

AN UNDERWRITING PERSPECTIVE LEED CONSTRUCTION

The world is going green and that is demonstrated most clearly in the construction world by the move to LEED certified building. LEED stands for the Leadership in Energy & Environmental Design. It is a voluntary consensus based standard for designing and constructing high performance green buildings. It uses universally accepted and understood tools and criteria for performance to foster sustainable green buildings and practices.

LEED is administered by and is a trademark of the U.S Green Building Council or (USGBC). The USGBC was founded in 1993 and is a 501(c)3 organization. It currently has more than 20,000 member companies and over 100,000 accredited LEED AP's (Accredited Professional).¹

LEED Rating Systems are developed through an open, consensus based process led by LEED committees. Each of these is a volunteer committee and is comprised of a diverse group of practitioners and experts representing a cross section of the building and construction industries. The key elements of the USGBC's consensus process include the following:

- Balanced and transparent committee structure
- Technical advisory group that ensure scientific consistency and rigor
- Opportunities for stakeholder comment and review
- Member ballot of new rating system
- Fair and open appeals process

The USGBC is involved in both the accreditation of professionals and the certification of the buildings themselves. Both aspects underwent structural changes in 2009.

On the accreditation front, the USBGC launched LEED 2009 v3 on April 27, 2009. On July 1, 2009 the changes went into effect creating a tiered system comprised of the following:

- Green Associate
- LEED AP w/specialty
- LEED Fellow (no curriculum currently exists and is being developed)

In addition, a continuing education requirement called Credentialing Maintenance Program or (CMP) was instituted. This calls for a minimum of 30 hours of CE every two years. The test itself has changed and the credentialing process was changed to add credibility and to give professionals a choice in level of competence and to encourage further education in an ever evolving field.

In early 2009 the USGBC handed over the reigns of the certification of buildings applying for LEED status to the Green Building Certification Institute (GBCI).² The USGBC still maintains the LEED reference guides and will continue to create and refine the requirements for LEED building programs. GBCI will contract out the actual certification process to certifying bodies which will ascertain a building's compliance with LEED standards and will determine the level of certification.

Disclaimer

This paper is for general informational purposes only. None of it constitutes legal advice, nor is it intended to create any attorney-client relationship between you and the author. You should not act or rely on this information concerning the meaning, interpretation, or effect of particular contractual language or the resolution of any particular demand, claim, or suit without seeking the advice of your own attorney.

The GBCI is made up of an executive staff of three members: President, who is the former SVP of the USGBC, VP of Credentialing and a VP of Certification. It has Board of Directors comprised of seven members including the founder of the USGBC.³

With the introduction of LEED 2009 v3 (v3), the scoring format and classifications changed. Under the former version (LEED v2.2) the points scale was 69 points. In v3, certification is scored on 100 base points with the possibility of an additional 10 points possible: 6 points for Innovation and 4 points for Regional priority. The new scoring format allows the participant to choose the areas in which it wants to focus on rather than requiring prescriptive conditions. The LEED 2009 requirements for certification:

- Certified: 40-49 points
- Silver: 50-59 points
- Gold: 60-79 points
- Platinum 80+ points

The LEED 2009 rating system includes:

- LEED NC – New Construction
- LEED EB – Existing Buildings
- LEED CI - Commercial Interiors
- LEED CS – Core and Shell
- LEED for schools

In addition, there are other LEED rating systems for the following areas of construction:

- LEED for Homes
- LEED for Neighborhood Development
- LEED for Healthcare
- LEED for Retail

The LEED rating points are acquired in seven areas. The chart below compares the point system instituted in v3 and v2.2 in these areas:

Category	LEED v 2.2	LEED v 3.0
Sustainable Sites	14	26
Water Efficiency	5	10
Energy & Atmosphere	17	35
Materials & Resources	13	15
Indoor Environmental Quality	15	15
Innovation & Design	5	6 (bonus)
TOTAL	69	106
Regional Priority	N/A	4
TOTAL including bonus points	69	110

A brief explanation for each category is as follows:

Sustainable sites: The focus is to minimize urban sprawl and environmental impact by creating and implementing erosion and sedimentation control plans. This done by focusing on previously developed sites and brownfields, choosing densely populated areas with access to public transportation, minimize building footprints, restore habitat and chose light colored materials to reflect heat away.

Water Efficiency: The focus is to reduce potable water consumption and to reduce the use of municipal wastewater and water supply systems by a minimum of 20%. This is done by using high efficiency fixtures, use of alternative on-site water sources (rain, storm water and HVAC condensation). The use of native species landscaping and high efficiency irrigation systems and on-site wastewater treatment is encouraged.

