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AMAZING HOMES

# NEW HOME IS GREEN FROM THE GET-GO

BY LALAIN ESTELLA RICARDO

PURCELLVILLE BUILDER BUILDS LEED HOUSE

In a landscape sometimes littered with what some derisively term McMansions for their heavy carbon footprints, a new home being built in Purcellville is becoming a model for smart, sustainable living and ushering in a new trend of energy-efficient and environmentally friendly design. The Dogwood house is the first of six planned homes in the Village Green community, which is nestled just past the Village Case neighborhood off South Maple Avenue. It features four bedrooms, two-and-a-half bathrooms in a charming, two-story craftsman bungalow. For all the technological advancements and environmentally safe features the house boasts, it cultivates a warm, comfortable feeling in visitors.



BITS OF RECYCLED GLASS ADD SPARKLES OF INTEREST IN THIS ISLAND COUNTERTOP

With 9-foot ceilings and large, Energy Star picture windows in every room, plenty of bright, natural sunlight streams through the 2,500-square-foot home. In a county where houses triple or even quadruple that size get a lot of attention for their sheer scale and enormity, the compact Dogwood deserves a closer look for what the casual observer can't readily see.

Buried deep under ground is a geothermal heating and cooling system that uses the earth's temperature to create a base temperature of about 55 degrees in the home. From that base temperature, minimal heat is used to warm the home in winter, and minimal cooling is needed in the summer.

Also underground is a geothermal Eco-Air Fresh Air Exchange system that filters fresh air into the home. With effective, airtight windows and doors, it is important to ensure good indoor air quality, says John Burroughs, the architect for the project. The heating and cooling systems and Eco-Air system are made by Rehau, and have been used for years in Germany and throughout Europe, Burroughs says. "These are proven systems, but they are relatively new to the states."

Inside the house, LED lighting and compact fluorescents are installed, as are energy-efficient appliances, low-flow plumbing fixtures and dual flush toilets. The kitchen showcases a recycled glass countertop that sparkles with color. The floors can be covered with bamboo, recycled vinyl or tile. A tankless hot water heater reduces energy use by about 70 percent over a conventional heater. Low gas-emitting paints, caulk and adhesives are used throughout. In the walls and ceiling, a vegetable-based

spray foam insulation several inches thick is used to fill cracks and prevent unnecessary airflow.

One thing that's hard to miss is a 1,700-gallon tank sitting in a back corner in the spacious basement. The tank is part of a rainwater collection system that harvests water from roof downspouts, then filters and stores it for use for the toilets, laundry and garden hose.

Priced competitively between \$475,000 and \$625,000 depending on the options chosen, the Dogwood is designed to create savings for the buyer over time.

The rainwater collection system, for example, costs about \$9,000 but can save the homeowner up to 30 percent of the cost of standard water usage, a savings that adds up to about \$380 a year, based on industry projections, according to the builders.

The geothermal heating and cooling system, at around \$11,000, is engineered to reduce electricity use by 50 to 70 percent, and save the homeowner about \$3,500 a year.

"It does cost more to build green," says Elsa Anders of Lauten Construction, which has teamed up with Burroughs' New Leaf Collaborative Architecture and Design to create the Village Green homes. "But there is a payback, a point at which the features pay for themselves."

"At some point, it's a net-plus, particu-

larly for resale," says Robert Lauten, Anders' husband and founder of the company.

As one of the first new home projects registered as LEED-certified in Loudoun, the Dogwood is a veritable "green" home, as designated by the U.S. Green Building Council. The LEED certification, or Leadership in Energy and Environmental Design, is the primary

benchmark for building a sustainable, environmentally friendly home.

As it stands unfinished, the Dogwood already has earned LEED Silver status, which means it scores high on a rating scale that awards points for such things as location and proximity to the local community, minimal impact on the environment, water efficiency

ELSA ANDERS AND ROBERT LAUTEN OF LAUTEN CONSTRUCTION, WITH JOHN AND MARILYN BURROUGHS OF NEW LEAF COLLABORATIVE

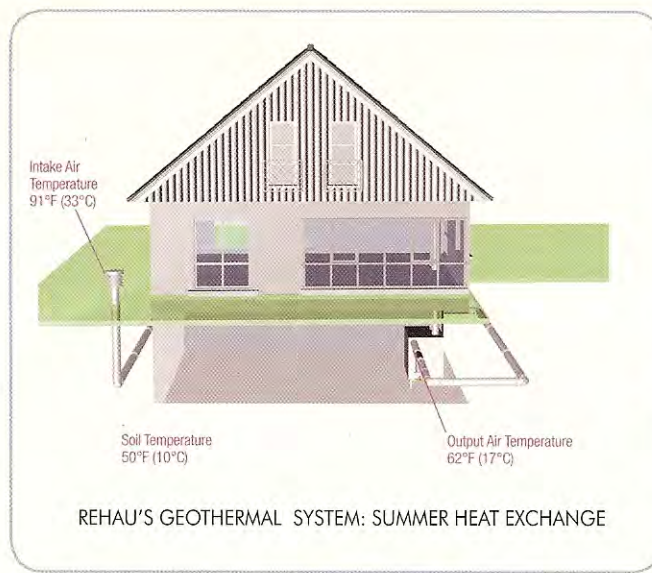


and other criteria.

Depending on a number of available options a future homeowner adds, the house can qualify for Platinum status, the highest level of LEED certification. For instance, a homeowner can elect to install photovoltaic panels on the rooftop, which gather sunlight that is converted to energy that can power the house. "When you produce your own energy as opposed to just conserving what you get from the grid, that's a lot of points for LEED," Anders says. Homeowners with solar panels can expect power bills that are \$50 lower per month than that of their neighbors with conventional electricity, and a tax credit of 30 percent of the installation cost, Anders says.

The house, which sits on a corner lot, is a "systems built" project, which means portions of it were built in a factory and assembled on site. "There's much less waste incurred," says Burroughs, a LEED-certified architect. The factory's proximity – it's located in Front Royal – also helped boost the project's high LEED score. "We got points because it was so close, the transportation factor was minimized."

From start to finish, a Village Green home can take as little as 90 days to design, plan and



build, according to the developers.

"If you have the preparation done ahead of time and you have the plan and infrastructure in place, it really can shorten up the time," Anders says.

The owner of this particular house, or any of the other planned Village Green Homes, stands to reap thousands of dollars in tax benefits because of the extensive list of green features used. With all its innovations, the Dogwood is poised to usher in a new kind of home

buyer in Loudoun. The developers acknowledge that this amazing home is built for a customer who is already in the know.

"We usually find that if somebody is thinking about buying a green house, they've been talking about it for a long time, they've been doing some reading on their own, they've been doing some research," says Marilyn S. Burroughs, interior designer for New Leaf Collaborative Architecture and Design. "And they have some thoughts about what they need. But they're also looking to us as a team for our expertise and to tell them the pros and cons of each of these features."

In addition to building in the Village Green neighborhood, the developers can design and build a green house anywhere a customer would like. "We are a custom home builder," Anders says. "We sit down with the potential client and ask, 'What is important to you, what are the important features you would like, what options do you want in your house in terms of the green features?' We think the houses should be designed for the individual family, for the individual person and what they want." 