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Bridging the Gap

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Bridging the Gap Between Historic Preservation and Sustainability

New, flexible guidelines from the National Park Service (NPS) are intended to ease the task of integrating today's idea of sustainability into the fabric of preserving historic buildings. Yet owners and developers of historic structures are concerned about varied interpretations by federal and state reviewers—and how those could affect certifications for LEED and model energy codes.

In the not-too-distant past, the impetus for historic preservation was simple: Prevent old buildings from being torn down so that future generations could experience them. Preservationists were accused of keeping buildings frozen in time, and their mission was often misconstrued as being at odds with that of the budding green-building movement, which championed new and energy-saving technologies.

This isn't the case today. Organizations that champion historic preservation and those that champion green building now largely embrace each other's missions. It's widely accepted that historic buildings are inherently sustainable, and that embodied energy is an important calculation used alongside evaluations of energy efficiency to determine overall environmental impact and carbon footprint.

Yet there are still challenges, even in the wake of new federal rules meant to improve opportunities for saving historic structures while also making them lean and green. To bridge the gap between the NPS guidelines for attaining historic tax credits and the criteria for LEED certification and similar green standards, savvy building owners and developers are working with experts well-versed in the preservation standards. These experts can help anticipate, address, and argue issues raised by evaluators, especially when they affect the sustainability or energy profile of the buildings—or worse, when they actually put a project's feasibility at risk.

New Guidelines
In April, the National Park Service, which oversees the Federal Historic Preservation Tax Incentive program, announced changes to the guidelines for historic preservation. These changes—unveiled on Earth Day 2011—recognize the important intersection of historic preservation and sustainable building.

The new guidelines (which can be downloaded in a PDF here) allow for flexibility in how the unique conditions of individual buildings can be addressed so that preservation efforts can be aligned with today's energy codes and standards. The lengthy document recommends certain paths to maintain a building's historical status and significance, and dissuades the use of others. For example, any changes to the building must allow for a future restoration to its original condition, so a wall renovation using spray polyurethane foam would alter the original fabric, while mechnically attached studs, batt insulation, and finishes could be restorable.

The importance of the Federal Historic Preservation Tax Incentives program can't be underestimated. It offers a 20 percent tax credit for qualified historic-preservation projects, and, according to the NPS, the program is the federal government's largest, most successful, and most cost-effective community revitalization effort. It preserves historic buildings, stimulates private investment, creates jobs, and revitalizes communities. The program has leveraged over $58 billion in private investment to preserve and reuse 37,000 historic properties since 1976. Due to its success, most states offer similar programs, often adding as much as 10 percent to the package of tax incentives.

Unique Buildings, Unique Solutions
In recognition of the unique character of each individual building, the new guidelines and flexibility to apply individual solutions to specific conditions replace the blunt instrument of more literal guidelines. But this new flexibility means that different reviewers—from both federal and state agencies—may have different opinions. Field experience has shown that interpretations of the same regulations for very similar circumstances range from purist historical-preservation rulings to very holistic interpretations combining energy-efficiency or site-protection goals with "reasonable" or "adaptive" historic-preservation measures. In this firm's work, several examples in New England and the Mid-Atlantic states show how the reviewer's decisions can save a project—or break a deal.

Because of this, design solutions demand a command of the letter and spirit-of-preservation standards and the ability to anticipate, address, and argue issues raised by evaluators. Finding appropriate means to meet NPS guidelines and adhere to codes and standards such as those put forth by programs such as LEED requires specialized skills, knowledge, and experience.

Know the Hot Buttons: Fenestration and Insulation
For most historic-preservation projects, windows and insulation are the two building systems where conflicts between LEED and NPS guidelines are most likely to arise.

- Windows

Many preservationists make the case that window replacement should be an absolute last resort, and that window profiles are so important to a building's architectural authenticity that they must not be altered. According to the Whole Building Design Guide (WBDG) by the National Institute of Building Sciences, "LEED fails to acknowledge that historic windows are important features and that their energy efficiency can be upgraded." The WBDG authors suggest that old windows get a bum rap for being poor performers and that with storm windows, proper weather stripping, and a caulk gun, original window systems can achieve efficiency similar to that of new insulated-glass-window systems.

While this is true in some cases, there are also cases in which window replacement is necessary. Technically speaking, the ability to save a historic window over the long term is often very limited given the costs, which are often unavailable, of de-leading and restoring the wood frames and sash, and then maintaining them over the long term.

For buildings that have been abandoned or neglected for decades, replacement windows are often the only viable option. In these cases, the fine points, such as what type of replacement window systems, or whether insulated glass is appropriate, must be sorted out with reviewers to strike the right balance between energy savings and architectural authenticity.

• Insulation

Another often-debated issue is insulation. It's a fact that older masonry buildings were not well insulated and that adding insulation boosts energy efficiency. But issues abound.

First, adding insulation invariably changes how a building responds to a host of internal and external environmental conditions, most notably moisture. Condensation or moisture vapor can accumulate within the newly insulated building envelopes because they will be tighter than anticipated by the original designers and builders. Failing to account for these changes means problems ranging from the development of mold to spalling bricks and damaged façades.

Again, however, with the proper engineering, an insulation upgrade is the singular most effective and least expensive way to improve energy efficiency. Also, new insulating technologies are being developed at a rapid clip. So far the NPS permits most, including certain treatments with spray-applied products that, once installed, could ultimately be removed even with some effort, and have the original surfaces restored.

A Team of Experts

The forward strides made by the NPS should be beneficial to developers interested in rehabilitating historic buildings. More flexible guidelines mean more access to tax incentives and this would mean more private investment.

But with the new guidelines come a greater need to plan, understand, and engineer projects that balance modern energy efficiency with the goals of historic preservation. Successful developers and owners are working with project teams that not only provide creative architectural and engineering solutions but that also can understand and navigate the increasingly complex issue regarding legislative, code, and tax nuances.

For project teams, the main challenge is to follow all of the rules, standards, and codes, and to recommend reasonable compromises when state or local green codes, such as CalGreen, or vital regulations, such as universal accessibility, appear to be at odds with the spirit of historic preservation. Challenging reviewers often help make projects better than before; our experience with the Bourne Mill project in Rhode Island is a personal example. In the end, the work that our project team completed to meet the reviewer's goals led to a LEED-certified, successful apartment community in one of America's oldest cotton mills.

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