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Introducing LEED v3 2009

Cashins & Associates has been getting more and more involved in Green Building projects around the region. These projects have ranged from 10,000 square foot single-story buildings to 600,000 square foot high-rise office buildings. Recently we have been studying the changes included in the new LEED 2009 v3 requirements. We have noted some drastic changes to the credit structure as a whole, and to changes in the Indoor Environmental Quality portion in particular.

In developing the latest system for qualifying Green Buildings, the USGBC has decided to make some rather sweeping changes. These changes will come to affect most aspects of a building project –site selection, building re-use, architectural design, materials selection, and indoor environmental quality (IEQ) considerations – to name but a few. This update focuses on the IEQ changes.

IEQ Changes

These general philosophical changes have led to revisions of various credit categories. Several changes are being made to the Indoor Environmental Quality (IEQ) portion of the LEED requirements.

Energy code requirements will be updated to meet the standards set forth in ASHRAE 90.1-2007 *Energy Standard for Buildings Except Low-Rise Residential Buildings*. The new ventilation requirements are found in ASHRAE Standard 62.1-2007 *Ventilation for Acceptable Indoor Air Quality*. Guidelines for maintaining acceptable air quality during the project are taken from SMACNA's *IAQ Guidelines for Occupied Buildings Under Construction*.

Further, some important IEQ credit changes are included in the 2009 LEED handbook.

- IEQ Credit 3.2: IAQ Before Occupancy – Formaldehyde level lowered from 50 ppb to 27 ppb
- IEQ Credit 4.3: Low-emitting flooring now applies to all flooring (not just carpet)
- IEQ Credit 5: Indoor Pollutant Control – Must provide hazardous waste containment
- IEQ credit 8.2: Daylight – Ratio of window to floor area instead of daylight factor (new combination option)
- IEQ Credit 9 (Schools): Acoustics – Only one point for STC & background noise

How Cashins can Help

In order to avoid the last-minute surprise of high VOC levels (not to mention dust, formaldehyde, and carbon monoxide), keep in mind the following advice, which is based on our experience in both successful and unsuccessful LEED testing:

- ***Start thinking about and planning for the air quality testing early on***
It is important not to assume that the IEQ credit is an easy one to obtain and therefore can be worried about later. Often, this testing is performed immediately prior to occupancy. Thus, if the first round of testing fails, it must be repeated, which may result in a delay in occupancy. This of course can lead to owner frustration and certification delay. We have found that successful green building projects involve the participation of an environmental testing firm that can develop an IEQ plan for demolition and construction, perform periodic sampling, and make recommendations where appropriate.
- ***Utilize an environmental consultant to review the list of building materials to be used***
Again, a low-VOC building material is not a zero-VOC building material. Having a qualified professional review the material safety data (MSDS) sheets during the planning stages of construction may help avoid elevated levels of VOCs at the end of the project.
- ***Do not rely on in-house IEQ walk-through inspections.***
Many construction management, architectural, and property development companies have on their staff individuals that are LEED accredited. Whereas this accreditation is of course an indispensable asset in green building construction, it should not be assumed that it also provides the time, experience, and technical knowledge to identify potential sources of indoor contaminants. Thus, it may not be prudent to leave IEQ inspections to in-house personnel. For a relatively low cost, regular inspections can be conducted under the guidance of Certified Industrial Hygienists (CIHs). Such assessments can detect problems early, offer practical solutions, and provides detailed documentation throughout the construction process that can then be included in the final LEED submission.
- ***Don't leave air quality testing to the last minute***
As mentioned earlier, IEQ testing is often one of the last steps in the LEED certification process. Sometimes unforeseen delays can leave very little time between project completion and building occupancy. Leaving IEQ testing concerns to this stage can be very risky, since failed tests must be performed repeatedly until they meet the LEED criteria. Having a consultant involved throughout the construction process can help identify potential problems before this critical phase, and thus help ensure successful air quality testing.



Cashins & Associates has been involved in many successful green building projects. Our experience, technical knowledge, and client-centered business philosophy can help ensure that your project runs smoothly and successfully. Please contact us to find out more about how we can be a useful asset to your team.