The Great Outdoors

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Inside

The Impact of Green Building Initiatives on Construction Defect and Design Claims

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Attorneys who litigate construction defect and design claims are now being confronted with a new set of issues raised by green building initiatives and green construction practices. The emergence of new technologies, stricter regulations and a rapidly evolving standard of care for design professionals will present novel challenges. Although to date there are no reported cases in California involving these green issues in a construction litigation context, numerous insurance claims have been made and the first wave of lawsuits has been filed. Green construction claims will become commonplace as governments at all levels adopt green building mandates and as sustainable building becomes the norm for the construction industry. The purpose of this article is to familiarize attorneys who will be asked to litigate these green construction claims with some of the key concepts the California court system will have to address in the near future.

The Evolution of Green Building Practices

The construction industry is a prime target of climate change initiatives. According to a 2005 study by the Alliance to Save

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Energy, the energy used in buildings represents 39% of the nation's energy use. This is higher than the energy used by industry or for transportation. A 2007 study by the American Institute of Architects ("AIA") shows that buildings produce 48% of the greenhouse gas emissions contributing to climate change and that they consume 71% of electricity produced at U.S. power plants. It also found that the construction industry consumes 40% of all raw materials extracted from the earth and generates 30% of landfill waste.

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Sustainable or green building is the practice of designing, constructing, operating, maintaining, and removing buildings in ways that conserve natural resources and reduce their impact on climate change. The momentum for greener buildings accelerated in 1996 when the U.S. Environmental Protection Agency began using its "Energy Star" rating system to measure the energy efficiency of new homes and commercial and industrial buildings. Buildings rated among the top 25% for energy efficiency are given an Energy Star rating. By 2007, over 500 builders had constructed 840,000 new homes that qualify for the Energy Star label. Design professionals can apply to use the "Designed to Earn the Energy Star" graphic on project drawings when the project meets EPA energy performance criteria. This graphic states: "The estimated energy performance for this design meets US EPA criteria. The building will be eligible for Energy Star after maintaining superior performance for one year."

Standards established in 2000 by the U.S. Green Building Council ("USGBC"), known as Leadership in Energy and Environmental Design, or LEED, are generally recognized as the best method currently available for rating the energy and environmental performance of buildings. LEED measures a building's overall environmental impact. The building is then rated on a point system within five categories: energy and atmosphere; indoor environmental quality; sustainable sites; materials and resources; and water efficiency. There are four levels of LEED Certification that a builder can obtain, including LEED Certified, Silver Level, Gold Level and Platinum Level.

One criticism of the LEED system is that it does not address the total life cycle of the building by failing to encompass issues such as building site location and the energy cost of the building's eventual removal. Some argue for a green building standard that

incorporates both LEED-style efficiencies with a life cycle assessment ("LCA") approach to building design. Design professionals are already beginning to adopt the LCA approach through the use of technology such as Building Information Modeling ("BIM"). This technique generates and manages building data during its life cycle using three-dimensional building modeling software to decrease wasted time and resources in building design and construction.

Other green building standards are currently being developed. On June 30, 2008, the Green Building Initiative, a not-for-profit group dedicated to accelerating green building practices, announced that it had completed the first public comment period for its proposed American National Standard for commercial green buildings, known officially as the "GBI Proposed American National Standard 01-200XP: Green Building Assessment Protocol for Commercial Buildings." The GBI ANSI Standards Committee is now in the process of reviewing the public comments and making appropriate revisions to the proposed standard. GBI anticipates completing the ANSI process by the end of 2008.

Green Building Initiatives in California

It comes as no surprise that California is at the forefront of developments in green building. Assembly Bill 32, the "California Global Warming Solutions Act of 2006," which became effective on January 1, 2007, mandates a reduction in greenhouse gas ("GHG") emissions to 1990 levels by 2020. AB 32 is a multi-year program that requires the California Air Resources Board ("ARB") to identify a list of early action items for effective GHG emission reductions. To date, the early action items have not mandated actions to be taken by the construction industry. The ARB has instead encouraged voluntary changes including, among other things, the adoption of green building practices. The ARB is also in the process of developing a Local Government Operations Protocol that will provide guidance on how to inventory GHG emissions from government buildings and facilities.

Governor Schwarzenegger's Green Building Initiative commits California to improve the energy and environmental performance of existing and new state-owned buildings. As part of the Green Building Initiative, Executive Order S-20-04 calls for a 20% reduction in electricity consumption in state buildings by 2015 through a combination of benchmarking, retro-commissioning and retrofitting. This Green Building Order also adopts the LEED standards, directing that future construction and renovation projects larger than 10,000 square feet meet LEED-New Construction Silver criteria. The same criteria are to be met for buildings smaller than 10,000 square feet, but certification is not required. It is the expressed goal of the state to also achieve LEED-Existing Building certifications in buildings larger than 50,000 square feet.

