

# Raleigh developer builds sustainable home in a traditional style

By Susan Conbere, for the PATH Partners

**G**reen may not be mainstream yet, but it's coming. At least, if Cherokee Investment Partners has anything to say about it.

The world's largest brownfield development company, Cherokee is building the "Mainstream GreenHome" in Raleigh near its company headquarters. The 4,000-square-foot showcase home will serve as a source of ideas for builders, architects and contractors — particularly those working on about 400,000 homes that will be built on sites Cherokee acquires over the next four to six years. The goal is to demonstrate that you don't have to sacrifice comfort, convenience or style to build a green home.

"The key to building green is to find designs and products that would appeal on a mainstream level," says builder Fred Thornhill of Coban Homes. "Many manufacturers are realizing that now, and it is not as difficult as it used to be to find environmentally friendly products and design ideas that are attractive, functional and don't appear unconventional by any stretch of the imagination."

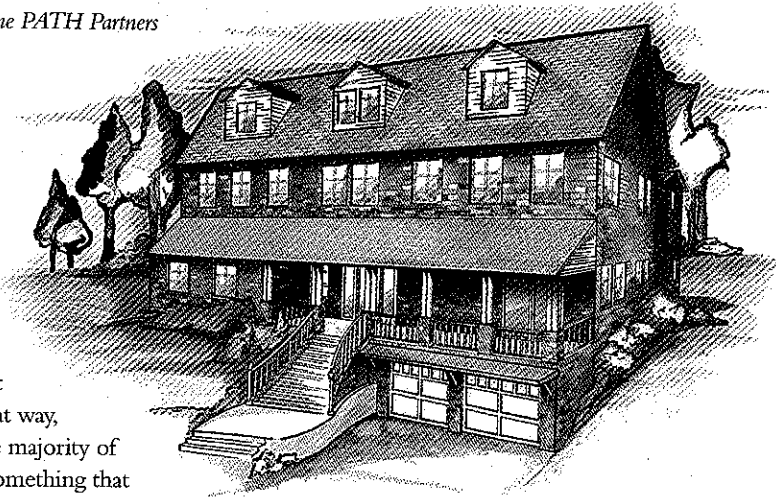
Thus, the Mainstream GreenHome features traditional architecture in a traditional neighborhood — high-quality vanilla that will

appeal to the masses.

"There's a stigma associated with green building that it will be junky, filled with recycled materials, and it'll look like a spaceship or a geodesic dome," says Jonathan Philips, Senior Director at Cherokee. "But most homes aren't built that way, and builders tell us that the majority of home buyers are seeking something that fits a more traditional look and feel. One of our highest compliments is when people walk in and say they can't tell it's a green home."

## A deeper shade of green

But how green is it? Cherokee estimates the net zero-energy home will consume half the water and fossil fuels of conventional homes, achieved by choosing sustainable materials and renewable energy, and by attending to energy and water efficiency, water quality, and indoor air quality. Cherokee is pursuing the new LEED for Homes certification and has partnered with the Partnership for Advancing



Construction is under way on the Mainstream GreenHome — a traditional-looking home designed to inspire builders, architects and consumers to build green.

Technology in Housing (PATH) to promote the home's features.

Although most builders couldn't afford to include all the options, Philips hopes builders will choose those that make sense for their projects. And since the range of options is so large, that shouldn't be too hard.

## Site and landscape

The garage is located under the main structure to limit the home's footprint and reduce impervious areas. Rainwater is harvested from the roof and stored in an underground cistern to be reused for toilets, laundry, a green hot tub and site irrigation. Runoff from the driveway and patio is captured in underground collection systems to allow for groundwater infiltration. Once complete, the yard will be certified with the National Wildlife Federation's Backyard Habitat Program and will serve as a satellite exhibit for the North Carolina Botanical Gardens.

