



## Uncharted Territory: Risks in Green Design

*The green building movement continues to gain momentum. Architects and engineers are joining in. But are there liability issues, they haven't considered?*

Sustainable design and construction have gone mainstream. Once the purview of a few forward-thinking activists, the green building movement is now embraced by a large segment of the design community as well as many developers, contractors and owners.



“Sustainable design thinking, both good and bad, is having an impact on everything from brownfield development and the selection of carpeting and structural materials to financing strategies, standards of care for design professionals and requests for proposals from

federal, state and municipal governments,” says one Chicago attorney.

One indicator of the green building movement's impact is the size of the overall market, estimated at \$5.8 billion in products and services—a 34 percent increase in just one year<sup>1</sup>. Another clue: membership in the non-profit United States Green Building Council (USGBC) has grown nearly 1,000 percent in the past four years. As of October 2004, 194 million square feet of commercial building space had been registered or certified under the USGBC's Leadership in Energy and Environmental Design® (LEED®) rating system, now the primary benchmark for sustainable building in both the US

and Canada. Some predict that the total number of LEED-registered projects will increase from nearly 1,800 at the end of 2004 to 10,000 by the end of 2009<sup>2</sup>.

Green building projects represent a diverse cross-section of owners. Many state and federal agencies have adopted green building policies and clean energy standards. Since 2003, for example, the General Services Administration has required LEED certification for all of its buildings. Colossal corporations—such as IBM, Southern California Gas Company, Ford Motor Company, Lockheed and Toyota—have built or are building green structures.

### **SUSTAINABLE GREENBACKS**

One reason for the increase in sustainable projects is the lure of significant long-term economic benefits. A 2003 report based on LEED buildings in California calculates that an upfront investment of 2 percent in green building design results in average savings of 20 percent of the total construction costs over the building's life cycle—more than ten times the initial investment<sup>3</sup>. In addition, tax incentives are offered by some cities, counties and states for green building.

There are other benefits that can enhance the bottom line, such as improved worker productivity, health and satisfaction. Owners can also expect higher building value from lower operating costs, reduced tenant turnover and increased property value. Proponents even point to a potential increase in customers and sales if the facility is a more pleasant place to shop or if customers choose to do business with an environmentally conscious company.

Sustainable strategies integrated into the project from the beginning will provide the greatest return on investment (and lessen the likelihood of disputes). “We view sustainability as an integral part of the process,” Edward A. Feiner, FAIA, Chief Architect of the US General Services Administration, says. “It’s not a feature, not an application. It has to be part of the genetics of the design. What we look for is something whose essence is superb design that is also sustainable.”<sup>4</sup>

Not everyone is ready to “go green” though. Some owners and developers (speculative builders, for example) balk at the upfront costs, which are generally higher in green building projects. Although new data indicates that projects can achieve a sustainable design at little or no additional cost<sup>5</sup>, the USGBC itself estimates such practices add up to 7 percent to the cost of a project. This figure reflects the engineering, consulting and documentation required to certify the building under the LEED program.

### GREEN DESIGN AND PROJECT DELIVERY

While some A/Es are assuming a wait-and-see attitude about sustainable design, many are eager to gain a foothold in the market and are attending LEED workshops in increasing numbers. As of late 2004, more than 19,000 professionals had been trained—9,000 in September 2004 alone—and most had become LEED accredited.<sup>6</sup> The number of firms and organizations that intend to be “significantly more involved” in green building in the next few years has risen noticeably since 2003.<sup>7</sup>

Observers point out that the trend toward sustainable design provides opportunities for A/Es to offer expanded services. One example, is the important, though unrecognized, synergy between LEED certification and the design-build construction delivery mechanism. Because LEED certification requires an integrated and comprehensive approach to building design and construction, all the parties involved in the construction process are encouraged and often required to participate in the planning and coordination of the project.

In light of this, a project delivery mechanism with a single point of responsibility, such as design-build, would deliver a high-performance project most efficiently. Such a delivery system eliminates the adversarial aspects of a traditional delivery system—especially between the contractor and the designer. An architect-led design-build delivery scenario allows architects to once again reassert their role as a master builders, offering great potential reward for A/Es, but it also requires a clear understanding of the risks.

### LOOKING AT THE RISKS

In all the upbeat seminars and articles about sustainable design and construction, rarely does one hear much talk about liability, even among construction lawyers.

Is there a downside to designing green buildings? What is not at all clear is how the legal system will respond. For example, the rush to LEED accreditation and certification may actually be raising the professional standard of care for the design of certain types of projects such as health care facilities.

There are plenty of unknowns. For example, according to a Building Design and Construction white paper, designating “a single ‘champion’ for LEED research, implementation and documentation is crucial.”<sup>8</sup> The question, however, is whether the design professional or another party—perhaps the owner’s representative or even a separate “LEED-certifying professional”—would assume that role.

### THERE ARE OTHER ISSUES TO CONSIDER:

- Owner expectations. As in any project, when the owner’s expectations don’t match reality, disputes can arise. If a project garners a Silver-level LEED certification but the owner really expected Platinum, will the owner look to the A/E to “fix” it?



If a green design doesn't provide the energy savings the owner hoped for, is the A/E liable?

