



*Hardwood floors were preserved and enhanced; the old wood was stripped using a non-hazardous citrus-based stripper.*

# HOW MANY SUSTAINABLE FLOORS CAN ONE HOUSE HOLD?

BY PATTY BATES-BALLARD



*EarthWays Home in St. Louis showcases several types of sustainable floorcoverings.*

From the outside, you might never guess that this Queen Anne-style Victorian townhouse built over a century ago is the home of seven diverse sustainable flooring systems. Located in St. Louis' Grand Center arts and entertainment district, the EarthWays Home is nestled among theaters, museums, updated homes and homes still in need of rehab. How was this structure transformed from a single-family dwelling into a showcase for green flooring (and more)?

Built in 1885, the three-story Victorian structure remained a residence for about 35 years, until it became the Block Brothers Photography Studio in 1921. Little did the Block Brothers know that their installation of a large skylight would be the first of many steps taken to "green" this decoratively-detailed pressed-red brick dwelling with its prominent slate-covered dormers, sandstone trim, pink granite steps and profuse urban garden.

In conjunction with St. Louis' first major Earth Day festival in 1990, the environmental awareness group EarthWays Inc. wanted to create something lasting and educational. They hit upon the idea of an energy and resource efficient center to educate and inspire Missourians to make their own homes effi-

cient and sustainable. The Block Brothers business had closed in 1977, and the vacant home was in desperate need of repair. EarthWays research director, Will Borders, coordinated, and architect, Ralph Eglin Wafer, AIA, directed the major rehab between 1992 and 1994.

Borders, now a Chicago attorney, explains, “We wanted to build an educational facility that demonstrated how to take the concepts behind Earth Day and renovate a home attractively, so that people would say, ‘My gosh what a beautiful place this is,’ before they said, ‘What an energy efficient place this is.’”

#### HARDWOODS

Workers removed late 19th century technology and replaced it with new green systems — from water-conserving toilets to geothermal HVAC. For the floors, though, the focus was preserving and enhancing the quarter-sawn oak on the first floor, which was stained, painted, and quite dirty. The old wood was stripped using a non-hazardous citrus-based stripper and refinished.

#### RECYCLED CARPET

On the second floor of the EarthWays Home, Stephens Carpets (St. Louis, Mo.) installed a cornflower blue cut-pile carpet made from recycled plastic (PET) soda bottles by Image Carpet, a company no longer in business.

Mohawk Flooring (Calhoun, Ga.) currently offers 50 similar types of recycled PET carpet in the *Room by Room* and *Kid Proof* collections by Aladdin and the *Extra Dimensions* collection by Horizon. Cost per square foot ranges greatly depending on weight, fiber, region, treatments, etc. Beneath the EarthWays Home carpet, the Duracushion pad, by Montreal-based Dura, is also recycled — from old automobile tire tread.

#### MARMOLEUM

The stairways and landing room sport a deep forest green Forbo (Hazleton, Pa.) Marmoleum application installed by Colonial Carpet Co. (St. Louis). Made of linseed



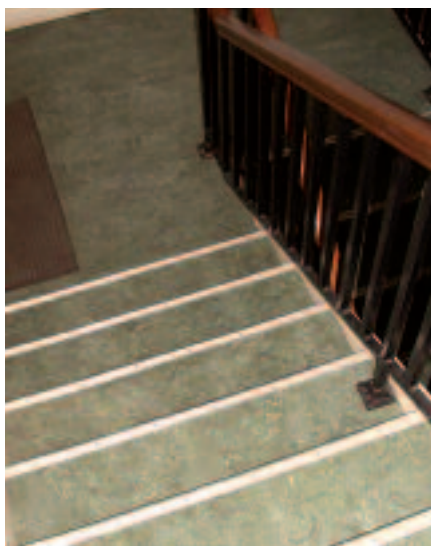
*Carpet made from recycled plastic (PET) soda bottles was installed in the EarthWays Home.*

oil, rosins, and wood flour, and then calendared onto a natural jute backing, Marmoleum is installed with solvent-free adhesives, so no harmful VOCs are emitted. The linseed oil continues to oxidize throughout the life of the product, resulting in multiple benefits including anti-static and bactericidal properties. The oxidation also hardens the floor, increasing Marmoleum’s durability while allowing it to remain quiet and comfortable underfoot. Marmoleum offers more than 150 colors choices, as well as numerous insets and borders. It is a tough yet visually striking floor covering, highly resistant to heavy rolling loads and foot traffic. Extremely stain resistant and very easy to maintain with a neutral pH cleanser, Marmoleum floors can be expected to last 50 years or more.

#### RECYCLED GLASS BATHROOM TILING

All of the home’s bathroom floors (and walls) are tiled with Terra Traffic tiles, made from more than 55 percent recycled glass and select ceramic materials, by Terra Green Ceramics, Inc. (Richmond, Ind.) using a unique glass fusion process. Ranging from alabaster to sandstone to rich navy and jade, Terra Traffic tiles are avail-

*Made of linseed oil, rosins, and wood flour, and then calendared onto a natural jute backing, Marmoleum was installed with solvent-free adhesives.*



able in 22 designer colors (and custom options for projects more than 1,000 square feet) in a variety of sizes to create just about any floor and wall design imaginable. Terra Green offers a complete line of trim for floor and wall applications as well. Terra Traffic tiles have an excellent wear rating, and are stain and scratch resistant.