## Material selection and conservation

The home contains regionally produced materials whenever possible since shipping materials uses more energy. For example, the flooring was manufactured from logs salvaged and milled in nearby Wilmington. More than 90 percent of products in the house will be no- or low-VOC. The target for recycling or reuse of construction and demolition waste is more than 75 percent.

(See GREENHOME on page 25)

## Buying green close to home

Using regionally produced materials whenever possible is one of the features Fred Thornhill of Coban Homes and his partner, Tim Hofer, have appreciated most about building the Mainstream GreenHome.

"I am particularly fond of certain North Carolina homegrown technologies and companies, as these reduce the amount of embodied energy used in a project and also help keep the local economy and job base strong," says Thornhill.

The flooring, for example, was manufactured from logs salvaged from the Cape Fear River and milled in nearby Wilmington.

"The flooring looks beautiful, and the process of obtaining the wood means that fewer trees need to be cut down to be milled. Flooring Systems then installed the hardwood floors to ensure that material waste created is reduced to an absolute minimum. As a builder, this is great because it means I can order with less contingency built in and paying less for cleanup and hauling—all things which save money."

Here's just a sampling of other North Carolina companies whose products are featured in the home:

- Apex Marble and Granite: Recycled glass and concrete countertops
- Blue Ridge Atlantic Enterprises: Rainwater collection system
- Cline Design: Green interior design
- Columbia Forest Products: Formaldehyde-free plywood
- Green Earth Designs: Landscape design
- General Shale: Brick manufactured locally with waste fuel
- Gutter Glove: Sustainable gutters, downspouts and gutter covers
- Potters Mill Kitchen Design: Green kitchen cabinets
- Regional Waterproofing Company: Crawlspace sealing

## Energy efficiency and renewable energy

The home will not produce any carbon dioxide emissions. This is achieved by maximizing energy efficiency and reducing energy demand with ground-source heat pumps, spray-foam blown-in insulation, a sealed crawl space and attic, rigid foam insulation, ENERGY STAR qualified windows, and a roof with more than three times the solar reflectivity of conventional roofs. An under-roof solar thermal system, a 10-kilowatt solar photovoltaic array, and a desuperheater on the ground source heat system for hot water heating provide substantial sources of renewable energy.

## Water quality and conservation

The GreenHome uses a high-efficiency irrigation system that relies on soil moisture sensors to minimize outdoor water use. Interior fixtures, including toilets and faucets, reduce indoor water use by 20 percent to 80 percent, depending on the fixture. Harvesting and reusing filtered rainwater greatly reduces the need for potable water in landscaping, toilets and laundry.

## Indoor air quality

Nearly every product in the GreenHome was selected based on indoor air quality criteria. The home uses high-efficiency, Minimum Efficiency Reporting Value (MERV) 12 filters to clean supply air. A central house vacuum will be installed to reduce indoor dust, pollens and dirt. The garage is sealed, insulated and automatically vented to keep vehicle exhaust and dust from entering the house. Air samples will be collected and analyzed to ensure superior indoor air quality before and after the family moves into the home.

## Learn more

Sign up at [www.mainstreamgreen.com](http://www.mainstreamgreen.com) to be notified about tours when the home is complete; a virtual tour will be available soon. On request, Cherokee will send you a list of green experts for each category of building — each of whom have agreed to help people wishing to build green. PATH's Technology Inventory, maintained with the NAHB Research Center, also provides detailed information on many of the home's green technologies at [www.pathnet.org](http://www.pathnet.org). Click on Tools.

(Susan Conbere writes about better building practices on behalf of the Partnership for Advancing Technology in Housing (PATH). PATH is administered by the U.S. Department of Housing and Urban Development. Learn more at [www.pathnet.org](http://www.pathnet.org).)

