

Why VDOT is choosing sustainable building practices



VDOT's core values and sustainable building go hand in hand:

Action and Accountability: By designing and building to LEED Certification standards, VDOT is demonstrating an increased willingness to be held accountable to taxpayers to provide higher-quality services at lower long-term costs.

Results and Stewardship: This safety rest area and Welcome Center demonstrates VDOT's respect for the environment. LEED Certification provides concrete and measurable results to the public.

Safety and Security: Low-emitting, non-toxic building materials help ensure a safe and healthy indoor environment.

Teamwork: Successful green-building projects demand teamwork from the owner, design team and builder. By coordinating the team's ideas early, VDOT streamlined decision-making and reduced costs while creating an efficient, attractive building for travelers.

Environmental Excellence: By building green, VDOT is reducing its environmental impact. Virginia's governor is leading state agencies to meet innovative energy-savings goals. This building uses less energy, less water and fewer virgin materials than a traditional structure. It will save thousands of taxpayer dollars over its life.



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Graphic design services provided by **BAM architects**.

What you can do

1 Build to last: Think about your first cost vs. your annual cost of maintaining your home. Purchase energy-efficient and durable building products that reduce maintenance costs and provide a return on your investment.

2 Batten down: Seal around all of your doors, windows and any electrical outlets in exterior walls. If you added up all of the holes, gaps and cracks in the average American home they would add up to the area of one standard window. If not plugged, it would be the equivalent of leaving a window open year-round.

3 Light up: Replace 3 incandescent bulbs with compact fluorescent (CFL) bulbs and eliminate 300 lbs of CO₂ from the atmosphere. CFLs use 65-75% less energy and last up to 10 times longer.

4 Recycle: Recycling half of the aluminum, glass, plastic and paper you use saves 2400 lbs of CO₂ and keeps over a quarter of your household trash from going to a landfill.

5 Clean green: Use simpler, less toxic, often less expensive cleaners in your home. A small amount of white vinegar mixed with water is great for cleaning windows and mirrors.

6 Harvest the Sun: Water heating accounts for 17% of a home's energy costs. Solar hot water systems are now highly efficient and economical, especially with the help of a recent Federal Tax Credit for up to 30% of the cost.

7 Turn it down, turn it up: Turn your thermostat up 3 degrees in summer and down 3 degrees in winter and save 1050 lbs of CO₂.

8 Be water wise: Buy lower flow toilets and faucet aerators to reduce your water use by over 22,000 gallons per year for a family of four.

9 Wash Cool: Do 2 loads of laundry each week in cold or warm water instead of hot (and hang to dry if possible), save 500 lbs of CO₂ per year.

10 Be a Star: Purchase ENERGY STAR refrigerators, dishwashers, clothes washers and dryers. They save 10-50% in water and energy a year. ENERGY STAR lighting, heat pumps, thermostats and home electronics are also available.

For more great ideas on how to make your home greener, visit:
www.energystar.gov
www.usgbc.org
www.globalgreen.org



Travel Information - Toll-free numbers and Web sites

Call these numbers or visit these Web sites to learn about Virginia traffic conditions. (Note: TTY/TTD users should call 711)

Current traffic information

Call 511 or 1-866-MY511VA or visit 511Virginia.org

Report road hazards

Call 1-800-367-ROAD (7623) or visit VirginiaDOT.org

Other helpful numbers

Chesapeake Bay Bridge-Tunnel	(757) 331-2960
Jamestown-Scotland Ferry	1-800-VAFERRY
Virginia's E-ZPass	1-877-762-7824
Virginia State Police	(804) 674-2000
Wireless/Cellular Users	#77



For additional copies and information:

For information about other VDOT green buildings and electronic versions of their brochures, please visit www.VirginiaDOT.org and search the word "LEED."

Why Build Green?

In the United States, buildings are responsible for:

- 136** million tons of construction and demolition waste every year. That's nearly **3 lbs** a day for every American.
- 40%** of the world's raw materials—3 billion tons annually.
- 36%** of total energy use
- 65%** of electricity consumption
- 30%** of greenhouse gas emissions
- 30%** of raw materials use
- 30%** of waste output (equal to 136 million tons annually)
- 12%** of potable water consumption

A typical **1700 sq. ft** wood frame home requires the equivalent of clear-cutting **one acre** of forest

VDOT's Answer:

By building green, we can increase the quality and life-cycle of our public transportation infrastructure, conserve energy and reduce expenditures on escalating utility costs, improve our health and reduce pollution. Better performance, longer life-cycle and lower costs create a better future for the Commonwealth.

What is LEED?

