



LEED Green Rating System and Site Design: Perfect Together

By Russell M. Smith, P.E., P.P.

Spring 2008

The Leadership in Energy and Environmental Design (LEED) green building rating system for new construction and major renovations prepared by the U.S. Green Building Council helps to improve the quality of our buildings and to minimize their impact on the environment. The introduction in the LEED for New Construction & Major Renovations booklet says that "...more and more building professionals, owners and operators are seeing the benefits of green building and LEED certification. Green design not only makes a positive impact on public health and the environment, it also reduces operating costs, enhances building and organizational marketability, potentially increases occupant productivity, and helps create a sustainable community."

The LEED requirements outline a rating system which helps designers develop a sustainable and environmentally sensitive design. Each project is measured against a scale of compliance levels which are designated certified, silver, gold and platinum. Each project must be certified in accordance with the guidelines in the LEED regulations in order to be designated at one of these levels.

The site development related credits that are included in the rating system are contained in the "Sustainable Sites" and "Water Efficiency" sections of the checklist. The "Sustainable Sites" section includes the following possible credits:

- Construction Activity Pollution Prevention
- Site Selection
- Development Density & Community Connectivity
- Brownfield Redevelopment
- Alternative Transportation - Public Transportation Access
- Alternative Transportation - Bicycle Storage & Changing Rooms
- Alternative Transportation - Low Emitting & Fuel Efficient Vehicles
- Alternative Transportation - Parking Capacity
- Site Development - Protect or Restore Habitat
- Site Development - Maximize Open Space
- Stormwater Design - Quantity Control
- Stormwater Design - Quality Control
- Heat Island Effect - Non-Roof
- Heat Island Effect - Roof
- Light Pollution Reduction

The "Water Efficiency" section includes the following possible credits:

- Water Efficient Landscaping - Reduce by 50%
- Water Efficient Landscaping - No Potable Use or No Irrigation
- Innovative Wastewater Technologies
- Water Use Reduction - 20% Reduction
- Water Use Reduction - 30% Reduction

Most experts and written documents on the subject strongly recommend that the entire design team (surveyors, site engineers, architects, building engineers, etc.) be assembled at the start of any LEED designed project to provide for collaboration during the project planning stages. Since these projects involve many systems and procedures which are interrelated and involve both the site and building design, proper coordination between consultants is absolutely crucial for a project to succeed. It is not unusual for the entire project team to attend goal setting workshops and design charrettes at the initiation of a new or major renovation project.

Hopewell Valley Engineering, PC is an associate member of the U.S. Green Building Council. If you would like more information concerning the LEED site design requirements or have any other questions, please contact Russell M. Smith at 609-745-5800 (extension 105) or rsmith@hvepc.com.

This publication is intended to provide information about engineering matters of current interest. It is not intended as professional advice. Readers should not act upon this information without first consulting with a professional engineer to discuss their specific circumstances.