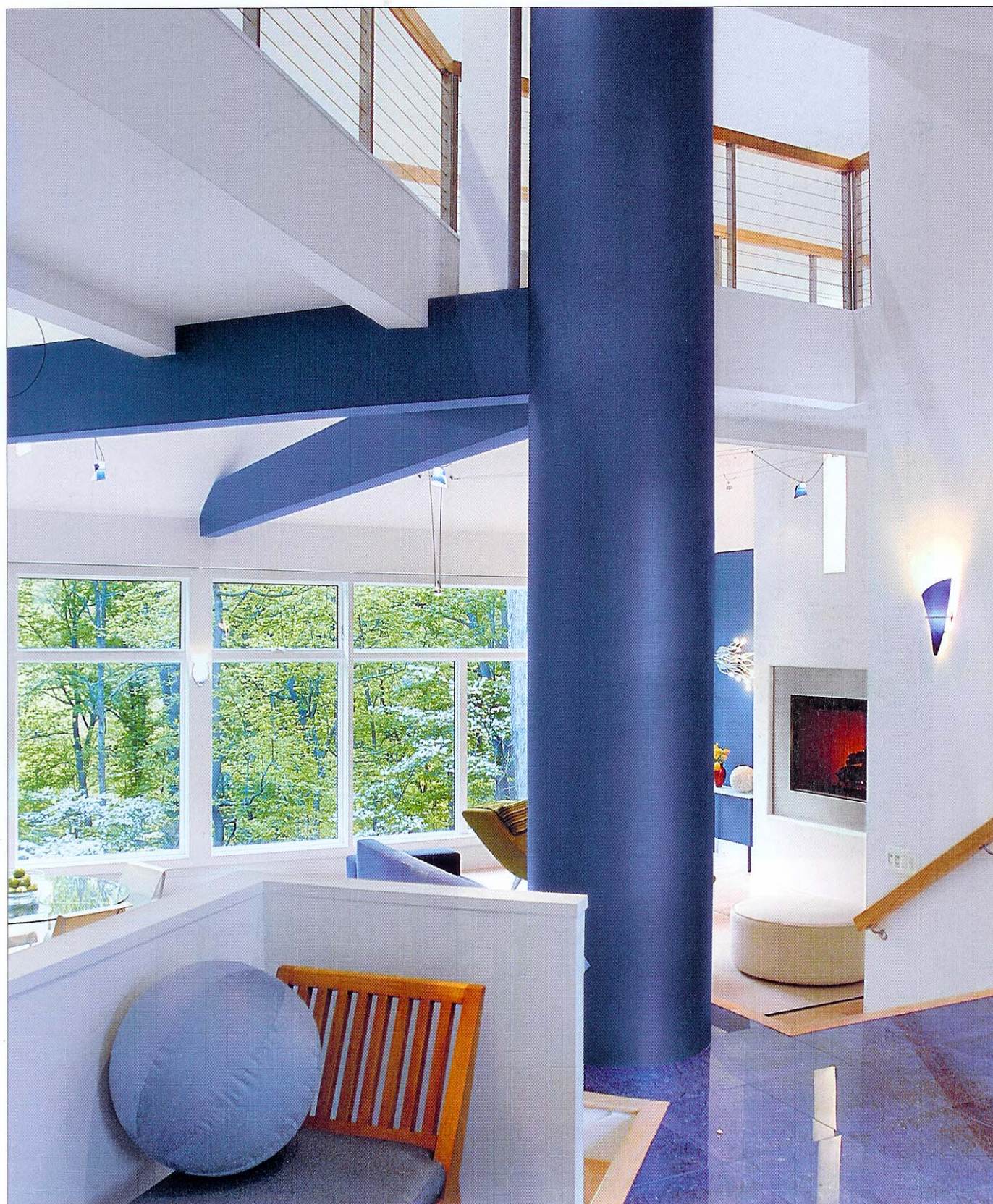


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Green & Clean

An environmentally friendly home blends into its wooded lot—but reveals sleek, modern spaces within

