# LEGALLY SPEAKING:
# What's in Store for LEED?
# Second Comment Period Open for LEED 2012

By Matthew J. DeVries

In what has been unofficially called LEED 2012, the U.S. Green Building Council ("USGBC") opened the second public comment period from August 1 to September 14, 2011 for the next version of the LEED® rating system. According to the USGBC, a public comment period helps ensure that LEED continues to be at the vanguard of innovative design construction and operation of buildings and communities.

The final version, which is expected to be released in late 2012, has some noteworthy proposed changes. First, LEED 2009 has 9 prerequisites and 49 credits, while the new draft has 15 prerequisites and 49 credits. Second, there are now 10 different categories in the new draft, as opposed to 7 categories in the prior versions. The three new categories, as well as some changes and additions to the existing categories, are explained in more detail below. Overall, these changes are either new credit categories, changes to the technical requirements, or revised point distribution.

**Integrated Process (IP):** This new category is intended to support and encourage project team integration required by a LEED project and to streamline the application and certification process. Following the first comment period, this credit was revised to include four sections that reward project teams for early analysis of building and site systems, various charrettes throughout the design process, and meeting training requirements for certain construction and operations personnel. In addition, the LEED AP who is assigned to the project must have relevant specialty area accreditation.

**Location and Transportation (LT):** This new category consists of credits from the old "Sustainable Sites" category that relate to the location of the project. It also includes provisions such as a "Bicycle Network, Storage and Shower Rooms" and "Walkable Project Site" credits. The second public comment draft includes many changes to the names of the credits to better reflect the requirements.

**Sustainable Sites (SS):** Language has been added to clarify "Brownfield Redevelopment" to require actual *remediation* of the site to meet local, state or federal cleanup standards. In fact, under the second public comment draft this credit was renamed "Brownfield Remediation." Significantly, "Healthcare" was added to the list of applicable building types to the prerequisites for "construction activity pollution prevention" and "environmental site assessment". Other revisions are recommended to the "Protect or Restore Habitat" and the "Open Space" credits. The two storm-water credits from LEED 2009 have been rolled into one credit called "Rainwater Management." The

requirements for "Light Pollution Reduction" include a new calculation method.

**Water Efficiency (WE):** Although a couple credits are renamed, much of the requirements are unchanged. The new "Landscape Water Use Reduction" prerequisite applies to projects with a minimum of 1,000 square feet of exterior vegetated surface area and applies to all irrigation water, regardless of source. Another new "Appliance and Process Water Use Reduction" prerequisite seeks to reduce the burden on water supply and wastewater systems by increasing the water efficiency of appliances and water-consuming processes. Finally, there is a new credit for "Cooling Tower Makeup Water," which seeks to conserve water used for cooling tower makeup while controlling microbes and corrosion in the water system.

**Energy and Atmosphere (EA):** There are some wording changes and revisions to threshold requirements throughout this category. Notably, "Refrigerant Management" prerequisites for all rating systems were eliminated from the first public comment period, but reintroduced for the second public comment period. The "Minimum Energy Performance" prerequisite changes how energy costs and savings are calculated, while the "Optimize Energy Performance" credit changes some of its metrics and requires that modeling be used in design as opposed to performance

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## DCD Square Foot Cost Analysis
## Metal Exterior & Roof - October 2011

The Building Cost Per Square Foot Analysis is compiled from actual new construction projects published by Design Cost Data™ magazine. This guide provides DCD readers a quick comparison of building construction costs on similar size projects.

The cost per square foot reflects common design features throughout the U.S. and *does not include* architectural and engineering fees. All projects were escalated to October 2011 and then to select cities that are present on each case study data page featured in DCD.

The actual projects used for this comparison are housed in the DCD Archives™ at DCD.COM. The DCD Archives include over 1,300 projects of all types with regional modifiers and cost escalators through 2016 for cost modeling. For more project information login at www.dcdarchives.com.

| | Historical Base | Atlanta | Pittsburgh | New York City | Dallas | Kansas City | Chicago | Los Angeles | Las Vegas | Seattle |
|---|---|---|---|---|---|---|---|---|---|---|
| Metal Exterior & Roof | | | | | | | | | | |
| Car Dealerships | | | | | | | | | | |
| One Floor 10,000 to 25,000 | 82.84 | 70.41 | 77.04 | 99.41 | 70.41 | 75.38 | 88.64 | 90.29 | 82.01 | 87.81 |
| Two Floor 25,100 to 50,000 | 112.96 | 96.01 | 105.05 | 135.55 | 96.01 | 102.79 | 120.86 | 123.12 | 111.83 | 119.74 |
| Retail Grocery | | | | | | | | | | |
| 20,100 to 40,000 | 87.16 | 74.09 | 81.06 | 104.59 | 74.09 | 79.32 | 93.26 | 95.01 | 86.29 | 92.39 |
| Warehouse | | | | | | | | | | |
| 25,000 to 50,000 | 53.29 | 45.29 | 49.56 | 63.94 | 45.29 | 48.49 | 57.02 | 58.08 | 52.75 | 56.48 |
| Recreation Center | | | | | | | | | | |
| 10,000 to 25,000 | 151.72 | 128.96 | 141.10 | 182.07 | 128.96 | 138.07 | 162.34 | 165.38 | 150.21 | 160.83 |
| 25,100 to 35,000 | 188.81 | 160.49 | 175.59 | 226.57 | 160.49 | 171.82 | 202.03 | 205.80 | 186.92 | 200.14 |
| 35,100 to 50,000 | 165.92 | 141.03 | 154.31 | 199.10 | 141.03 | 150.99 | 177.53 | 180.85 | 164.26 | 175.88 |
| Airplane Hangar | | | | | | | | | | |
| 25,000 to 50,000 | 106.91 | 90.88 | 99.43 | 128.30 | 90.88 | 97.29 | 114.40 | 116.54 | 105.84 | 113.33 |

