

## Creating a Green Live/Work Loft

Richard Renner Architects

In downtown Portland, Maine, a small, nondescript commercial building became a live/work loft for the architect, Richard Renner, and his wife, a designer—as well as a prize-winning example of green renovation. The first LEED Home Platinum Rehab in the United States, this project focused on tight energy conservation, green materials, and salvage.

Previously a vintage clothing store with an apartment upstairs, the brick building was thoroughly redesigned; the first floor (just below street level) was to become the work space, with the second level converted into a loft-like living area with an interior balcony for additional work space.

The original brick building was hardly airtight. The old façade was preserved by the addition of new interior stud walls. The space between old and new walls was filled with closed-cell spray foam insulation. (The same insulation was added to the roof.) Triple-glazed, fiberglass-framed windows help make the new thermal envelope tight and bright, with a roof monitor to allow extra light into the loft living space.

Energy saving was a major consideration; it is now provided by a solar, grid-tied collector on the roof, a gas-fired furnace, a heat recovery and ventilation system, and an on-demand water heater. There is radiant heating (with two separate zones). The solar panel in spring and summer

provides at least half of the loft's electrical needs. The new heating system has reduced heating costs to less than \$400 during a cold Maine winter.

In addition, a roof garden and two green canopies planted with sedum and other succulents help insulate the building and reduce storm water runoff. The plantings were in two-foot square trays that could be arranged to suit the layout.

Energy saving is not the only green aspect of this refitting. The materials too were carefully chosen with many recycled and non-toxic choices: certified birch flooring, formaldehyde-free bamboo plywood for cabinets, countertops made of "Paper Stone" (a mixture of cellulose fiber and non-petroleum resin), recycled content tile, recycled glass tile for the back splash, salvaged steel railings and doors—these are all part of the eco-conscious renovation.

Among the other ecologically conscious decisions made by



**Before and after:** This nondescript, downtown brick commercial building was converted into a live/work loft, receiving a major award for eco-conscious renovation. Note the solar panel on the roof of the redone building (opposite).



Photo courtesy of James Saloman.

Photo courtesy of Peter Vanderwarker.



Cabinets, flooring, and other woods are formaldehyde-free, with birch and bamboo as primary choices.

Photo courtesy of James Salomon.



A roof monitor allows light into loft living area; the office just above is bordered with perforated steel panels and hand rails.



A work area on first floor opens to the street; recycled-content tile covers the floor.



The roof garden helps insulate the building, and, with planted seedum, reduces storm water runoff.