## HIGHEST YEAR-TO-DATE CURRENT CREDITS

| SPIKE Name     | Credits | Cumulative Credits | HBA                                      |
|----------------|---------|--------------------|--|
| Rusty Tanner   | 47.50   | 146.50             | Union County HBA                         |
| Warren Smith   | 37.25   | 134.75             | HBA of Raleigh-Wake County               |
| Mike Houseman  | 29.00   | 236.50             | HBA of Raleigh-Wake County               |
| Frank Wiesner  | 27.00   | 335.50             | HBA of Durham, Orange & Chatham Counties |
| Jay Harwood    | 24.50   | 1,046.00           | HBA of Albemarle & Stanly County         |
| Kathy Simpson  | 24.00   | 752.00             | HBA of Raleigh-Wake County               |
| Wayne Stone    | 21.00   | 163.00             | HBA of Wilson                            |
| Van Vreeland   | 20.00   | 799.00             | HBA of Raleigh-Wake County               |
| William Reaves | 19.50   | 2,097.00           | Moore County HBA                         |
| Larry Barker   | 19.00   | 277.50             | Outer Banks HBA                          |
| Tasha Soto     | 19.00   | 67.50              | HBA of Raleigh-Wake County               |

## HIGHEST YEAR-TO-DATE TOTAL NEW CREDITS

| SPIKE Name     | Credits | Cumulative Credits | HBA                           |
|----------------|---------|--------------------|-------------------------------|
| Rusty Tanner   | 17.00   | 146.50             | Union County HBA              |
| Mike Shatley   | 14.00   | 32.00              | Ashe County HBA               |
| Tasha Soto     | 13.00   | 67.50              | HBA of Raleigh-Wake County    |
| John Ray       | 12.00   | 23.50              | Asheville HBA                 |
| Larry Barker   | 11.00   | 277.50             | Outer Banks HBA               |
| Greg Spicer    | 11.00   | 17.00              | Asheville HBA                 |
| Curtis Barlowe | 10.50   | 41.50              | HBA of Hickory-Catawba Valley |
| Paul Taylor    | 10.00   | 231.50             | HBA of Hendersonville         |
| Carlton Dial   | 10.00   | 99.50              | Robeson County HBA            |
| Van Vreeland   | 8.00    | 799.00             | HBA of Raleigh-Wake County    |
| Warren Smith   | 8.00    | 134.75             | HBA of Raleigh-Wake County    |
| Thomas Workman | 8.00    | 69.00              | Ashe County HBA               |
| Kathy Barnes   | 8.00    | 12.00              | HBA of Raleigh-Wake County    |

## HIGHEST YEAR-TO-DATE RETENTION CREDITS

| SPIKE Name     | Credits | Cumulative Credits | HBA                                     |
|----------------|---------|--------------------|---|
| Rusty Tanner   | 30.50   | 146.50             | Union County HBA                        |
| Warren Smith   | 29.25   | 134.75             | HBA of Raleigh-Wake County              |
| Mike Houseman  | 27.00   | 236.50             | HBA of Raleigh-Wake County              |
| Wayne Stone    | 21.00   | 163.00             | HBA of Wilson                           |
| Frank Wiesner  | 20.00   | 335.50             | HBA of Durham Orange & Chatham Counties |
| Kathy Simpson  | 19.00   | 752.00             | HBA of Raleigh-Wake County              |
| William Reaves | 18.50   | 2,097.00           | Moore County HBA                        |
| Jay Harwood    | 17.50   | 1,046.00           | HBA of Albemarle & Stanly County        |
| Duke Geraghty  | 15.50   | 323.50             | Outer Banks HBA                         |
| Dan Tingen     | 14.00   | 77.25              | HBA of Raleigh-Wake County              |

## Growing our strength through member recruitment, retention and involvement

Recruiting new members to your local association is an activity recognized and rewarded through the NAHB SPIKE Club Program. Those who participate are called SPIKES and they are among the most valued members of the association.

Member-to-member recruitment and retention efforts are highly valued because of the grassroots growth and stability they bring to your local, state and national associations. These efforts lead to the development of the general membership and our leadership pipeline, keeping the face of our association true to that of our industry and the wide scope of interests we represent.

SPIKES are the membership leaders of our federation, building the voice, power and influence on every level.