Energy & Atmosphere: The focus is to establish minimum levels of energy efficiency; systems are installed optimally and are calibrated to perform, reduce ozone depletion and encourage renewable energy technology. The goal is to use zero CFC based refrigerants. This is done by using environmentally friendly refrigerants and the implementation of techniques to improve energy efficiency.

Materials & Resources: The focus is reduce building waste and extend life cycles of existing buildings and to encourage the use of recycled materials so as to reduce the use of virgin sources of materials. This is accomplished by the use of FSC certified woods, use of existing building materials along with recycled content materials – with the goal to reduce the amount of waste to be placed in a landfill.

Indoor Environmental Quality: The focus is to improve the quality of the indoor environment through increased ventilation rates, reduce the use of pollutants and low VOC paints during construction followed by a full building flush prior to occupancy. It involves having separate entryways and exhaust systems for areas where hazardous chemicals or gases are used or stored.

Innovation in Design and Regional Priority: The focus is encourage the use of innovative and or new design elements that exceed current LEED standards and also address geographically specific environmental issues based on the zip code where the building is housed.

To motivate the use of these standards and the certification of buildings, the Federal and certain State governments offer various incentives usually in the forms of tax credits, grants and capital funding reimbursements. Some examples of these are:

- Federal government spending \$4.5 Billion to upgrade GSA building in their portfolio⁴;
- A 30% tax credit or grant for the installation of photovoltaic solar systems and hot water systems, small wind systems and geothermal heat pumps;
- Under The American Recovery and Reinvestment Act of 2009, these installations must have begun during 2009-2010 and must be placed into service before 12/31/2016;
- Various states offering tax credits and grants as a percentage of building costs to encourage use of the systems.

HOW DOES THE CERTIFICATION PROCESS WORK?

The process begins with registration. This can happen anytime before completion of the project but is recommended at the time design is underway so as to allow for any necessary changes. The registration is done by the Project Administrator and is sent to the GBCI. The registration fee is \$450. The process is on-line from this point forward. The package includes a brief project overview along with a required template that includes the proposed materials, building processes and systems planned for the building to obtain the necessary points to satisfy the required level of certification.

The cost to certify a building is \$1,750 for a building under 50,000 square feet; a formula equal to \$.035 cents per square foot for building between 50,000 and 500,000 square feet and a flat fee of \$17,500 for a building over 500,000 square feet.

The final package of materials that goes to the GBCI includes the certification application along with project narrative, drawings showing the floor plan, exterior elevations and typical building sections. The Project Administrator works off a certification checklist and along the way can ask for Credit Interpretation Rulings (CIRs) that cost \$220 each. Interaction between the Project Administrator and the GBCI normally determine the design elements and features that

will meet the required point totals. If a final submission does not draw the required point totals an appeal is allowed at a cost of \$500 per appeal. At present only two appeals are allowed.

The submission process is divided into three main phases: preliminary, response and final review.

In the preliminary phase, the project team completes its submission on line of all attempted credits supported by all the requisite documentation for review by the GBCI. This can occur at substantial completion to document what was done and or in the completion of the design phase as a hedge on the outcome. The GBCI has 25 days to provide its response. Responses are classified as “anticipated”, “clarify” or “denied”. The project team responds to any credits or prerequisites marked as “clarify” and resubmit to GBCI within 25 business days. The GBCI then provides a final review within 15 business days of all design credits and prerequisites, which will be marked as either “anticipated” or “denied”. The process that occurs prior to completion of design is repeated at substantial completion of the project.

The project team has 25 business days to respond to the rulings of the GBCI to accept or file an appeal. If the project team appeals a credit ruling, the GBCI has 25 business days to review and make its final determination. Each appeal costs \$500.

Once the required number of credits have been approved and certified via a final application by the contractor/owner and/or architect, the requisite certification is granted. A couple of important notes are:

- **No physical inspection occurs.** All final decisions are based on the application and supporting documents based on the signed affidavits of the responsible parties.
- Under v3.0 before certification is granted a “precondition” of certification is that **the building owner** must agree to share with the USGBC for a period of FIVE years all building water and energy usage data after a new building is occupied or an existing building is certified. This is one of seven new minimum program requirements (“MPRs”) that must be met for a building to maintain its certification. In other words, if a building fails to maintain any of the seven MPRs, the building can have its certification revoked. This is known as LEED 2009 Decertification.
- Achieving a LEED credit does not alleviate the need to comply with other existing code provisions.