- Guarantees. Promising by contract a certain performance or a level of certification may also increase the A/E's liability. Professional liability insurance does not typically cover contractual warranties or guarantees. Promises don't necessarily have to be incorporated into a contract to cause problems. Plaintiff attorneys can—and do—use as evidence a design firm's own promotional materials assuring potential clients, for example, that the firm specializes or has extensive experience in green design. This not only results in certain unrealistic client expectations but also creates a potential coverage issue under the A/E's professional liability insurance.
- Scope/fee/contract issues. Each green project comes with its own set of risks and special considerations. For example, most green buildings take more time to design, research, get approved and coordinate. Unless the A/E's contract and work scope anticipate the additional time and work involved, he or she may be subject to an unrealistic schedule or be inadequately compensated.
- Project team capabilities. XL Insurance claims research shows that project team capabilities are a factor in nearly a quarter of all professional liability claims. Of these, a huge percentage is attributable to unqualified project team members or project managers. As worthwhile as it may be, a LEED accreditation doesn't make an A/E an instant expert in sustainable design. The same accreditation can be awarded to a senior partner whose experience includes a dozen LEED-certified buildings and a junior project manager just learning about green design. Not only can an inexperienced project team increase the time needed to research and design a building, it can also increase the likelihood of design errors.
- Innovative technologies and unproven materials. New technologies don't come with guarantees, and we simply don't know how some new building systems will perform 10 years down the road.

- In addition, many products marketed as "green" have yet to undergo the test of time or have never been proven reliable in certain applications. The green products market has surged in the past decade, and a number of independent product certification and standards organizations have appeared. Yet these organizations sometimes have widely different criteria for classifying products as green. According to a recent survey, more than half of respondents said they have trouble sourcing green products, largely because they could not get a clear definition of "green"; 20 percent said they distrusted the "green label."<sup>9</sup>



- Maintenance and operation. Innovative and complex buildings work only if they are designed, built, operated and maintained to meet the owner's needs. Buildings designed and built without regard for day-to-day operation and maintenance won't perform as expected, and the owner may look to the A/E and builder for reparation. Similarly, if the owner doesn't understand or perform its maintenance responsibilities, or if the facilities manager is unable to properly operate the building systems, hoped-for savings will not materialize.

**SOME SUGGESTIONS**

- Green design is a relatively new field and anything unfamiliar warrants extra caution until the claim environment is understood—sometimes years down the road. If you're thinking about providing green design services, keep the following in mind:
- Manage owner expectations. It's up to you to educate the owner on the realities of sustainable design and your role and limitations in the process. The owner needs to understand that designing, constructing or renovating buildings in an environmentally responsible manner requires a great deal of planning and innovation. The owner's

requirements and expectations should be fully articulated and documented during the programming phase. Sufficient money and time to research and design innovative systems must be available.

- Watch those promises. Never guarantee or warrant anything—for example, attaining a specific LEED certification level. All the law requires is that, as a professional, you conform to the standard of care as practiced by your peers. Anything else increases your liability and jeopardizes your professional liability insurance coverage.
- Get help. Your liability exposure and business needs will vary depending on the project and the delivery method—an A/E-led design-build scenario, for example—and require careful guidance from your attorney and insurance broker.
- Address the issues in your contract. Your professional services agreement must anticipate the special circumstances of a green project. It should clearly define the scope of work and adequately reflect the risks and responsibilities you will and will not assume in performing services. Further, your scope (and fee) should reflect the additional time and effort involved. The owner's responsibilities should also be clearly delineated. Review the contractor's contract as well as that of any third-party owner or representative to ensure that risks are equitably distributed and all parties are aware of their roles. Be especially careful to avoid assumption of any liability for contractor means, methods, sequences and job site safety. Talk to your attorney about adding appropriate dispute resolution, standard of care, limitation of liability, indemnity and termination provisions.
- Assemble an experienced project team. An innovative and complex design is no place for the uninitiated. If your staff and consultants don't have the necessary expertise, look elsewhere for it...or decline the project.
- Research and document your design choices. In the event of a dispute, you must be able to demonstrate that you exercised due diligence—that you made a reasonable, professional effort to explore the suitability, performance and reliability

of the products or technologies. Thoroughly document your research efforts and correspondence and require assurances from manufacturers, suppliers and installers that the product or system is suitable for the intended application.

- Anticipate maintenance and operations issues. Green projects incorporate a commissioning process to make sure that building systems are designed, installed, tested and able to be operated and maintained according to the owner's needs. Facility managers should be involved with the process from the beginning and understand systems operations as well as their maintenance responsibilities.



The information in this article is the product of over 30 years of front-line claims experience and is part of the educational service provided to the design industry by the Design Professional group of the XL Insurance companies. For more information, other loss prevention resources and to find an agent in your area, visit [xldp.com](http://xldp.com) or phone 800-227-8533 ext.2102508.

- 1 "Green Building Council Fact Sheet," based on 2003 figures.
- 2 Yudelson, Jerry, PE. *The Insider's Guide to Marketing Green Buildings*, Green Building Marketing, November 2004.
- 3 "The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force," October 2003.
- 4 "Feiner on Sustainability," *Building Design & Construction* 11/01/2004.
- 5 Matthiessen, Lisa Fay and Peter Morris. "Costing Green: A Comprehensive Cost Database and Budgeting Methodology," 2004, Davis Langdon. <http://www.davis-langdon-usa.com/pdf/USA/2004CostingGreen.pdf>
- 6 To become a LEED®-accredited professional, one must score at least 75 percent on a 100-question, multiple-choice exam written by USGBC. *The LEED Professional Accreditation Exam is divided into four sections covering green building design and construction industry knowledge, LEED knowledge, LEED resources and processes and green design strategies.*
- 7 "Progress Report on Sustainability," *Building Design & Construction*, November 2004.
- 8 "Building Design & Construction White Paper on Sustainability," 2003. *Building Design & Construction*.
- 9 "Progress Report on Sustainability," *Building Design & Construction*, November 2004.

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