*By Sharon Jaffe Dan
Photography by Kenneth M. Wyner*



Two pairs of hawks raise their young in the high trees surrounding a new luxury home in McLean. The birds' leafy habitat is intact because tree preservation was one of the homeowners' top priorities. But their goals were even more far-reaching. They wanted a custom home designed and built to be environmentally friendly from concept to completion. In addition to having minimal impact on the wooded site, their home would utilize passive solar energy,

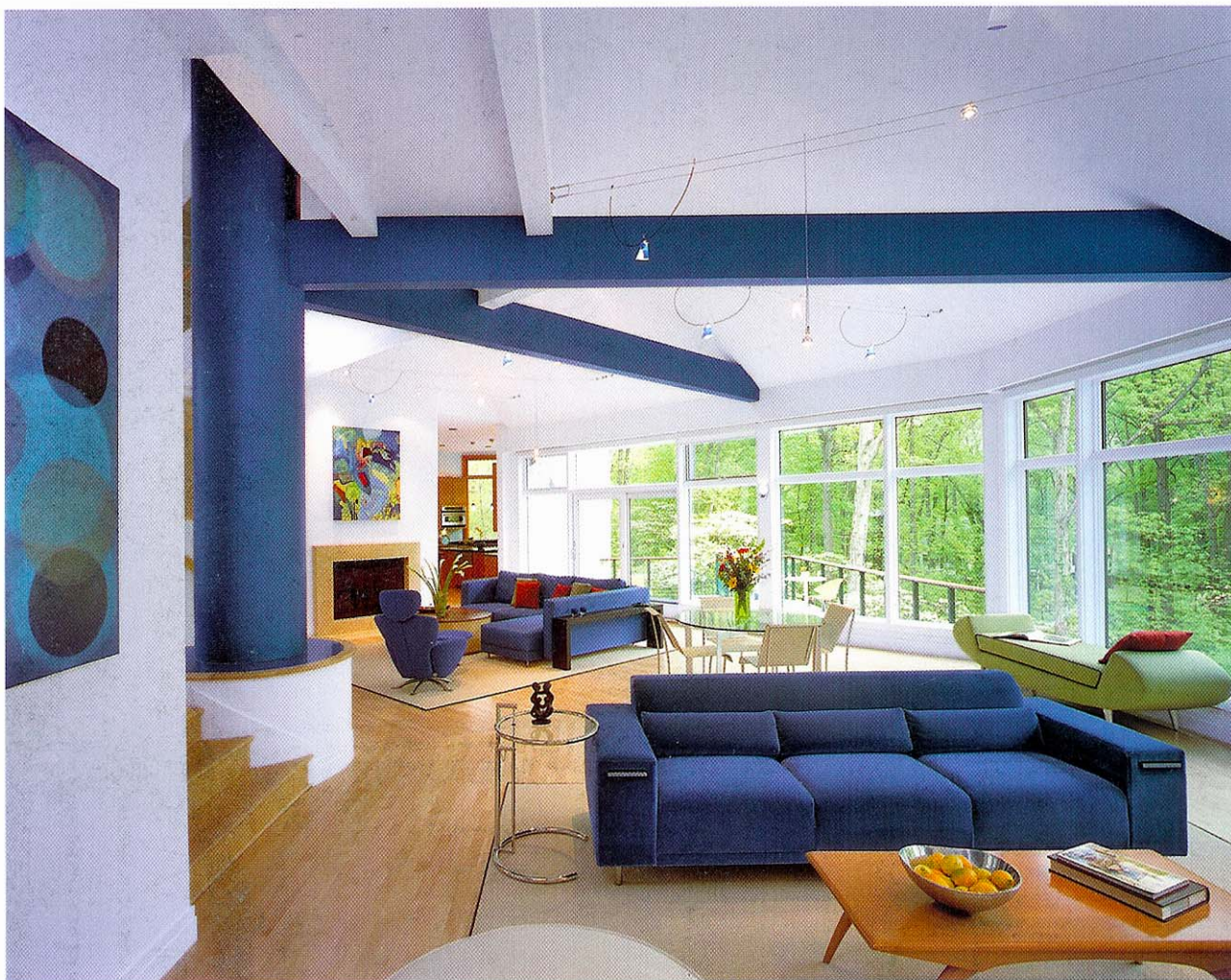
Architecture: Robert Wilkoff, AIA, Cabin John, Maryland

Builder: Jeff Carpenter, Monticello Homes, Fairfax Station, Virginia

Interior Design: Barbara Hawthorn, Barbara Hawthorn Interiors, McLean, Virginia

Landscape Architecture: Oehme, Van Sweden & Associates, Inc., Washington, DC

Site Conservation: Andrew Ross, RTEC Tree Care, Falls Church, Virginia



recycled and sustainable materials and energy-efficient appliances and lighting systems.

