-based siding that is eco-friendly because of its durability and resistance to water damage. Middle: Homeowner Kelly Parker worked on the radiant floor heating system, creating a second-floor heating zone that allows the couple to better control their energy usage. Bottom: Homeowner Rick Robson used a chain saw to craft a unique fireplace mantle from a walnut tree that had died on the property.



Pushing the Limits of Energy Efficiency

Energy efficiency was the goal when the couple decided to build a house.

A geothermal heat pump and radiant heat were definitely in the plans. But they wondered if they could also have radiant cooling. A lot of people — including those knowledgeable in green building — advised them against it. Kansas City is simply too humid, experts said. The couple would run the risk of condensation, which could lead to mold problems and floor damage.

But from his homebuilding days, Robson had a friend in the HVAC business who custom designed and built a system in the house to make radiant cooling possible.

The friend, Bruce Smith, created dehumidification valves that are mounted on the walls, close to the ceilings. Downstairs, they are covered with copper; upstairs, with raw silk, hand-dyed by local artist Riss Uredi. These condense the moisture in the air; the water then drips into a gutter mechanism that ultimately drains in the basement.

Robson said that radiant cooling, originally met with skepticism, is now going to be implemented in green buildings in Kansas City.

For additional heat in the winter, the house has a low-emission, wood-burning stove with an outside combustion air feed. Simply put, this allows the fire to suck air in from outside, instead of from the house, which would have made everyplace in the home colder, except the fireside.

Other energy efficient features include passive solar design: windows on the south side of the house and an overhang — which blocks the sun in the summer, but not in the winter. Concrete in the floors absorbs the heat and releases it when the house cools at night.

For insulation, the home was prefabricated with structural insulated panels (SIPs), which created R-30 walls and an R-40 roof. The foundation and basement slab are also insulated.

The home has Energy Star appliances and windows that are triple glazed and Argon-filled with a low-e coating.

In the spring and fall, a whole house fan is used to bring in cooler outside air. The fan door opening is sealed and insulated when not in use.

The house is entirely electric. The couple's average monthly energy bill is just \$57 for the 2,500 square foot home. It is wired and ready for future installation of a solar energy system.

The owners spent about \$155 per square foot in construction costs, including the price of the lot.



Sycamore Shadows Green remodeling resources

Here are just a few of the many resources that were used in the building of Sycamore Shadows in Parkville.

Reclaimed lumber

Elmwood Reclaimed Timber
Smithville, MO
816-532-0300
www.elmwoodreclaimedtimber.com

Sink/tile in powder room

Archival Designs
Crossroads Arts District
816-522-6238

Framed preserved plants

Brigid Greene
913-221-5632
www.greenesgreens.com

Valance covers in bedrooms

Riss Uredi
www.unravelledonline.com

Compass rose in foyer

Bob Saul
Bsaul0214@hotmail.com

Green building materials

(FLOR carpet tiles, textured clay wall coating, water based finish for cabinets)
Straw, Sticks & Bricks
Crossroads Arts District
816-421-7171
www.strawsticksandbricks.com

Structural Insulated Panels (SIPs)

Thermocore of Missouri
Jefferson City, MO
www.thermocoremo.com

Windows

Accurate Dorwin
Winnipeg, Manitoba, Canada
www accuratedorwin.com

Custom HVAC system

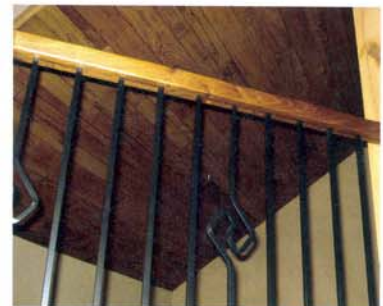
Bruce Smith
Kansas City, MO
816-221-0765

Tamarack whole house fan

800-222-5932
www.tamtech.com

Recycled mulch and compost/soil blend

Missouri Organic
Kansas City, MO
816-483-0908
www.missouriorganic.com



Left: The bathroom vanity top was made from a dead hackberry tree on the property and the pedestal was recycled from a dead walnut tree.

The sink and tiles are from Archival Design.

Above left: An open floor plan on the main level of this eco-friendly Parkville home allows natural light into all the living areas. Above right: The wormy chestnut wood ceiling is made from paneling that was recycled from Hallmark's headquarters in Kansas City. Kelly Parker hand carved the stair handrail from reclaimed walnut from Elmwood Reclaimed Timber.

"If people know where to go for more resources and where to start, they will be more interested in green building."

Kelly Parker, Parkville homeowner



The Parkville couple was intent on creating the smallest amount of waste from their home construction. Here, Kelly Parker installs an end-block floor made from scrap lumber.

Parker said that while the home probably cost more to build than one that was not earth-friendly, "What you hope for is to get the energy savings in the long-run."

Going Easy on the Land

The site for the house was chosen because it would require few trees to be cut down. A stream runs behind the house, and the area is woody enough that deer, wild turkey and groundhogs call it home.

Hanging in the hallway near the entrance are two framed specimens of volunteer wheat.

Parker said that her friend, Brigid Greene, dug up the wheat at the house site as an act of preservation.

"It's kind of giving tribute to the space you took from nature to build your house," she said.

On the floor nearby is an inlaid-wood, compass rose that the homeowners commissioned their friend Bob Saul to create. They hope that their house points the way for others who want to build green.

"If people know where to go for resources and where to start, they will be more interested in green building," Parker said.

Bridget Heos is a Kansas City freelance writer.



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