

## Schools going green big-time

### St. Mary's claims lead in environmental design race

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Approaching Evergreen Elementary, it's clear right away that there's something different about this new school. A pair of silo-like structures squats in front of the two-story brick building - cisterns storing rainwater for flushing the toilets. Then there are the cactuses and other plants growing atop the entrance canopy - put there to soak up more rain.

Evergreen represents the latest in green school design in Maryland. The \$20 million elementary school, which started classes last week in this woodsy, suburban community in St. Mary's County, has been designed and built to save bundles of energy and water, and to reduce the building's impact on nearby streams and wetlands. It's also been planned to hammer environmental consciousness home to its 600 students. It is, contends county School Superintendent Michael Martirano, the greenest school in the state.

He might get some argument on that - Montgomery County has built or rebuilt four schools now with enough energy-saving and environmental features to qualify for the second-highest rating given by the U.S. Green Building Council. But there's no doubt that green schools are starting to spread across the state.

St. Mary's school officials say Evergreen, like the Montgomery schools, is in line to get a "gold" rating under the green building council's Leadership in Energy and Environmental Design, or LEED, rating system. Among other features, it boasts a geothermal heating and cooling system, waterless urinals and low-flow faucets, and a white reflective coating on the flat portions of the roof to keep the building from needing as much air conditioning in warm months.

Small patches of the roof also sprout plants - with the cisterns, part of a system meant to capture 90 percent of the rain that falls on the school. There is a bank of photovoltaic cells mounted on a sloped portion of the roof, and even a small wind turbine that powers one outlet. Though their contribution to the school's energy diet is tiny, the gadgets are meant to be teaching tools, not just bells and whistles.

"This is more than just a school," said Martirano as he showed a reporter and photographer around, giving what he estimates was his eighth tour of the new building. "It's a full immersion in the energy conservation issues [students] are going to experience as adults."

Signs about water and energy conservation have been posted along the hallways, and there's an interactive "energy kiosk" near the entrance that, once completed, should enable students to track their energy consumption and learn about the school's environmental features.

On the second story is a walkout patio connected to the science laboratory, with another plot of plants to soak up rainwater, helpfully collected in a rain barrel.

Natural light streams into the cafeteria, gymnasium and second-story classrooms through high clerestory windows, reducing the need for artificial lighting. Some first-floor classes are lit by the sun, via "light tubes" extending down from the roof.

"We've added all of the most recent energy-efficient items that could possibly go into it, from the positioning of the building on the site to exposure to sunlight," Martirano said.

Starting this year, all new schools built with state funds must incorporate enough energy- and resource-saving features to qualify for the LEED silver rating. But even before the state mandated that in legislation passed last year, first Montgomery and then St. Mary's opted to exceed what would be required.

Montgomery built the state's first LEED-rated public school, Great Seneca Creek Elementary, in Rockville in 2006. Since then, it has built another new elementary and rebuilt two old schools, incorporating enough energy-saving and environmental features to qualify them all for a LEED gold rating.

Martirano said green building is especially important in St. Mary's because of its proximity to water, on a peninsula bracketed by the Chesapeake Bay and the Patuxent and Potomac rivers.

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The Evergreen school also had an extra responsibility to limit its environmental impact, because it was built on land bordering wetlands that harbor the Eastern narrow-mouthed toad, an amphibian so rare in Maryland that it is classified by the state as endangered. To protect the toads, school officials have pledged to leave untouched most of the 54 acres on which the school sits, and have taken extra steps to keep polluted storm water from washing off the building and its parking lot. The school's two stories help reduce its land consumption.

In a nod to the state's Smart Growth policies, the school was built in one of the county's designated growth areas, a planned community called Wildewood carved out of the woods north of Lexington Park and the booming Patuxent Naval Air Station. But in a planning breakdown that's all too typical in sitting new schools in the suburbs, there's no sidewalk along the parkway that connects the school to the neighboring houses - though there are marked bicycle lanes.

That's about the only glitch in the green-ness of Evergreen, but it doesn't seem to faze the students, faculty or staff.

"Pretty awesome" is the grade Nathaniel Vibar, 9, gives his new school. His favorite feature? The bathrooms, particularly the jet-loud hand dryers.

Fourth-grader Madison Lootens likes the school having a second floor, where "older kids" like her can study apart from the youngest students. Her favorite room is the science lab.

Green school building is not as far along in the Baltimore area.

In Harford County, school officials are seeking LEED certification - the lowest ranking from the green building council - for an addition and modernization of Joppatowne Elementary School. The school system's new headquarters also was constructed to LEED silver standards, according to spokeswoman Terri D. Kranefeld.

In Baltimore County, Vincent Farm Elementary School, which opened last year in White Marsh, has a geothermal heating and cooling system, among other energy-saving features. But county officials opted not to seek the green building council's rating, said spokeswoman Kara Calder, because of the costs and paperwork involved in certifying the efficacy of what they did.

County officials plan to seek a LEED silver rating for each of the next two schools in the works: the new West Towson elementary to be opened next August, and a new arts and technology school for which ground is to be broken later this month, Calder said.

Howard County hasn't opened any new schools for the past couple of years, so the district hasn't had any newly constructed buildings to submit for LEED rating, said spokeswoman Patti Caplan.

Building green has been at least slightly more expensive upfront, but that may be changing. St. Mary's officials figured they'd need to spend an extra \$1.5 million for Evergreen to accommodate all the features they wanted, but found that the project ultimately came in \$1.3 million under budget. And now they view it as a model for future schools they expect to build.

For St. Mary's officials, there's an economic incentive to energy conservation. The county's 27 schools, competing in a "capture-the-flag" contest to curb their energy use, managed to save the county roughly \$500,000 in energy costs last year, officials said. Evergreen is projected to need 20 percent less energy than conventional school buildings.

But conservation is a habit to be learned, not just a gadget installed in a building, they say. "My green guru, let's make sure all the lights are off," fifth-grade teacher Lisa Lewis called out as her class filed out the door and down the hallway.

"It's easy being green," said Martirano. "It's not an add-on, not a concept. It's a way of thinking, of acting. ... At the end of the day, for all of us, it's about changing behavior for our kids."

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