One might expect the house, which is now complete, to look like an experiment in tented living. But this project leaves all the stereotypes associated with “green” building in the dust. Its neutral, unassuming façade gives way to a surprisingly sleek and modern interior bathed in light. The house is a living, breathing testament that green building and good custom design can go hand in hand.

It all began four years ago, when the owners, who now have two young daughters, decided to leave their old center-hall Colonial and build a new house that would embody a more modern aesthetic. The couple—he, the founder and owner of a small software company who also has a master’s degree in physical oceanography, and she, a conservation policy specialist and former journalist—knew they wanted to build a sustainable home.

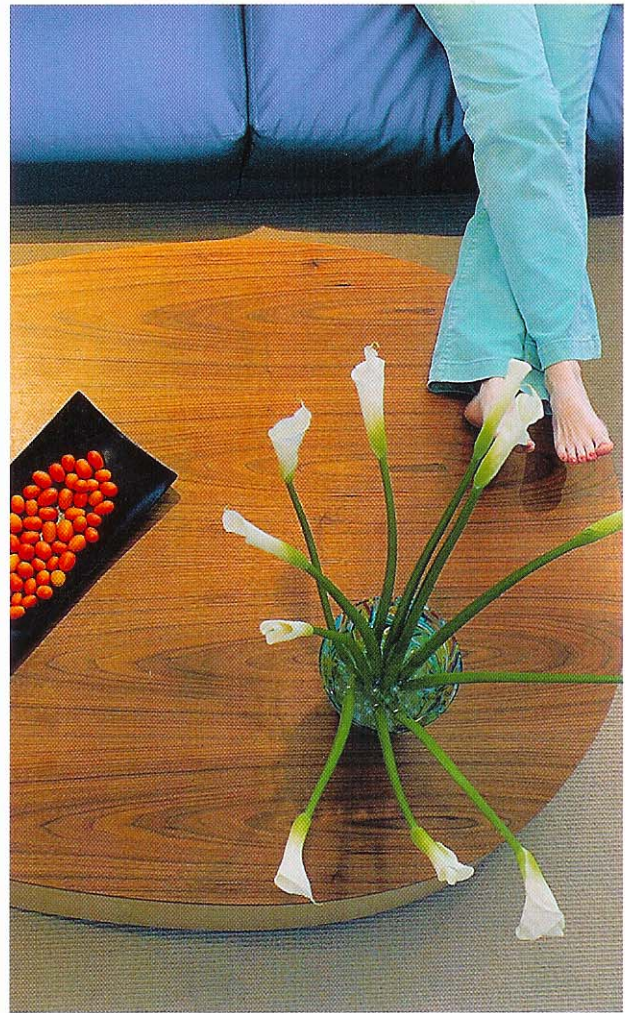
“I grew up appreciating the outdoors. I chose a career in conservation...and I’m very passionate about the preservation of species and forest conservation. Just from a perspective of health and prevent-

A massive column and radiating beams support the structure, including a cable-rail bridge connecting two upper wings (cover). In the open, airy great room, a drywall valance above the wall of windows conceals automated shades (this page).

ing asthma and cancer, I really wanted low toxicity for the house as well,” says the wife.

Her husband was also committed to the idea. “We have always been interested in efficient use of natural resources,” he says. “While not building a home at all would probably be best for the environment, we believed we could create a wonderful home while incorporating environmentally friendly elements where it was appropriate and cost-competitive.”

They purchased the three-acre wooded property in 2000. The first challenge was to assemble a design and construction team willing to support and implement their vision. They selected custom builder Jeff Carpenter of Monticello Homes, who was ready to face the challenge head-on, and began working with a local architect. But when the project had almost reached the building stage, they decided to scrap the architect’s plans, which they felt did not reflect their goals or the terrain of their land.