California is the first state to adopt green building codes on a statewide basis. On July 17, 2008, the California Building Standards Commission announced that it had issued new standards that are expected to reduce the energy use of buildings by 15% and target a 50% reduction in water for landscaping. Margot Roosevelt, "California Raises Standards for Green Buildings," L.A. Times, July 18, 2008. The majority of the expected energy cuts will come from increased energy efficiency, but the new codes will also address sustainable site development, water conservation, material conservation, and environmental quality standards. Due to strenuous objection from the construction industry, the new code will not incorporate the LEED standards. Local governments,

however, will still be allowed to adopt tougher standards if desired. The new standards will be voluntary until 2010, when they will become mandatory. They are proposed to be published in the 2007 California Green Building Standards Code, CCR, Title 24, Part 11, which is currently vacant.

San Francisco and Los Angeles have also enacted green building ordinances. New construction and certain rehabilitations of public buildings in San Francisco must be LEED certified at the Silver Level or higher. San Francisco is now considering a private sector green building law that would require new commercial buildings larger than 5,000 square feet and renovations of buildings greater than 25,000 square feet to comply with LEED standards, along with new residential buildings taller than 75 feet. The rules would be phased in, giving developers until 2012 to fully comply with the strictest levels of the green building codes.

Los Angeles is now the largest North American city to have enacted green building standards on private-sector construction. The Los Angeles Private Sector Green Building Plan, which was signed into law on April 22, 2008, requires all new projects greater than 50,000 square feet or 50 units to meet LEED standards. Certain rehabilitations and alterations of buildings greater than 50,000 square feet or 50 units must also be LEED certified. Expedited processing of building permits is available for projects that voluntarily commit to LEED certification at the Silver Level or higher. *See* Los Angeles Municipal Code, Chapter 1, §§ 16.10-16.11.

Other local governments in California are also acting. For example, Chula Vista is set to become the first municipality in San Diego County to require green building standards for all new construction and major renovations. Other California municipalities that enforce green building laws include Santa Cruz, San Rafael, Pleasanton and Livermore.

California's efforts have paid off. By 2006, California had 219 LEED certified office buildings in place, totaling 52 million square feet of space. Los Angeles has more green buildings than any city in the nation, according to a February 2008 report by the Burnham-Moores Center for Real Estate at the University of San Diego.

Green Building Defect and and Design Claims – What to Exprect

The new standards and regulations enumerated above have already changed the landscape for developers, owners, contractors and design professionals. Attorneys must also be prepared, as the first wave of green building claims is now upon us.

The basic question that the courts must answer is who to blame when green design features fail. Green buildings are frequently more complex than buildings with traditional designs and require a heightened level of planning and coordination. Issues that will certainly be litigated for building designs that incorporate new green technologies include, for example, whether proper training has been provided to the owner, whether there was proper construction oversight, whether a guarantee or warranty was created, whether construction delays were reasonable or unavoidable, whether the design professional should be held to a new standard of care, and how to measure and document green performance claims for accuracy. These disputes will set forth various theories of liability such as design defect, LEED certification as a guarantee, failure to meet green performance specifications, delays caused by difficult-to-procure green materials, and misrepresentation for assertions that owners will "save money" with green designs.

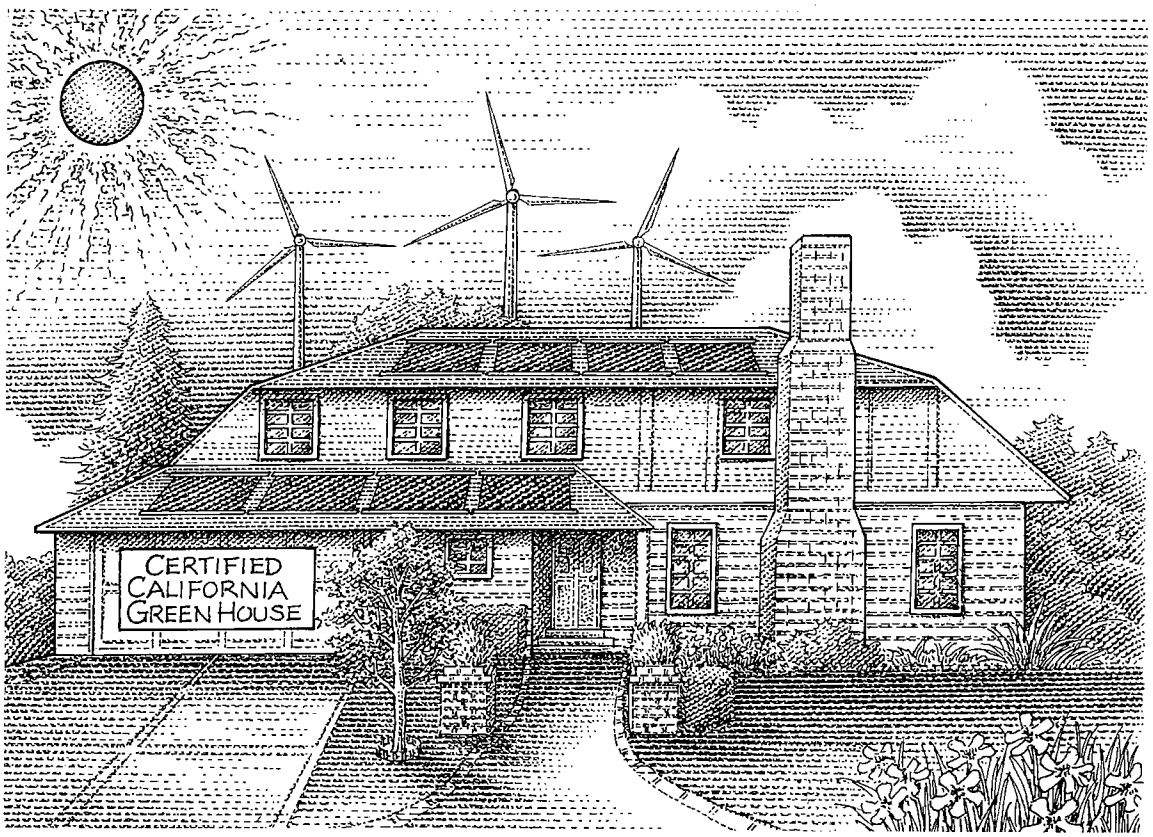
Some potential fact patterns and theories of liability that can be expected as green