*Bathroom floors and walls are tiled with Terra Traffic tiles, made from more than 55 percent recycled glass and select ceramic materials.*

#### 10TH ANNIVERSARY

In 2000, the EarthWays Center became a division of the Missouri Botanical Garden, and the installation of many new donated features heralded the EarthWays Home’s 10th anniversary in 2004 as an enviro-educational exhibit. A ‘Sustainable Finishings and Furnishings Weekend’ highlighted the addition of several more green flooring applications, increasing the focus on the ecological principles of indoor air quality and waste reduction.

“In the 10 years since we began looking for appropriate and available recycled and environmentally sound materials, manufacturers have really responded to the market demand. Now we have many enthusiastic suppliers and contractors,” says architect Wafer.

EarthWays doesn’t just talk the talk, it

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walks the walk. Program manager Glenda Abney insisted that the hardwoods in the kitchen, slated for removal to make way for a new cork floor, be carefully reclaimed and reused.

**CORK**

Champion Floor Co. (St. Louis) installed the EarthWays Home's new Natural Cork (Augusta, Ga.) kitchen floor. Typically harvested every nine or 10 years, cork is the outer bark of the cork oak tree, a member of the Mediterranean beech family. Removing the bark does not harm the tree, and



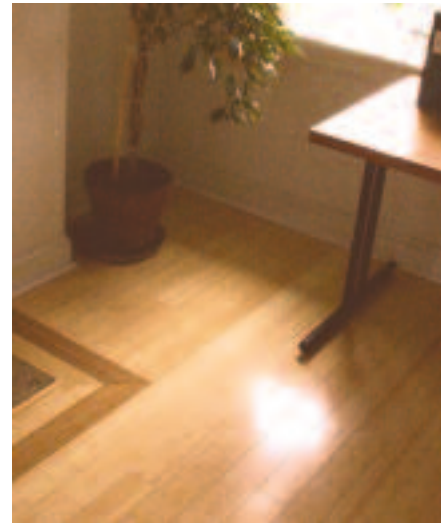
*EarthWays Home's new Natural Cork kitchen floor was created from the post-industrial by-product of the bottle stopper industry.*

contributory cork oaks grow back stronger and live longer. Cork flooring is actually created from the post-industrial by-product of the bottle stopper industry, so there is almost no waste or hazardous material generated from the manufacturing process. Cork is used as a residential and commercial flooring surface as well as a support layer and sound barrier under wood, ceramic, and other flooring applications.

Cork has low thermal conductivity, and insulates against both heat and cold. Resistant to mold, mildew and moisture damage, cork is antistatic and therefore doesn't attract and hold dust and pollen particles. It's also naturally hypoallergenic, antimicrobial, insect repellent and fire retardant.

**BAMBOO**

Champion also installed a tongue-and-groove, precision-milled bamboo floor by Natural Cork's Natural Floors in a section of



*Because it is harvested every four to six years, bamboo is often considered a highly renewable and sustainable flooring product.*

the EarthWays Home meeting room. The fastest growing plant on Earth, bamboo grows 1/3 faster than the fastest growing tree. During the manufacturing process, almost 100 percent of the bamboo is utilized. Technically a grass, when installed as a floor it looks remarkably like wood. Because it is harvested every four to six years, bamboo is considered a highly renewable and sustainable product that preserves the world's ever-dwindling hardwood forests.

"Cork and bamboo are two of the most naturally sustainable flooring systems available," says Ira Bernstein, St. Louis manufacturer's rep for both applications. "And they look great too," he adds.

**TERRAZZO**

Abney didn't want carpet or bamboo abutting the meeting room fireplace. A serendipitous meeting with Tim Whaley, president of EnviroGLAS Products Inc. (Plano, Texas), at St. Louis' Green Products Expo led to the seventh and final flooring application: a hearth of recycled glass terrazzo, installed by Missouri Terrazzo (St. Louis).

EnviroGLAS Products Inc. brings a new twist to the centuries-old terrazzo craft, conserving natural resources by diverting glass from the landfill instead of using marble mined from the earth. The ability to use glass from local recycling programs



A hearth of recycled glass terrazzo from EnviroGLAS Products Inc. conserves natural resources by diverting glass from the landfill.

means minimal transportation impact and therefore minimal greenhouse gas emissions. Customizable to match any color swatch, the 100 percent post-consumer/industrial recycled glass surfaces are low maintenance, with a life cycle of more than 40 years. EnviroGLAS Terrazzo does not burn and resists staining and chemical and bacterial growth, requiring daily maintenance of only dry mop and weekly buffing. Maintenance of extremely high-use areas requires only neutral pH cleaners and

water, and waxing is not required, which saves water, electricity, people-power and waste. The thin set epoxy binder is a 100 percent solid formula, with no VOCs.

#### THUMBS UP

So, the moment of truth: how have these floors held up so far? Abney gives them all the thumbs up. "There have been no problems at all with any of the floors," she says, "and we continuously hear from our patrons how beautiful they are." Public tours are

held at the EarthWays Home the third Saturday and Sunday of each month. You, too, can tour the home and walk on seven sustainable floors in one afternoon! 🌱

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