A friend suggested that they call Bob Wilkoff, an architect based in Cabin John, Maryland. They were impressed with the clean, modern lines of his work; in addition, Wilkoff was intrigued with the prospect of designing a green home that would fit into the natural slope of the property. He got to work right away.

In an age when bigger is often considered better, these homeowners wanted to downplay the size of their home. The exterior detailing was inspired by photos of New England-style homes with cedar-shake siding. "They wanted something that was not the big McLean mansion. It's a pretty large house, but we made it low and spread out," says Wilkoff. "There's a lot of traditional detailing. It's more subtle and traditional from the front."

This subtlety makes first impressions of the interior all the more striking. Guests arrive in an open foyer paved with tiles the color of blue lapis. Steps spill down into a soaring great room with a wall of glass framing views of the woods. Splashes of color in the furnishings and artwork play off the light walls, wood floors and greenery and sky beyond. Weighty curvilinear support beams painted metallic blue make a

Automated shades by Lutron afford privacy and provide UV protection (above, left). The top of the egg-shaped coffee table by Knots Landing can be raised to conceal clutter (above, right).

strong architectural statement. Above, a second-story cable-rail "bridge" connects the two wings of the house, one containing the master suite, the other home to the two girls' bedrooms.

The architectural plan unfolded over many months. The main stairs were drawn and re-drawn, and eventually given their own "tower" off the foyer to maximize open space. The architect was able to minimize the size of the house in the front by using the bridge to connect the two wings. Wilkoff explains, "The separate bedroom wings connected by a bridge bring down the profile in the front, rather than creating one large mass. It also gives the owners a good deal of privacy."

Carpenter and his team faced a number of engineering feats imposed by the open design of the home. The entire second floor is cantilevered over the first, which he called "an architectural framing challenge." A large amount of steel was needed to create the giant support column and radiating beams in the great room. Flexible plywood was handcrafted



on site to create the seamless round column, later covered in drywall. The stair and railing system, which looks deceptively simple, required around 20 different post designs, each one with different cuts and pieces. "The matrix of the thing was beyond belief," he recalls. "We made some recommendations and redesigned some things but didn't compromise the integrity of the design in the process."

During construction, crews treated the lot like a "tree preserve," following a rigorous plan established by arborist Andy Ross of RTEC Tree Care, to minimize heavy-equipment damage to trees and root systems. Only 12 trees were cleared to build the house, he says, "and the trees that we saved are still healthy."

Throughout the home, curves and angles interplay, with fluid, organic shapes softening bold lines. Wherever you stand, windows reveal brilliant views of the outdoors. "We tried to make the house flow together as a series of open spaces," says Wilkoff. "When you enter, you can see through the foyer, the family room, the living room to the backyard. It has so much visual depth."

High on drama and aesthetics, the interior architec-

ture is also extremely functional. The great room opens to a spacious kitchen and breakfast room. All three of these spaces not only have the best views of the back woods, but they also have southern exposure to take advantage of passive solar energy. The kitchen flows into the dining room, situated in the front of the house off the foyer, and also leads to the powder room, mudroom and garage. From the kitchen, a back staircase leads to the second floor. The main level also houses the husband's office and an in-law suite.

During the design stage, the owners turned to interior designer Barbara Hawthorn to create spaces that would not only suit their lifestyle but also remain true to their "green" sensibilities. A former director of air and water quality programs for the National Park Service and an employee and consultant for the EPA, Hawthorn approached the project with enthusiasm. "When I saw this house on the plans, I was just blown away. It was a wonderful opportunity to take my first career and combine it with my second," she says.

Lending a human scale to the great room was one of Hawthorn's initial challenges. "You have this gargantuan space," she recalls. "How do you take such

an incredibly large space and make it intimate for different groupings and purposes and not leave it cold and empty or not too full?"

She defined two groupings within the space. On the right is a more formal living room area with a sofa and a chaise gathered around a raised fireplace. "It's very conducive to conversation but it's also a place where you can stretch out and enjoy the view," she says. On the left is a family room area near the kitchen. A TV is cleverly disguised above cabinetry built in to the low wall of the foyer. A custom sofa with reclining backrests is upholstered in an iridescent blue recycled fabric resembling silk. Hawthorn calls it "indestructible." A custom-made egg-shaped coffee table, built by a childhood friend of the owner, has a lid that can be raised open to conceal toys and clutter. The two groupings are connected by a glass game table and a green bench in the center of the space.

