



Hastings Architecture building interior after renovation. The picture demonstrates the reuse of the existing wood structure and floors. The entire original shell/structure of the building was restored and reused.

PHOTO BY TOM GATLIN

It's Not So Bad Being Green

Sustainable construction gains a foothold in Tennessee

By Tabatha Thompson

The phrase “green construction” is often misunderstood by business people whose jobs are to examine the bottom line before building or renovating.

“We prefer to call it ‘sustainable design and construction,’” says Keith Dempsey, a project manager at Oak Ridge National Laboratory (ORNL). The national lab is at the forefront of sustainable or green building in Tennessee, but Dempsey contends that business people often mistakenly link green construction with radical environmentalism and effectively close their ears.

“It doesn’t have to have the stereotypical things,” says Dempsey, who recounts stories of building owners whose only experience with sustainable construction involved radical ideas like grass rooftops. Three buildings on ORNL’s site are certified by the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED). “If you saw the buildings today, you would ask, ‘What’s so special about this building?’ That’s the point. It’s not obvious; it’s a well-engineered building.”

Though the building may not look special, Dempsey says the lab’s first green project—a three-building modernization effort—saves a half-million dollars a year in energy costs.

When Battelle began managing ORNL in April 2000, one of the new management team's stated goals was that all new buildings would be green. They elected to follow the LEED certification because it is a national consensus standard.

The U.S. Green Building Council (USGBC) compares buildings to 69 possible points and seven prerequisites. The 69 are elective, and the seven prerequisites are mandatory. If a builder can accumulate at least 26, plus the seven mandatory, the building is certified green. With 31, it's silver. At 39, it's rated gold, and 56 is platinum.

[Green building] is something relatively new this side of the Mississippi.

—Mac Caradine, Linkous Construction

Only one other building in Tennessee is certified by the USGBC—the Hastings Architecture Associates building in downtown Nashville. Several others are registered for consideration.

Mac Caradine, project manager and estimator at Linkous Construction in Memphis, says his company is taking on its first green construction job— an assisted living facility called Tresvant Manor— at the request of Askew Nixon Ferguson Architects.

“It's something relatively new this side of the Mississippi,” Caradine says. “Askew Nixon is one of the key firms that has some (LEED) certified architects. As a contractor, Linkous will be working with the architects to classify the building as a green project. This is the first client we've heard about asking for green construction. This project, I guess, lends itself more toward a green project since it's an assisted living facility.”

Kim Shinn of TLC Engineering in Nashville chairs the USGBC's Middle Tennessee chapter.

“Much of the reason that the Northeast and California are leading the curve on green building is because



Hastings Architecture Building— Before and after renovation. Large windows were cut in and added at the originally solid brick southern face of the building in conjunction with the use of interior glass.



“Yes, our energy costs are low here, but why not pay less?”

—Keith Dempsey

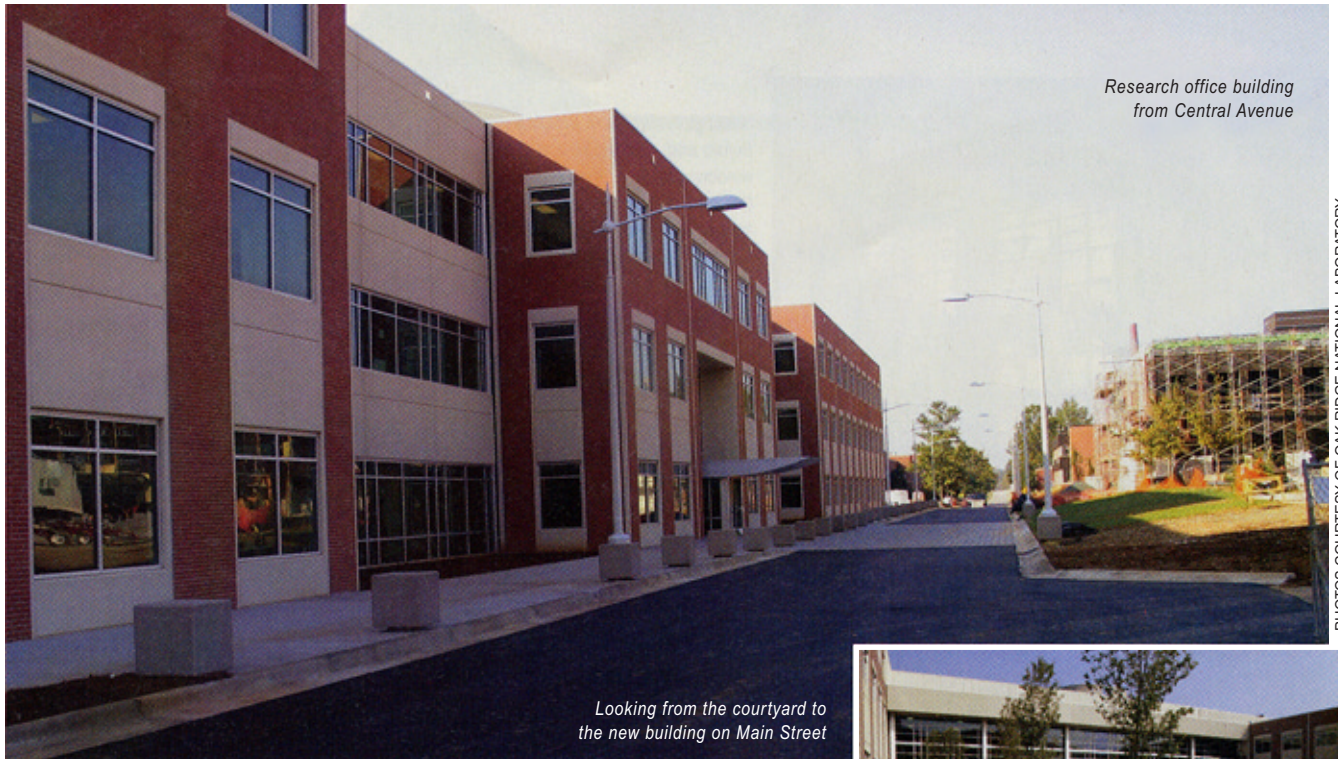
they're getting local and state incentives to do green building. Energy costs are generally higher in those parts of the country, and green buildings conserve energy. Here in Tennessee, we have no state or local incentives in terms of grants or tax credits to build green,” Shinn says, adding that he hopes to see that change soon. “Our USGBC chapter has a very active public advocacy program where we are going to state legislators, finance officers and the state architect. We're also talking to Metro Nashville government and parks and Williamson County.”

