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Cambridge City Hall Goes for the Gold

HKT Architects prove you can teach an old building new green tricks

The restoration of the Cambridge City Hall Annex by HKT Architects Inc. with architect of record David Perry Architects, Inc., which opened February 17, has shattered the myth that green design is solely the province of new buildings. HKT Principal Bill Hammer, AIA, says, "Most people are familiar with sustainable design in new buildings, but it is achievable in a historic preservation project, makes a lot of economic sense, and can make for a healthier and more productive workplace."



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The 1871 Cambridge City Hall Annex, which began life as the Harvard School, was renovated in 1942 as a municipal office building, the City Hall Annex. Its parapet and chimneys were removed in the 1950s to create a flat roof. After many subsequent partial renovations, the building was found to be suffering from a mold infestation and was evacuated in February 1999.



"We looked at the need for remediation of the Annex and decided it presented us with an opportunity to demonstrate that a municipality could take a leadership position by completely redesigning the building with historic preservation, energy efficiency, renewable energy, and environmental sustainability established as

primary goals," says Cambridge Deputy City Manager Rich Rossi. Working with the architecture team, Arup Engineering oversaw design and installation of many of the green elements, and the city commissioned nationally recognized artist Mike Glie to paint murals throughout the historic building.

Historically correct

The 33,000-square-foot annex, renovated at a cost of \$7.1 million, presents a unique example of green historic renovation, and can act as a model for sustainable restoration and adaptive reuse. The design required approvals from the Mid-Cambridge Neighborhood Historic District Commission, whose members, although supportive of the green ideas, were wary of any alteration of the building's historic nature. One major challenge proved to be providing thermally glazed windows with intermediate mullions that matched the original and met the state energy code.



Historic detailing—both inside and out—respects the original building design. Old photographs guided the restoration of the brick parapets, and skilled masons recreated the ornate patterns. Inside, wood paneling and lighting fixtures reflect the civic nature of the building while incorporating the latest technology, including motion-sensor-controlled lighting

and, in the public hearing room, accommodations for a wide range of presentation modes and equipment. The architects made sure that the building is now completely accessible to persons with disabilities, including its new main entry with a two-story entry lobby and elevator access to every floor.

From rooftop PV panels to ground-source heat pump

The project was designed with the prestigious U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Program in mind. "The fact that the entire renovation was within the guidelines of both the LEED program and those of the Cambridge Historic Commission bodes well," says general contractor Consigli's Vance Freymann. "The project is registered with the LEED program with a Gold certification as the goal. If that's achieved, this rating will set a precedent for a 19th-century building renovated within the LEED program."

Energy efficiency measures include new insulated windows and walls, high-efficiency integrated indirect lighting systems, a ground-source heat pump, and photovoltaic solar panels on the roof to supply 10 percent of the building's energy needs. The building team expects the new elements to consume half the energy of a conventionally constructed building. The Massachusetts Technology Collaborative (MTC), the state's development agency for renewable energy, provided a \$337,500 grant for the photovoltaic panels.



The building renovation provides new offices for the Cambridge Arts Council; community development department; traffic, parking, and transportation

departments; animal commission; and conservation commission. In addition to the green elements, the architects designed the restoration of spacious, high-tech public-meeting rooms; a public art gallery; and a bike rack and showers for commuters—all things the city requires builders in Cambridge to provide. "That's the beauty of this project," Rossi says. "The city is practicing what it preaches."

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