Throughout the interior, Hawthorn used colors that reflect the outdoors. "Working with my client, we very quickly zeroed in on soft greens and blues," she says. "We chose subtle colors, in many cases. But to give it some excitement, some of the greens are kind of acid, to give it that charge."

Hawthorn masterfully applied color—an accent wall by the raised fireplace, the chartreuse fabric covering the chaise—to enhance, but not overpower, the open feeling. The homeowners acquired new artwork in just the right scale and color palettes to complement the furnishings. The textiles they selected are all either recycled materials or natural fibers, including wools, cotton, silk, jute, hemp and linens; sustainably harvested maple paves the floors.

Working with lighting designer Wayne Hinson, Hawthorn also developed a customized lighting plan. "The architect had done a wonderful job addressing daylight in the home, and I wanted to carry through the same effects for lighting on cloudy days or evenings." The system in the great room integrates energy-efficient low-voltage lighting with window treatments that provide privacy, light control and UV protection.

At the touch of a button, shades from Lutron can be raised or lowered in unison, manually or via preset controls. A drywall valance built above the great room windows conceals the shades when not in use. Says Hawthorn, "It's a very clean aesthetic that's consistent with the architecture of the house. To make it even cleaner, when the shades are up you're not even aware that they're there."

In the large, airy kitchen, the homeowners selected energy-efficient appliances and cabinets made from sustainable harvested maple. Soapstone countertops line the perimeter of the space, adding a homey touch to the stainless steel appliances. The two center islands are topped with granite.





Windows also loom large in the pentagon-shaped kitchen, with transoms providing additional light above the cabinets. An avid cook, the wife designed the space herself, creating three task-specific “work triangles.” Closest to the great room, an entertainment zone houses a beverage cooler, sink, icemaker, dishwasher and barware storage. A “big-meal center” offers access to the main ovens and range, a prep sink and under-counter refrigerated drawers for dairy products and produce. And a “family cooking zone,” is home to the main refrigerator and freezer, a large sink and a combination microwave/convection oven. Containing tasks to these designated areas, says the wife, makes the kitchen highly efficient and easier to keep clean.

“It’s the ultimate family and the ultimate entertaining space,” she says. “I really wanted a kitchen to work for the way we cook and entertain, where it’s just as easy to bake cupcakes with my kids as host a cocktail party for 100.”

Soapstone countertops line the room’s perimeter, while the two large islands are topped with granite. She says the natural materials lend a “homey edge” to

the modern stainless-steel appliances—all of which are Energy Star rated for high energy efficiency. The cabinetry was handmade by Neil Kelly Cabinets of Portland, Oregon, from sustainably harvested maple over non-toxic pressed wheatboard, a recycled cabinet box material. “I wanted them to be healthy for people, not just environmentally friendly, so we used no-VOC [volatile organic compound] hand-rubbed wax finishes,” she says.

Pantry cabinets and a built-in desk line a wall in the adjacent breakfast room, which doubles as the wife’s home office. “It is my favorite room,” she says. “The sunlight goes across the window wall all day long and it’s so beautiful.”

The dining room is equally serene. The shape of the custom square table is echoed in a recessed square carved out of a dropped floating ceiling, created by Hawthorn to further define the intimate space. The owners selected and installed recycled carpet tiles from InterfaceFLOR themselves. “The table, the rug, the ceiling are all repetitive, concentric squares,” says Hawthorn. “It creates a wonderful sense of harmony and balance.”

A geometric chandelier from FLOS, iridescent fabric on the chairs and translucent window treatments add some polish. Hawthorn literally designed the curtains from paper—a paper fabric with cutouts that are evocative of leaves.

The large lower level is a walkout space to the back yard. It features three bedrooms and two baths, a media room, a full kitchen and plenty of room for the kids to play. “I’m the youngest of six kids,” says the wife, “so at Christmas and Thanksgiving we really need every additional room that we have down there.”

When friends and family visit the home, they are “shocked” to find out its chic and sophisticated fur-

tions and we’d find out the ramifications,” he recalls.

