

# Going green may raise construction tab by more than 10%

By Jane Paige

**DURHAM** – Going green can add to the construction costs of local companies and institutions. Just how much depends on how deep a shade of green is targeted.

In recent years, Triangle area governments, universities and companies have ramped up plans for earth-friendly buildings while seeking various levels of national certifications for their efforts.

While achieving lower certification levels may be inexpensive, the cost of achieving higher levels may increase the project's cost by as much as 10 percent or more, according to local industry experts.

"Today, good basic design practices for green buildings can be accomplished without significant cost increases," says Zena Howard, senior associate with The Freelon Group, a Durham-based architecture firm. "However, the higher level of certification you want to achieve, the more it is going to cost upfront."

Howard should know. She is the project manager for the \$56 million, 244,000-square-foot Durham County Human Services complex. The building has been registered for the gold Leadership in Energy and Environmental Design (LEED) certification level established by the U.S. Green Building Council.

Construction is yet to start on the project, but Nov. 30, 2010 is tentatively scheduled as the occupancy date. LEED certification is only awarded after the project is complete.

## STEPS TO GOING GREEN

To earn LEED certification, a building project must earn credits by meeting prerequisites and performance benchmarks in each of several key areas. Projects are awarded certified, silver, gold or platinum certification, depending on the number of credits achieved.

Aiming to achieve gold certification, the project has experienced a 9 to 10 percent budget increase, says Howard. It is targeted to be the largest LEED gold certified project in the state.

Some items adding to the project costs are exterior sun shades to block glare, roof monitors to bring more light into the building, air circulation systems under raised floors, high performance window glazing, high efficient HVAC systems and an exterior rain screen system.

By comparison, Durham County built two regional library system branches – one with a certified LEED rating and the other with a silver LEED rating – for nominal additional expenses, according to Glen Whisler, the county engineer.

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– Glen Whisler  
Durham County engineer

Opening in June 2006, the East Regional Library on Lick Creek Lane in Durham was LEED certified, and the North Regional Library on Milton Road, which opened in January earned the silver level of certification.

The two buildings are the same design with 25,000 square feet, built at a cost of \$4 million each. The North Regional facility earned a higher LEED certification because of its emphasis on capturing solar energy.

"The most important way to minimize any additional costs in LEED buildings is to integrate the green systems in the design from day one," says Whisler. "If you go back and try to add later, it can easily drive up the costs."

## FINDING MIDDLE GROUND

Making tradeoffs in the design process also can help a project stay within budget. For example, less expensive carpet was selected for the libraries to help offset some of the costs of the extra environment-friendly features, Whisler says.

An additional expense required for LEED certification has to do with the commissioning of the building.

A third party is required to evaluate the building and its design and test all the systems. This fee can be 1 percent to 1.5 percent of the construction costs, or



Zena Howard of the Freelon Group is pursuing LEED certification.

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## LEED: Calculating 'green' costs can be confusing

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these items average approximately 5 to 15 percent, says Chris Wedding, who specializes in sustainable design for Cherokee.

Ginger Scoggins, co-owner of Raleigh-based Engineered Designs, agrees that the expenses associated with LEED certified and silver certification can be covered by good building designs.

But, she says, the plumbing, mechanical and electrical systems required can increase costs for gold certification by 20 percent and as much as 30 percent for platinum, depending on the building. "Some gray water sys-

tems that are required for higher certifications can add \$100,000 to the cost right off the bat," Scoggins says.

The average cost difference between green buildings and non-green buildings can be a bit murky to calculate, local experts say. One 2006 national study states that there is no significant difference between the average cost of the two types of buildings.

Confusing direct comparisons is the initial integration of green systems in a building's design plus the cost associated with a learning curve for the design and construction team.

about \$40,000 for each of the Durham regional libraries.

Tradeoffs to cut costs are a good idea, agrees Chris Long, former director of campus development for the Environmental Protection Agency in the Research Triangle Park.

Long oversaw construction of the LEED silver certified national computer center, a 95,322-square-foot facility that is one of the largest computer centers in the country.

"We were able to build the \$20 million computer center on a typical budget for the silver certification," says Long, now the deputy associate director of the National Institute of Environmental Health Sciences. "The process involved a good working relationship with the entire project team plus a willingness to make some cost tradeoffs."

Cherokee Investment Partners, a private equity firm specializing in redeveloping brownfields, recently was awarded LEED platinum certification for its new downtown Raleigh headquarters. It is the first LEED-certified building in the city and one of 61 buildings worldwide with LEED's highest certification.

Cherokee converted the 21,500-square-foot former Heilig Levine furniture store that dates to 1870 and is located at Wilmington and Hargett streets.

"From a cost perspective, the most important point is that the total upfit costs for our space fall within the range of comparable office upfit costs in Raleigh, and are less than the very high end, Class A spaces," says David O'Neill, vice president of Cherokee Investment. The cost for the upfit was \$50 to \$60 per square foot.

## TOP RATINGS ARE COSTLY

Items that cost more to qualify for the platinum LEED certification include the HVAC system, a fresh air delivery system, lighting controls and associated light upgrades and recycled content or renewable finish materials such as polycarbonate panels, homosote and cork. Premiums for