RISK ELEMENTS

There are several key risks in Green Building: who is responsible for the registration; who will manage the certification process; who will bear the ultimate responsibility to obtain the requisite certification; is certification a design or performance specification? The assignment of these responsibilities and the resulting consequences are at the core of this issue.

In a design specification, the owner, architect and engineer are responsible for the specifications while in a performance specification, the contractor is the one responsible for the specifications. The performance specification is particularly problematic:

- The guarantee of a certification being obtained or any level of energy savings or efficiency being generated can result in a performance specification.
- The guarantee of certain cutting edge contents being in place in materials brings potential consequential damages and is considered a performance specification.

Performance specifications give rise to potential consequential damages. The damages from a failure to achieve certain levels of certification can result in financial impacts to the contractor/owner that can include the following:

- Failure to achieve a desired certification levels
- Failure to achieve desired energy savings
- Failure to achieve improved health and productivity
- Failure to achieve reduced water consumption
- Diminution of property value

- Loss of tenants and rents
- Failure to obtain tax credits
- Loss of goodwill

Project completion is another issue in Green Building. Owners have motivation to delay project completion on LEED certified projects to the point where the certification itself has been obtained. If the certification is denied, the appeals process can extend the time frame an additional 6 to 24 months. To motivate the contractor's behavior, owners may seek to hold the retention on the job for the time it takes to acquire the certification and if for some reason it is not forthcoming can hold it indefinitely. Further, owners can take beneficial occupancy of a building and still claim delay damages or liquidated damages prior to receiving certification. This is an issue if the contractor has accepted responsibility for obtaining the certification, but can also become one if the architect and or engineer's responsibilities bleed over to the general contractor.

Failure to obtain all the necessary points to meet a certification requirement is an exposure to the party who accepts it in the contract. In the registration and review process in many instances a few extra points may be needed to meet a certain certification levels so many consultants and contractors "hold in their back pockets" a few points. A primary example is the credit, EAc6, called Green Power. This credit comes from engaging in a 2 year renewable energy contract for up to 35% of the buildings energy consumption and is worth 2 LEED points. In addition an additional point for exemplary performance is available if you enter into the same agreement for 100% of the buildings energy needs for a total of 3 LEED points.

The agreements are usually entered into by the owner and are called Renewable Energy Certificates (RECs) which must meet Green-e Energy product certification requirements – please see www.green-e.org for details. The easiest and most costly source of these RECs is the utility companies that service the area. Others sources are companies that specialize in selling these certificates: Carbon Solutions Group (www.carbonsolutionsgroup.com) and Native Energy (www.nativeenergy.com). Because these energy costs are operating costs of the building, they are most often purchased by the building owner though it is possible to have them purchased by the consultant or contractor and transferred to the building owner after the fact.

Another major risk element is the supply of specialty building materials (Green Materials) that are made from recycled or specific types of wood harvested for their insulation capabilities. Points are also given for reduced distances that these materials must be shipped thus cutting down on carbon emissions. Furthermore, new technologies are being specified that present risks as to their performance capabilities – examples include: Green Roofs – vegetative roof materials, Low VOC flooring, photovoltaic cells and wind towers to generate power at the point of use. Some of the risk associated with these green materials and equipment are:

- Green Manufacturers overstate the capabilities and effectiveness of items included in the building and they do not produce to specifications – who bears that cost? How long will the manufacturer be around to service the equipment and honor warranties?
- Will the specified Green Materials be available when the schedule calls for them or will additional lead time be needed. A local supplier failure may result in the loss of supply for good or having to go to a replacement supplier who is far away which will cost time and potentially the loss of credits for the carbon emissions generated in bringing the materials to the job site.
- Will there be special storage requirements for the specialty items?
- Will a Green system failure impact the contractor and its surety?
- Is it a performance specification or design specification?

The use of Green Materials to earn credits is still required to comply with building codes and their related criteria. As mentioned above, achieving a green credit does not remove the responsibility to comply with all relevant building codes. This can be a potential source of risk for a firm not well versed in the particulars of Green Building.

The contractor credentials are another area of concern in this new area of construction. The fact that points are granted based on certain construction methods and for the management of construction waste streams to maximize the recycle content from a job is not something that our firms normally do so it falls on us to verify the experience with these specialized construction methodologies.

Green Building design/build contracts come with an extra set of hazards relating to the performance of certain equipment items and functionality and/or performance of those systems and material items included in the building. The risk of failure to obtain a certification runs much higher here due to the design element coming into play as to the selection of materials, equipment and physical building location relative to public transportation sources.