“Wherever we could, working with our builder, we chose suppliers that had respected the chain of custody requirements of the U.S. and International Forestry Stewardship Council,” she says, “which means that at every stage, from the harvesting to the finishing, environmental principles are taken into account. We used a lot of alternative woods and species that are renewable and are not endangered. That was very important to me.” They also installed eco-friendly insulation, carpeting made from recycled plastic bottles, water-saving plumbing fixtures and used no-VOC paints from Duron.

“WE DECIDED TO SUPPORT GREEN PRODUCTS THAT WERE ECONOMICAL. WE AGREED TO CONSIDER PAYING THREE TO FIVE PERCENT MORE FOR ENVIRONMENTALLY FRIENDLY PRODUCTS—BUT NO MORE THAN THAT,” SAID THE WIFE.

nishings are also environmentally friendly, she says. “We’re gradually dispelling the Birkenstock and bean-sprouts myth. You don’t have to live in a log home to be green. You just have to know what to ask for.”

This homeowner has certainly learned what to ask for after several years of personal experience researching environmentally friendly products on the Internet, from construction materials to appliances. In fact, she is currently writing a book that will help homeowners through the process of designing, building and remodeling their own green homes.

From day one, she and her husband decided to use as many sustainable products as possible—within reason. “We established a budget ceiling for the project,” she said, “And we decided to support green products that were economical. We agreed to consider paying three to five percent more for environmentally friendly products—but no more than that.” She investigated hundreds of items online and purchased dozens, from the base flooring made from recycled wood chips to “green” drywall and cork floors for the lower level.

“I didn’t know what to ask at the beginning. I basically educated myself through *Environmental Building News*. I researched everything from carpets to paints. I attended trade shows. And I was delighted to find more green products out there. Things have really changed in a positive direction,” says the wife. Still, she cautions, “Some companies tout their greenness when only a few of their products are green. You have to ask the right questions and avoid buying their green marketing spin. If consumers keep asking for eco-friendly products, the marketplace will respond.”

Jeff Carpenter was a valuable sounding board, considering every product and its feasibility. “I was helping a very educated consumer. She would call us with ques-

However, they rejected other eco-friendly products that didn’t meet their prerequisites. “We investigated a lot of alternative products that just didn’t end up being

The breakfast room (opposite) houses pantry cabinets and the wife’s home office. Organic shapes, from the vintage Saarinen table to the curvaceous dining chairs and bar stools contrast with the home’s angular lines. A long-lasting, sustainable wood from Brazil, paves the deck off the great room (below).





The house was situated to take advantage of passive solar energy, with angled porches to take in the surrounding views (above). From the second-story bridge, the hot tub off the lower level looks terribly inviting (opposite). The family uses it all year round.

energy-efficient because of the shipping costs," she says.

In the end, the project came in at just 10 percent over budget—largely due to design and finish changes the homeowners requested during construction.

Now that the family is settled into the new home, they're thrilled with its energy efficiency. "We expected our heating bill to be triple what it was in our old house because this is triple the size, but it's under double," says the wife. "And we're still figuring out how to program the thermostat." The house was sited so they could take advantage of passive solar energy and the heating and the cooling effects of the ground.

The DC landscape architecture firm Oehme, van Sweden is planning natural-looking gardens that will blend seamlessly into the woods surrounding the house, which slope down to a stream. "We're keeping the land forested, which is an unusual thing in Virginia these days," says the wife. "We want our kids to appreciate growing up in nature and romping in the woods."

Moving into the home was the culmination of more than four years of what seemed like endless planning. "I felt this euphoric sense of disbelief that we had done it and it had turned out so well," says the wife. "I'm still pinching myself." The house perfectly suits their lifestyle. "We like to entertain and have friends over and our kids' friends over," she continues. "We wanted a house where that would be an easy thing to do."

Her husband agrees. "Because we have young children, we designed it to be used rather than a museum. There's open space, private space and fun space. And the view from the great room windows makes it feel like a tree house. Looking down and across the hill can be breathtaking. It seems unreal."

She sums it up perfectly: "It's green and clean. That's how we like it, of course." ♦

Photographer Kenneth M. Wyner is based in Takoma Park, Maryland.