

SUSTAINABLE DEVELOPMENT: TRANSFORMING A BROWNFIELD INTO A GREEN BUILDING CONCORD, NEW HAMPSHIRE



The Greenlands Building at Horseshoe Pond, on the site of a formerly dormant, underutilized property, is now a vibrant and sustainable office building.

Project Highlights

Challenge: Convert a blighted property into a green office building

The Solution:

- Define sustainability goals
- Evaluate materials and technologies that would boost building performance
- Design and build a highly efficient building that benefits multiple stakeholders

Result: An attractive and inspiring workplace that showcases sustainable redevelopment capabilities and commitment

When Weston Solutions, Inc. (WESTON®) identified a need for a new office building in New Hampshire, it was an opportunity to demonstrate our commitment to sustainable development. The result is “The Greenlands Building at Horseshoe Pond” a LEED®-Gold certified building that serves as WESTON’s regional headquarters and as a showcase of sustainability principles.

Identifying Redevelopment and Sustainability Goals

Sustainability objectives, established by a multi-disciplinary team through collaborative decisionmaking, included:

- Achieving long-term operational efficiencies by combining sustainable approaches, systems, and technologies
- Promoting sustainable land use by reusing a brownfield site
- Creating a collaborative, highly productive work environment
- Engaging with local stakeholders and conducting community outreach to maximize the facility's educational benefit as the first LEED-Gold office building in Concord

An Integrated Approach to a Green Building

The integration of planning, design, and construction disciplines produced a new green building that respects the site’s heritage. The team evaluated sustainability options and chose materials and technologies that boosted the overall performance of the building. For years to come, these design decisions will continue to benefit the bottom line at virtually no capital cost premium.

Highlights from the Design Development Process:

- LEED charrettes for stakeholders to explore project objectives and expectations and share ideas
- Proactive and collaborative meetings with the city’s representatives, community groups and our employees
- Energy modeling to assess the synergistic effects of building materials and systems and to forecast anticipated energy demands
- Lifecycle assessment and cost estimates to evaluate technologies and systems throughout the lifespan of the project

Smart Growth Goals in Site Selection

The property characteristics of the site that turned away other developers—specifically, the contaminated, blighted condition—piqued WESTON's interest. With our extensive experience remediating and restoring contaminated property, our goal was to restore the property in a manner that would benefit our employees, the environment, and the community. Project objectives included smart growth goals, such as pedestrian connections to recreational trails, access to regional transportation, and zoning-compatible redevelopment. Contributing to the site's attractiveness is its location within the Horseshoe Pond redevelopment corridor, where neighboring properties had been repurposed for residential, hotel and conventional centers and medical offices.

Green Design

Through interim project reviews, several design enhancements were evaluated for durability and ease of construction and with a cost-benefit analysis to determine the resulting long-term efficiencies. Green design highlights included:

- **Energy Conservation and Efficiency:** The site layout and building orientation optimizes daylight and promotes the use of natural light. The entrance foyer features radiant heating. Highly efficient geothermal energy is used for heating and cooling. The building's energy consumption is anticipated to be 35-45% less than a conventionally designed similar building.
- **Water Efficiency:** Through the use of sensor-operated and low flow fixtures, water consumption is expected to be approximately 40% of a similar building. Landscaping maximizes the use of native species for hardiness and drought-tolerance, eliminating the need for irrigation while providing a sustainable habitat.
- **Stormwater Management:** To achieve "zero discharge," site drainage was designed to contain stormwater on site; it is collected from paved areas and conveyed to underground chambers, where it is filtered and percolates back into the ground. This approach means that drainage from the site will not adversely impact the municipal storm sewer system.
- **Innovation:** The vegetated roof system uses WESTON's GreenGrid® modules made from recycled plastic and pre-planted with climate-appropriate plants. The system allows a normally impervious roof to absorb rainfall and reduce stormwater discharge. It also lowers the roof top temperature in the summer, reducing cooling costs and extending roof life. Accessible from the second story offices, the roof provides an inviting green space.

The design-build project was completed in 16 months, with vertical construction requiring only 6 months.

A Showcase for Integrated, Sustainable Development

WESTON applied our strengths in serving as an integrator by leading the sustainable planning, permitting, design, and construction elements thereby containing costs and while considering alternative products and approaches. Our new office building is an attractive and inspiring workplace that confirms our commitment to sustainable development.



The accessible GreenGrid® roof provides informal meeting space or a place to relax.



The building's orientation and large windows maximize natural light in work spaces.



Stormwater is managed on site with a subsurface drainage system.

INTEGRATING GREEN REDEVELOPMENT AND LEED

- Low-impact site development
- Accessible GreenGrid vegetated green roof and terrace
- Access public transportation and local services
- Recycling, reuse and salvage of more than 95% of construction and demolition debris, including timbers, granite, steel, and bricks
- Automated building control and security systems
- Use of low maintenance, regional building materials
- Advanced building commissioning and performance monitoring
- Highly efficient geothermal heating and cooling systems