

LEED Version 2.2 Makes Major Changes

Becomes “the law of the land”
January 1, 2006



The U.S. Green Building Council's LEED version 2.2 was unveiled at the annual *Greenbuild* conference in Atlanta on November 11th. There are significant substantive and process changes that you need to know about, and this information helps you to get started. The new version of LEED becomes effective for all new projects registered with the U.S. Green Building Council after January 1, 2006 and is optional for all projects currently registered.

We strongly recommend that projects still in design consider switching from LEED version 2.1 to LEED 2.2, for the following reasons:

1. Documentation is simpler, cheaper and fully web-based; no more thick binders!
2. Registration fees for LEED v. 2.1 can be carried over to the new version.
3. A significant number of credits have been simplified and made more achievable.
4. All reference standards have been updated, which makes a lot more sense to owners, clients and design teams.
5. LEED version 2.2 allows for an “end of design phase” review of all projected LEED points, giving the design team feedback well before the end of construction.
6. LEED version 2.1 will not be upgraded to web-based documentation, and therefore will still be more costly and time-consuming to complete.
7. Many credit interpretations are now incorporated directly into the credit requirements or explanations, making them easier to find and more understandable.
8. The LEED version 2.2 Reference Guide is available in hard copy right now, and reasonably priced, giving specific guidance to achieving every credit.

Let's look at some of the key changes in LEED version 2.2, compared with the current version. As before, the project's mechanical and electrical engineers can provide full or partial responses to as many as 26 to 29 total LEED points, so it's important to make sure that your design team has that level of LEED project experience.

1. **Site selection** credit is now possible for existing urban areas within a flood plain. This credit will now be available for projects in the older downtown areas of most cities, which tended to be built close to rivers.
2. **Development density** credit is now achievable for most projects in urban areas, even those smaller cities with primarily low-rise buildings, provided they are close to ten (10) essential services.
3. **Alternative transportation** credits are now viable for projects located near planned (and funded), but not built, rail or subway stations. Site credit 4.3 rewards fuel-efficient and low-emitting vehicles.
4. **Open space** site credit 5.1 gives specific guidance for defining previously developed sites, including those previously graded and those that were farmland. Site credit 5.2 now is specifically focused on open space, vs. just natural areas.
5. **Stormwater management** is not much changed, but site credit 6.2 now only deals with treating suspended soils in runoff.
6. **Heat island** site credit specifically defines a Solar Reflectance Index (SRI) for use with reflective paving. For roofs, the SRI defines compliance, based on roof slope.
7. **Light pollution reduction**, site credit 8, specifically treats different parts of cities with different requirements for exterior lighting. Three major components need to be dealt with: interior light spill, lighting power density and light trespass.

FROM THE EDITOR

Our experience with LEED certifications is growing! Interface Engineering has just completed its fifth and sixth LEED certifications, the LEED Gold Hillsboro City Hall and the LEED-certified Beaverton High School Cafeteria remodel. Nearly 20 other LEED-registered projects are underway at Interface, with several expected to be certified in 2006.

Note: Information on LEED version 2.2 provided by Jerry Yudelson, PE, LEED AP, Associate Principal and Sustainability Director at Interface. Please contact Jerry with specific questions about upcoming projects, jerry_y@ieice.com 503-382-2662. This information is believed accurate, but project teams should consult with experienced professionals to get more detailed information and guidance.



8. **Water efficiency credit 1** now allows irrigation with captured rainwater or recycled wastewater.
9. **The building commissioning prerequisite** specifically allows the commissioning authority to be employed by the owner and/or by the design and construction team, subject to certain limitations. For projects smaller than 50,000 square feet, engineers from the design team may perform commissioning. (Editorial note: This provision should substantially reduce the cost and hassle of third-party commissioning of LEED projects.)
10. **The minimum energy performance prerequisite** now clearly can be met without energy modeling, by following prescriptive requirements of equivalent codes, as defined by the U.S. Department of Energy.
11. **Energy performance credit 1** has been updated to require compliance with the ASHRAE 90.1-2004 standard AND to include “plug” loads in the calculation as “process energy” loads. There are also two other compliance paths that yield fewer points, but may be easier and cheaper to achieve for small projects. There is a new energy modeling protocol and more stringent performance criteria.
12. **On-site renewable energy** now secures one point at a 2.5% contribution to the building’s annual energy cost, vs. 5% in LEED v.2.1.
13. **Enhanced refrigerant management**, energy credit 4, now allows more refrigerants to qualify, as it allows for a balance between refrigerants’ ozone depletion potential (ODP) and global warming potential (GWP).
14. **Materials credit 1.2** is now achievable with use of 95% of existing walls, floors & roof, vs. 100% earlier.
15. **Materials credit 4** now requires 10% recycled content to get one point and 20% to get two points, up from 5% and 10% earlier.
16. **Materials credit 5** now requires materials to have been both manufactured AND harvested, extracted or recovered, within 500 miles, ending the artificial distinction between manufacturing and extraction or harvest.
17. **Environmental quality (EQ) prerequisite 1** has been updated to ASHRAE 62.1-2004.
18. **EQ prerequisite 2** now explicitly shows how to qualify residential units that allow smoking. As a pre-requisite, this was sometimes considered a “deal killer” for apartments and condos; no longer.
19. **EQ credit 1**, formerly carbon dioxide monitoring, has been clarified to deal with monitoring outside air delivery and gives alternatives to CO₂ monitoring. Airflow meters as well as carbon dioxide sensors will be required.
20. **The increased ventilation credit** has been totally rewritten to make it achievable by well-designed ventilation schemes that supply 30% more air than required by the prerequisite.
21. **Construction indoor air quality credit 3.1** has dropped the requirement for a MERV-13 filter, but this requirement has re-surfaced in EQ credit 5 instead. The construction IAQ management plan, EQ credit 3.2, has been completely re-written to allow alternatives to a two-week flush-out period.
22. **The low-emitting materials credit** has been updated in all respects; too many detailed changes to list here; be sure to check with your materials suppliers to ensure compliance.
23. **The occupant control credit** is now separated into lighting controls and thermal comfort controls, eliminating the distinction between perimeter and non-perimeter zones.
24. **Thermal comfort** now deals with design and verification. Humidification of buildings in winter is specifically not required, and the second credit point requires a “post-occupancy survey” of building occupants.
25. **Daylighting** now has three methods for demonstrating compliance with the credit requirements, including computer simulation and direct measurement.

FINAL NOTE FROM THE EDITOR

Whew! That’s a lot of changes! You can see as you go through the new system that building professionals are going to have a lot more options for credit compliance, that the credits will be more applicable to the realities of today’s green building design practice, and that the need to master the intricate details of the LEED credit requirements is not going to go away! Good luck, and happy green building in 2006!

