



The White Stag Block design team faced a large challenge: how to modernize building performance while keeping the appearance historically accurate. The whole design team was committed to using the US Green Building Council's Leadership in Energy and Environmental Design (LEED™) standards to guide the sustainable renovation. At the same time they needed to adhere to strict historic preservation guidelines to qualify for federal historic rehabilitation tax credits. The stakeholders included owner-developers Venerable Group, Inc., architects from Fletcher Farr Ayotte, engineers from Interface Engineering, builders from Bremik Construction, and tenants, such as the University of Oregon (UO).

### Beginnings

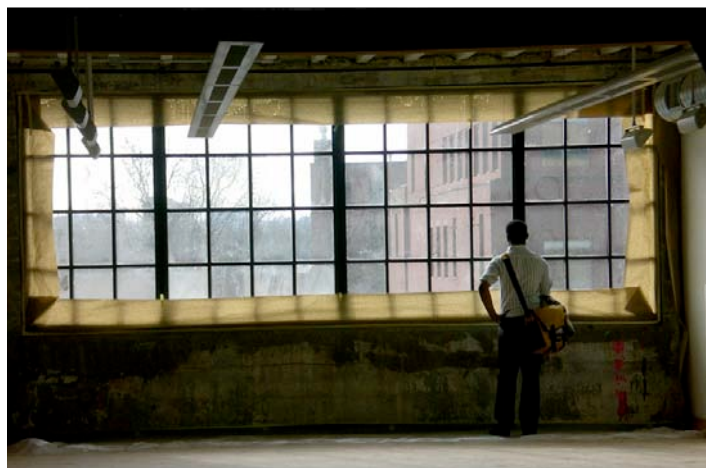
The White Stag Block renovation process is a story of decisions made to preserve embodied energy and historic integrity while inserting modern building systems. An important starting point came in March of 2006, when key players came together in a visioning workshop, called an Eco-Charette, under the guidance of consultants with Green Building Services. Patrick LeBoeuf, Project Manager from Bremik Construction found it a great way to become immersed in the LEED design and certification process. During this intensive session, the team worked towards a common vision by articulating project goals. These initial goals for the White Stag Block renovation project included creating a safe and friendly environment, integrating and communicating green building strategies, meeting budget and scheduling goals, and planning for the future. They then brainstormed conceptual approaches for the LEED categories, such as Water Efficiency, Energy & Atmosphere, Materials & Resources, Indoor Environmental Quality, and Innovation & Design.

From the input received at the charette, Green Building Services generated a preliminary

LEED scorecard that identified which points would be targeted. They also guided the phasing of the sustainability work, graphically mapping when each point needed to be considered, incorporated and tracked. The documentation generated from this initial workshop served as a guidepost for future coordination meetings, assisting new members in becoming aligned with the initial vision.

### Embodied Energy

Despite the fact that old buildings may have outdated systems, renovating existing buildings is inherently resource saving. The five-story load-bearing brick structures of the White Stag Block have a considerable amount of embodied energy – the energy that has been used to extract, refine, produce, transport, and install its materials. As the costs of transportation and materials rise, the value of an existing building's embodied energy increases. Since embodied energy is lost when a building is razed, restoring buildings is intrinsically sustainable. More than 98% of the materials demolished out of the White Stag Block buildings were diverted from landfills, and many materials were reused within the complex itself, preserving the embodied energy of these materials. (For more information about material reuse and recycling, see the Materials & Resources section of this document.)



## Historic Renovation & Urban Redevelopment

In addition to keeping materials out of landfills, the renovation of the White Stag Block preserved an important community landmark. The White Stag Block's urban site is an ideal location for redevelopment, and this renovation will play an important role in the revitalization of Portland's Old Town District. The District has for years been struggling economically, but new tenants in the area, such as the University of Oregon in Portland and United Fund Advisors will draw an increasing number of businesses. Already Mercy Corps is investing in a new headquarters just across Burnside Street from the White Stag Block. The expectation is that restaurants and retail establishments will be among the businesses that help pioneer urban redevelopment in this location.

## Conclusion

How well did the White Stag Block meet up to its potential as a model green building? Each member of the design team has a story about an additional sustainable option that was considered and almost implemented. Despite the constraints and unpredictability of the existing buildings, the owner, tenants, architects, and engineers were able to realize many of their initial goals. Comparing the Preliminary LEED scorecard from the March 2006 Eco-Charette, with the nearly final March 2008 scorecard reveals that the team exceeded the predicted 32 total points attempted – most likely achieving 43 points and earning Gold-level certification. Additional points were gained by earning *all* water efficiency points, increasing energy performance, diverting 98% of construction waste from landfills, increasing recycled content from 10% to 20%, and buying Green power.

As these points are based on installed features and documented operation plans, the actual performance has yet to be charted. Every year, University of Oregon architecture students will create post-occupancy case studies about building performance by observing and interviewing users, and tracking temperature, lighting and acoustic levels. And within the building, the Energy Studies in Buildings Lab advises professionals external to the UO about energy efficiency. As a result, the building manager will receive excellent information from multiple sources detailing the ways in which the building team stumbled or prevailed, and ways to further improve the buildings' sustainability.

~ Casey Kleinhenz, Michael Wilson, Diana Fischetti, and Nancy Cheng

Photos: Dawn Aurora O'Connor, Venerable Properties Inc, Jessica Engeman, Jolyn Overton, J.E.

Graphic Design: Ray Neff

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