Caradine says he believes more owners would ask for green construction if tax incentives existed,

but even without that benefit, he expects to see more requests for sustainable design in the coming years.

“With raw materials costs going up, I imagine you'll see more of a trend in this part of the country toward green construction,” Caradine says. Dempsey says there's no reason to wait for costs to rise before implementing sustainable building practices.

“I don't know what your home energy costs are, but if I tell you that you can save 30% on your energy costs, would you take me up on it? Yes, our energy costs are low here, but why not pay less? Because your rates are low, does that mean you shouldn't save energy?” Dempsey asks. “We're proving in these new



Research office building
from Central Avenue

Looking from the courtyard to
the new building on Main Street

PHOTOS COURTESY OF OAK RIDGE NATIONAL LABORATORY

buildings that you can build energy efficient buildings and have solid metrics to prove you can save money. In our case, it's several millions of dollars. My feeling is that people—many of them decision-makers in companies—see something that's new and difference and worry about getting as much building for the money if it's energy efficient. The best we can tell you is that there's big savings because of lower energy consumption."

"For instance, buying the steel within a 500-mile radius of the project or separating the construction debris to go to different containers for recycling sites."

Building owners aren't limited to the structure when it comes to making a project green. Dempsey says in addition to greener raw materials, carpet and office furniture manufacturers are offering new products.

"'Cradle to cradle' is the new term,"

"We're proving in these new buildings that you can build energy efficient buildings and have solid metrics to prove you can save money."

—Keith Dempsey, Oak Ridge National Laboratory

Both Caradine and Dempsey insist that any initial increase in cost to build green is minimal and quickly recovered by energy savings, even in Tennessee, where energy is relatively cheap.

Caradine says contractors have a learning curve when it comes to building for LEED certification, but once the criteria are understood, it's easy to comply.

"It's a commitment, as a contractor, to do the research of the different products that would be acceptable—the materials we buy," Caradine says.

Dempsey says. "Furniture manufacturers are leading the way in terms of sustainable features. Hayworth and maybe IKEA, too, are not only looking at where they get the raw materials, but also how they can disassemble and recycle them."

Green buildings are closely monitored to determine intangible benefits. One of the more significant findings, Shinn says, is happier, healthier employees who are likely to stay with a company longer.

American Constructors renovated



the Hastings Architecture building in Nashville, working closely with the firm's architects on the design.

"Our society as a whole is becoming more aware of the environment, and not only saving the environment for our children, but its effect on productivity," says Eric McKinney, a project manager with American Constructors. "One of the significant aspects is happy, healthy people who have light in their offices and facilities in the building that make it easier to bike to work. When you have healthy and happy employees, it contributes to your business flourishing."

The Hastings building earned 28 LEED points, two more than the minimum for certification.

Architect Erik Lund worked on the team to re-engineer and retrofit the building constructed in 1895.

"Looking back on it, it was easy," Lund says. "At the time, it was difficult because we were learning as we went. We received three points for re-using 100% of our building structure. We received two points for our site

selection. Six or seven points came directly from choosing to develop a building downtown. We chose low VOC (volatile organic compound) products-paints and ceilings that improve the air quality of the building. We also introduced daylight to the building. The old building hardly had any windows. We put new windows throughout the building, reducing electric lighting needs. Lots of days we don't even turn the lights on because it's so bright with the windows."

"The construction industry is at the very base of a pretty steep learning curve about green building and the importance it will play in future projects."

—Eric McKinney, American Constructors

Creature comforts are also key to the building. Lund says there's one thermostat to every four people. Every two people have a window they can open.

"We not only gained the experi-

ence of green building as architects, we work in it every day. It's something we really believe in," Lund says.

That experience, Lund says, helped the firm win business with Vanderbilt University, which is pursuing green certification in several of its ongoing renovations.

"We're working on several of the projects with them," Lund says. "The experience we got from our own building is helping us with the new projects. So, I think we had the ben-

fit of learning green design on our own building."

American Constructors also parlayed its experience with Hastings into business with Vanderbilt.

"The construction industry is at

the very base of a pretty steep learning curve about green building and the importance it will play in future projects," McKinney says. "The biggest difference we're seeing these days is when we bid for consideration in a project, our involvement with the USGBC and green building is more prevalent on the priority list of owners. We do work over at Vanderbilt and large institutions like that at the forefront. Other owners, like doctors developing medical buildings and churches are also expected to begin putting green building high on their priority list. It's a selling point for us to say, 'Hey, we're on board with the concept of a building that's economical and healthful for occupants. We're knowledgeable enough to help achieve that goal without much trouble.'"

To see a complete list of Tennessee projects registered for LEED certification with the USGBC, go to www.usgbc.org/LEED/Project/project_list_registered.asp. Select Tennessee from the drop down menu. **tn**

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