CONTRACTUAL ISSUES AND FORMS

Currently drafted contracts do not contemplate the new risks and dynamics of Green Building and thus present a challenge to properly allocate the risk therein to those parties best able to bear those risks. As such, several form modifications and contract addendums are springing up to address the key contractual risk elements:

- Clearly defining what is Green and what sustainability is.
- Clearly define what third party rating system and what version there of will be used on the project.
- Which party is responsible for the oversight and attainment of the certification?
- Which party has the responsibility for the design and documentation of systems and materials that meet the necessary criteria for a certification level?
- How are the availability of materials and the use of new, untried, technologies factored into the certification process and who bears those risks?
- Will the building owner assume responsibility for supplying the GBCI with building data for five years after certification? If it does not, who bears risk of decertification?
- What are the consequences of failure to certify the building: financial and otherwise?
- When is the contractor considered to have completed the task - at issuance of CO certificate or when the building is certified – when is the retainage paid?

Several forms have been presented for use: law firm contract addendums addressing the above issues and a Green Building Addendum (GBA) from ConsensusDOCS, published in November of 2009. The GBA seeks to identify a green building facilitator (GBF) who would be responsible for overseeing the green certification process on a specific job.

Examples of this include the use of a “LEED Responsibility Matrix” attached to a contract addendum. The Matrix identifies the following:

- Prerequisites required by the Rating system used and the various Credits that the owner wishes to pursue under that Rating System.
- The party that is responsible for determining how to satisfy each of the Prerequisites and Credits.
- The party that is responsible for performing the activities required to satisfy each of the Prerequisites and Credits.
- The party that is responsible for completing the LEED Template for each of those Prerequisites and Credits.
- Includes the Documentation responsibility.

CONSIDERATIONS FOR CONTRACTORS

Contractors should be aware that, in the case of Green Building, there are risks that they may not control which could be significant. Contractors should be mindful of specifications and warranty requirements that attempt to shift the risk of a building's performance to them.

Given this risk and the multitude of owners (Federal, State, local municipalities, private owners) all of whom have different contracts, specifications and general conditions -- there can be no “one size fits all” response. Analyze each situation independently and seek to ascertain where the responsibility lies for certification and what liabilities and responsibilities are associated with that responsibility.

When bidding a job with a Green Building certification standard, consider the following:

- Are you familiar with LEED requirements and the related construction skill set needed to build subject to the specialty methodologies required to secure the necessary point totals?
- Are specialty materials and operating systems called for and are they available within the geographic areas called for to secure the necessary point totals needed for certification? What is the risk of supplier failure? Specialty items are by nature rare and their availability is critical to meeting the requirements of LEED certification. To find replacements from new suppliers may cost necessary points that could prevent certification.
- Are performance specifications in use and are you responsible for the output of building systems or required to warrant the equipment for extended periods. Are there efficiency guarantees and extended warranties on these specialty items? Many of these are cutting edge and have no long term track record of performance. Consider asking for traditional warranties and no efficiency guarantees.
- What defines building acceptance? Is it Substantial Completion, Certificate of Occupancy being granted or when the certification is issued?
- Are payment terms – especially the final acceptance – tied to the certification being granted? Remember, that certification can take up to 24 months from the physical building completion.
- Are you responsible for obtaining the certification? If so, what are the consequences of a failure to do so? Will you be subject to consequential damages and if so are they adequately quantified? Is there a mutual waiver of consequential damages provision in the contract? If not, is the level of consequential damages reasonable and reciprocal between the parties and/or capped at a reasonable level?

This form of contracting is here to stay given the increased awareness of environmental issues. The certification process is not without its own set of risks given that the body certifying the building is a private, non-profit organization without any contractual duties to any of the project participants (owner, contractor or designer). The process itself is fraught with risks subject to the subjective nature of the certification process – including no physical inspections of sites. Careful review of the contract documents should help minimize the risks that are undertaken by any Green builder.



¹ In addition to the LEED system by the USGBC there are several other optional ratings systems:

- Green Globes – a Green Building Council rating system (GBI)
- Energy Star – a Green Building Council rating system (GBI)
- Green Guard – a Green Guard Environmental Institute (GEI)
- Stars – Association for the Advancement of Sustainability in Higher Education (AASHE)
- C2C (Cradle to Cradle) – McDonough Braungart Design Chemistry, LLC (MBDC)
- Green Seal – a non profit organization

This paper focuses on LEED system as it is the most prevalent, but the issues expressed are equally applicable to these organizations

² GBCI previously managed only the LEED professional and accreditation programs.

³ For more information, the GBCI website is <http://www.gbci.org/homepage.aspx>.

⁴ See, *Federal Government Green Contracting Initiatives: Office Of Federal Procurement Policy's (OFPP's) Green Mandate*.