

A Window to Sustainability

Art Glass's Place in a Greener World ■ by the Architectural Art Glass Committee

The green movement continues to gain momentum on multiple fronts and nowhere is this more evident than in cutting edge building and design. "Sustainability" and "green building" are buzzwords that suddenly hold legitimate leverage with clients who are more conscious than ever about the environmental impact of new construction.

A similar rise to power has been mirrored in the preservation movement. Historic buildings and homes are no longer being razed with the rationale that it is cheaper to rebuild than to restore. Now passions arise when there is talk of tearing down historic buildings and whole communities have risen up to protect the jewels of their past by using creative zoning and historic districts to mandate stewardship.

While the term sustainability is often championed as a relatively new and revolutionary idea, many of the principles have long been in practice by our predecessors. The design and construction of buildings now being preserved as historic, often utilized many of the same principles important to the sustainability movement.

This link between historic building preservation and sustainability can be looked at in two distinct ways. First, the impact of preserving historic buildings to meet sustainability goals, and secondly, the concept of applying what historic buildings teach us when designing new sustainable buildings.

The common goals of historic building preservation and sustainability are fairly obvious and easy to link. A formal framework in which to make these connections rests in the U.S. Green Building Council's

LEED certification program. This non-profit organization saw a need to promote responsible and sustainable building practices, and, as in the organic food movement, a real need to standardize and qualify "green" claims. A Leadership in Energy and Environmental Design (LEED) certi-

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fication ensures clients that specific standards have been met in the areas of sustainable site planning, the safeguarding of water and water efficiency, energy efficiency and renewable energy, conservation of materials and resources and indoor environmental quality.

Many of these elements of LEED certification can be met through historic preservation. For example, materials and resource categories within LEED can be addressed by the fact that historic buildings are usually built with high quality materials from local sources. Most historic buildings also meet requirements for sustainable sites, as they are often centrally located. This not

only makes the building accessible for public transportation, but also saves infrastructure and ancillary businesses from having to be re-built around a new, more remote alternate site. Preventing the cycle of tearing down and rebuilding naturally impacts the next two categories of water efficiency and energy/atmosphere because less materials are manufactured and less waste is produced in recycling a historic building.

The less obvious but perhaps more powerful link between historic buildings and sustainability is found when looking at what we can learn from the preservation movement when designing new, sustainable buildings. Specific areas to examine include the concepts of stewardship and cultural sustainability.

For the purposes of this article, the term "stewardship" is intended to define the long-term care and advocacy for a building. Stewardship can be carried out by a single owner, such as a private owner of an historic house; or be more general as in the example of a community making decisions about the local courthouse building.

When buildings we now consider historic were originally designed, "stewardship" was probably not a factor heavily considered. Once a building is slated for renovation and preservation, however, any successful project should have plans in place to ensure that work completed does not leave the building vulnerable to becoming obsolete again.

A great example of the marriage between preservation and sustainability occurred on the complete renovation of the Walter



The Stained Glass Association of America

Library on the Campus of the University of Minnesota. Historic details including stained glass skylights, coffered plaster ceilings, decorative stencil work and ornate moldings were all preserved or restored. With the emphasis of libraries now concentrated on computer technology, the architects met the challenge to retain these historic details and still provide and plan for current digital needs.

More importantly, the plans anticipated future needs by including accessible wiring chases to allow new cables and technologies to be introduced as they are developed. One room even included an ingenious floating steel floor deck directly beneath the finished floor. It was made of a grid work of steel squares supported and leveled by threaded studs. This allowed for new cables to be run in any direction within the room and helped ensure that any technology upgrades could be provided cost-effectively in the future.

Without this type of planning, there is a risk that the building would become obsolete and the same issues and decisions faced before the preservation would, in time, have to be addressed again. Good stewardship of historic buildings hinges on anticipating these needs and ensuring that the building's function continues to remain viable.

Like their historically preserved counterparts, new "green" buildings should also plan for stewardship. We can assume that a LEED project should result in a building capable of being physically sustainable. It is even possible that the new construction LEED projects of today may be the preservation projects of tomorrow. In order for these buildings to remain relevant it will be necessary for architects to design with an eye to the future.

It is a straightforward task to construct the physical elements of a building to be

sustainable. The bigger challenge is to help ensure that the community at large will feel invested in the building through a connection to its aesthetic elements or a sentimentality to the history of a building. When this connection is made, a building is "culturally sustainable."

The renovation at the Walter Library is also a great example of the concept of "cultural sustainability." The building was not restored because an economic decision was made that it would be cheaper to do so. On the contrary, it was likely more expensive in an immediate dollars and cents calculation to retain the building and work with and around its historic architectural features. What the University recognized, however, was that the building contributed greatly to the aesthetic and cultural fabric that makes up the campus.

The stained glass skylights, coffered plaster ceilings, decorative stencil work and ornate moldings are elements that added to the initial construction cost. Without these elements, however, there would have been little sentimentality about razing the structure and beginning anew. The passion by which historic buildings are defended is typically rooted in a great appreciation for aesthetic elements rather than purely functional ones. The implication is that a new building that is merely efficient in materials used and in green building techniques utilized, only ensures the physical shell of the building remains sustainable. The challenge is to design the functional details of a building to contain aesthetic elements that not only make the space more beautiful to inhabit, but will also serve to create a passion for stewardship.

Public building projects have begun to address this phenomenon by including a "One Percent for the Arts" clause that ensures that at least one percent of the

Architectural Art Glass Committee Mission Statement:

The mission of the Architectural Art Glass Committee is to explore, present and promote installations, innovations and techniques in architectural art glass. Our objective is to inspire glass craftsman, designers, architects, builders and caretakers of both new and historic buildings to recognize the varied and emerging ways that non-traditional art glass is being used to enhance the fabric of buildings in both secular and non-secular settings. The committee will also work to make connections between art glass and current trends in architecture including sustainable and green building.

building project budget will be spent on aesthetic details. All too often, however, the money is spent on non-functional installations that add beauty, but contribute little to the actual fabric of the building.

Architectural glass provides a great opportunity to emphasize aesthetics while still providing function that remains integral to the structure of the building. Glass windows, partition walls, floors, work-surfaces and lights can all be created to be both artistic and completely functional. Including these details in new building design can help a space transcend pure utility and inspire those who occupy the space to make real connections that inspire long-term, dedicated stewardship. Recognizing this connection of why people become passionate about preservation of historic buildings can be one of the most important factors in making new buildings truly sustainable.