building claims proliferate are as follows.

• *Alleged Guarantee Created by LEED Certification*: Although developer advertises "reduced operating costs and healthier and more productive occupants" for planned office building to attract tenants at higher rents, budget and time constraints prevent LEED Gold Level certification. Developer sues architect for breach of warranty based on "guarantee" of Gold certification

• *Structural Problem with Green Roof*: After extensive green roof installation, water infiltration causes damage. The cause is determined to be inadequate structural stability, but the structural engineer claims that proper information on roof use and installation was not provided.

• *Green Product Delays*: Architect uses green product from new manufacturer, but product was not readily available causing construction delays. After contractor demanded increased payments for overhead, lost profits and out-of-sequence construction, owner brought claim against architect for failure to inform owner that product was subject to delayed delivery.



• *Guarantee of Healthy Workplace*: After one year of renting space in LEED Silver certified building advertised to promote "healthier and more productive occupants," the tenant's records indicate more frequent sick leave, increased complaints of eye strain and reduced output by employees. Tenant sues architect and demands rent rebate from project owner based on promise of a healthy workplace.

• *Failure to Recognize Change in Standards*: After architect designs facility to meet existing codes and standards, the local laws are changed while the project is in construction. The project is delayed for redesign to meet new requirements and architect demands payment for redesign. Owner sues architect on basis that a reasonable architect should have been aware of pending change to law.

• *Dispute Over Use of BIM*: Design firm uses Building Information Modeling system for analysis of energy efficiency and constructability of project. Client is aware of the latest in sustainable design and repeatedly requests design changes. Design firm accommodates client's demands but contract does not allow compensation to be modified for increase in services. After firm attempts to collect additional fee, client sues for negligence on basis that changes were result of design firm's failure to understand sustainable design requirements.

• *Energy Efficiency Less than Promised*: Design team builds three schools for local school district pursuant to contract that states project would "reduce operating costs by 50 percent" over schools of similar size. After schools are completed, it is determined that energy usage is comparable to other new schools. School district receives negative publicity and brings claim against design team.

• *Damage to Reputation from "Greenwashing"*: Law firm hires architect to design new green offices to attract positive attention. Architect provides plans and specifications based on promotional information from manufacturers of green products and systems. After local press claims that sustainability of project is not as promoted, the law firm receives negative publicity for alleged attempt to "greenwash" project. Firm demands remediation and apology from architect.

See also presentation by Frank Musica at AIA's National Convention in 2007, at http://www.aia.org/SiteObjects/files/conted_TH0507.pdf.

The standard of care for design professionals is also rapidly changing due to factors such as the widespread use of the LEED rating system and new BIM technology. AIA B214, Standard Form of Architect's Services — LEED Certification, establishes the duties and responsibilities of the architect when the owner seeks LEED Certification. The services include conducting a pre-design workshop, preparing a LEED Certification Plan, monitoring the certification process, providing LEED specifications, and preparing a LEED Certification Report detailing the rating achieved by the project.

Architects and engineers who decide to delve into the world of green designs may soon find that they will be held to the standard expected of a LEED Accredited Professional or some similarly green-credentialed design professional. The standard of care may also evolve to eventually require that the professional perform an LCA of the total environmental impact of a building's design, from its construction through the end of its useful life.

The hidden liability risks of green construction will continue to emerge as more claims are filed and as the courts begin their analysis. Attorneys who litigate construction defect and design claims should keep pace with the rapidly developing green building mandates in California. Although there is no nationally recognized standard, the LEED rating system appears to hold the dominant position at the moment. Various groups, both public and private, are nevertheless in the process of developing competing standards, and it is anyone's guess as to what the green building landscape will hold for owners, developers, contractors and design professionals in the coming years.