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compliance. Finally, a new credit for Demand Response is intended to reduce regional carbon emissions and improve optimization of electric generation, transmission and distribution resources.

**Materials and Resources (MR):** Some of the wording of the provisions in this category have changed, but most of the requirements remain the same as in the LEED 2009 provisions. The "Recycled Content" prerequisite, which was added for the first public comment period, has now been eliminated due to lack of market support. Construction and Demolition Waste Management Planning is another new prerequisite, that now requires a specific waste management policy. A few other new credits were deleted from the second draft, while many new credits appear, such as nonstructural materials and environmentally preferable products.

**Indoor Environmental Quality (EQ):** The most notable change in this category transforms the "Construction IAQ Management Plan" into a prerequisite. Low Emitting Interiors is a new credit that addresses the material concentrations of contaminates. The interior is now split into five systems (floors, ceilings, walls, insulation and furniture) for credit calculations. Also, the Daylight and Quality Views credits have major revisions. Significantly, the second draft of the prerequisites attempts to be more harmonize with the ASHRAE standards.

**Performance (PF):** This category has a new prerequisite for Water Metering, which intends to promote water efficiency by providing accurate consumption data to building managers. Notably, there is a another new prerequisite for "Building-Level Energy Metering", which is set up to meter, track and share building-level energy resource use. One such way is to participate in the USGBC's Building Performance Partnership for a five year period. The "Fundamental Commissioning and Verification" prerequisite adds some major commissioning agent tasks from EA category. Finally, there are some additional provisions to address the verification provisions of LEED 2009 under the new "Reconcile Projected and Actual Energy Performance" credit, the intent of which is to provide for the ongoing accountability of the building energy consumption over time.

Other notable changes include rewording of the Innovation (IN) credit. For LEED-Schools, the project can now achieve up to four points for innovation. Also, the Regional Priority (RP) credits, which are identified by regional councils and chapters, now include priorities for social equity and public health. If you want more information about the new changes or the public comment period, you can visit USGBC's website.

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*High-Performance Glass for High-Performance Schools - Continued from page 11*

**Annual Energy Cost Savings**

The study showed that schools constructed with Solarban 60 glass instead of dual-pane tinted glass can expect annual energy savings that range from 5 percent ($7,204) in St. Louis to 8 percent ($13,510) in Seattle and Chicago ($19,395). Average annual energy savings with Solarban 60 glass across the 10 U.S. cities was 7 percent ($18,992).

While the energy savings from Solarban 60 glass were impressive, they were significantly less those realized with Solarban 70XL glass.

When substituted for dual-pane tinted glass in the same middle school building, Solarban 70XL glass generated energy savings of 8 percent ($23,137) in Philadelphia to 12 percent in Phoenix ($26,967) and Houston ($42,727). The 10-city average for energy cost reductions was more than 10 percent ($27,726).

**HVAC Equipment Cost Savings**

Because of their ability to block heat and transmit light, schools with Solarban 60 and Solarban 70XL glasses require less cooling capacity than those glazed with less-advanced products, which enables architects and school administrators to spend less on HVAC equipment for their buildings.

With Solarban 60 glass in place of dual-pane tinted glass, initial HVAC equipment cost savings for the prototype middle school averaged 9 percent ($111,947), including 10 percent reductions in such climactically diverse cities as Phoenix ($134,171), St. Louis ($125,090) and Boston ($122,169).

In schools modeled with Solarban 70XL glass, HVAC equipment costs were slashed by 14 percent in Chicago ($182,603) and Philadelphia ($174,383), and 19 percent ($229,919) in Los Angeles. The average equipment cost savings for all 10 cities was nearly 17 percent ($207,613).

**Lower Operational Costs. More Educational Resources.**

Energy modeling demonstrates that schools equipped with advanced architectural glass can reap the rewards of an investment that pays for itself many times over.

Over the 40-year lifetime of a typical middle school, annual energy savings of $25,000 can total $1 million, enough to pay for 2,000 computers or 50,000 textbooks. What's more, the value of that investment continues to grow with the escalation of energy prices, a trend that will accelerate well into the future.

Even more important, however, is the investment in our country's schoolchildren. It has never been clearer that schools with abundant daylight, fresh air and a strong visual connection to the outdoors help provide the best possible environments for learning and growth. By investing in the latest solar control, low-e glasses, architects and school administrators can get energy savings they need while promoting the academic performance they demand. In the end, that makes them a winner for students, parents and taxpayers.