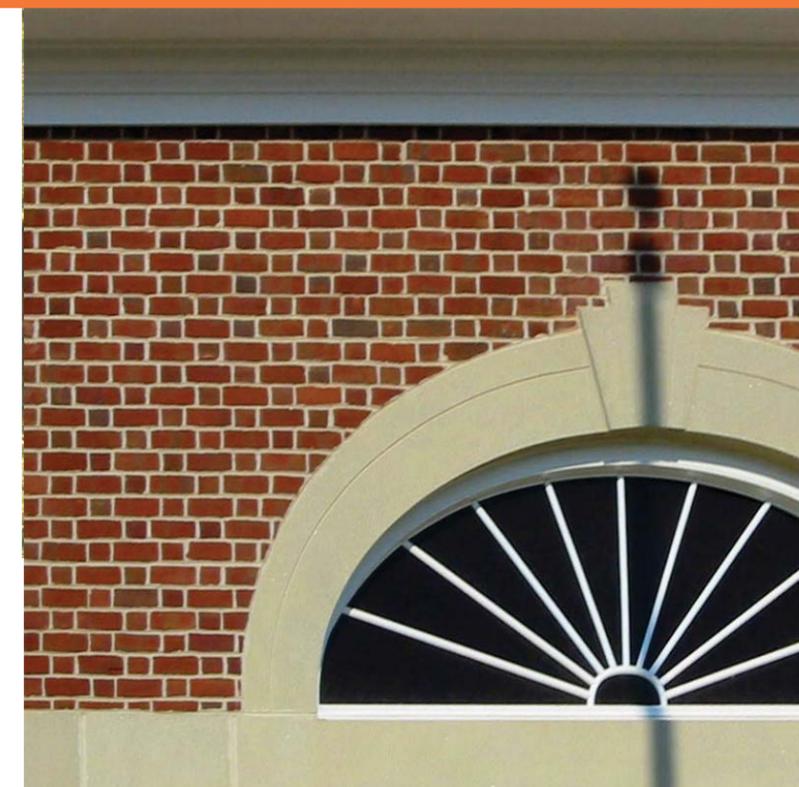
The Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ is a nationally accepted benchmark for the design, construction and operation of high-performance green buildings. Created by the United States Green Building Council, LEED gives building owners and operators the tools they need to have an immediate and measurable impact on their buildings' performance. LEED promotes a whole-building approach to sustainability.



Built Green with LEED™



Sustainable buildings save energy, save money and serve people better



VDOT Safety Rest Area and Welcome Center (I-95 southbound, Fredericksburg)

The exterior of the building is designed in the Federal Style, an architectural style prevalent in the Central Virginia region, as advocated by the Virginia Department of Historic Resources. Contrasting with this traditional look are the modern solutions for high efficiency and energy performance which underscore the versatility of a fully integrated sustainable building. In addition to energy-saving systems, the materials used in the modern interior and traditional exterior of the building play a critical role in achieving the sustainability goals for this facility. This VDOT Safety Rest Area and Welcome Center demonstrates that sustainable buildings can be created in a variety of architectural styles and still be "built green."

The completion of this project in 2007 represents the second VDOT and the second Commonwealth of Virginia owned facility to have obtained the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Gold Certification for high performance/sustainable building design and construction. Please use this brochure and the educational signs throughout this facility to learn more about LEED and green building practices.

VDOT LEED Team Credits

Architect

Rawlings Wilson & Associates

Engineers

Austin Brockenbrough & Associates, L.L.P.

General Contractor

John L. Mattingly Construction Company Inc.

Project Manager

Obsidian Inc.

LEED/ Sustainability Consultant

Sustainable Design Consulting, LLC

Energy Consultant

EMO Energy Solutions, LLC

\$8000 in projected annual electricity savings help to make this facility, and VDOT, better stewards of taxpayer dollars as well as the environment. **25% less energy** is used in the operation of this facility as compared to other buildings of this type due to high-efficiency lighting and heat pumps, an energy recovery unit and occupancy sensors.

900,000 estimated gallons of potable water are conserved annually through the use of flushless, waterless urinals.



80% of all contaminants in the stormwater are removed through natural filtration on-site, providing clean water to the ground and surrounding rivers and streams.

45% estimated less water is consumed by the facility's innovative plumbing fixtures compared to standard fixtures.

25% projected less energy is required to light the Welcome Center compared to similarly-sized facilities thanks to high-efficiency lamps that dim as natural outside light increases.

40% of the material used was produced within a 500-mile radius of the building. The use of regionally produced materials such as concrete, brick, drywall and steel cuts fuel consumption and emissions from the transportation of materials.



75% of the old building, site structures, and construction waste (**2,200 tons**) were recycled, reused or otherwise diverted from a landfill during construction.

20% of the products used for construction including steel, roofing, terrazzo flooring and drywall contain recycled materials helping to conserve our natural resources.

100% of the plants and trees are native or adapted to our climate. This eliminates the need for irrigation and reduces maintenance costs.

50% projected less energy is required to heat this Safety Rest Area in the winter compared with other typical facilities while in the summer, an estimated **35%** reduction in energy consumption is achieved.



65% of the existing habitat was left undisturbed for construction of the new building. Where disturbed, the site's natural habitat was restored using native plants.

100% of cleaning products and techniques employed in this facility are selected for their reduced human and environmental impact. VDOT is committed to maintaining a clean, safe and healthy facility for interstate travelers.

100% of the adhesives, sealants and paints used in the facility are low-emitting, which provides a safer indoor environment for the public.

0% of light from the building and parking areas spills over into neighboring properties or into the night sky thanks to high-efficiency site lights with enhanced optics designed to reduce light pollution.