



The \$8.8 million Lakeview Residence Hall exemplifies the University’s commitment to high quality construction in campus development. Strict design and construction guidelines helped ensure a sustainable and innovative residence hall. Lakeview is located adjacent to the Westhampton Lake and the landscaping helps tie the building to the natural environment. Two-room suits are located throughout the building and living and learning communities ensure an educational living experience.

The building features elements that promote occupant health including zero and low-emitting building finishes, thermal comfort, appropriate lighting control, and indoor pollutant source control. The campus community has responded by making Lakeview one of the most sought after residence halls.

Student interns expanded their sustainability knowledge by contributing to the completion of the LEED application for Lakeview.



PROJECT HIGHLIGHTS

LEED® Facts

Lakeview Residence Hall
 University of Richmond
 2007



Location.....	28 Westhampton Way Richmond, VA 23173
Rating System.....	LEED-NC v2.2
Certification Achieved.....	Silver
Total Points Achieved.....	35/69
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Sustainable Sites.....	8/14
Water Efficiency.....	4/5
Energy and Atmosphere.....	4/17
Materials and Resources.....	4/13
Indoor Environmental Quality.....	10/15
Innovation and Design.....	4/5

36.7% Electricity from renewable sources

38% Construction materials that were harvested & manufactured within 500 miles

62% Site area that features native and/or adaptive planting

92% Regularly occupied space throughout Lakeview Hall with daylight access



PROJECT TEAM

Owner	University of Richmond	Civil Engineer	Draper Aden & Associates
Architect	Hanbury Evans Wright & Vlatas	Landscape Architect	Higgins and Gersteinmaier
Contractor	PM Contractors	LEED Consultant	Dunlap & Partners
MEP Engineer	Dunlap & Partners	HVAC Engineer	Dawen Lu
Structural Engineer	Dunbar Milby Williams Pittman & Vaughan		



ADDITIONAL RESOURCES

Lakeview Residence Hall
www.richmond.edu/visit/maps/?bldg=06

Office for Sustainability
sustainability.richmond.edu/

Office for Sustainability Resources
sustainability.richmond.edu/buildings/index.html

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

SUSTAINABLE SITES

Lakeview Residence Hall is located near essential basic services including a place of worship, a theatre, a museum, a library, a dining center, a fitness center, a post office, and a convenience store. The close proximity of these services, reduces transportation impacts and increases productivity of occupants.

Covered bike racks are available onsite for use by Lakeview residents and visitors. The campus shuttle site, located within a quarter mile, provides access to a large variety of locations in the greater Richmond area. These features encourage use of alternatives to carbon emitting transportation.

Eighteen native species are planted around the site. In total 20,361 square feet or 62.7% of the area was planted with native or adaptive species. To improve the environment of the greater Richmond area, the University set aside a plot of land double the square footage of the building footprint (22,422 sq ft) on the University's campus.

The storm water that falls onto the project area runs off into the lake, which acts as a Best Management Practice (BMP), controlling the quality of runoff into the James River and Chesapeake Bay watersheds. To further promote BMP function, the University has a maintenance program to remove sediment from the lake.

- Legend**
-  Residential Building
 -  Residential District
 -  Project Entrance
- Community Services**
- 1 University Chapel - Place of Worship
 - 2 University Post Office - Post Office
 - 3 Modlin Center for the Arts - Theater
 - 4 Cellar - Restaurant
 - 5 Boatwright Library - Library
 - 6 Jepson School of Leadership - School
 - 7 ETC - Convenience Store
 - 8 Tylers grill - Restaurant
 - 9 Weinstein Center - Gym
 - 10 Tyler Hanes Commons - Community Center
 - 11 Lora Robins Gallery - Museum



WATER EFFICIENCY

The Lakeview Residence Hall landscaping does not require the use of potable water for irrigation, and no permanent irrigation system was installed on the site. In place of lawn, vegetation such as native shrubs, canopy trees, and understory trees were used, which do not require irrigation during typical rainfall. Lakeview's design also focused on water efficiency inside the building. Water conserving fixtures were installed in every bathroom including low-flow lavatory faucets, sinks, and showers, as well as dual-flush toilets and waterless urinals.



ENERGY AND ATMOSPHERE

Through fundamental commissioning of the building energy system and implementation of energy saving options, Lakeview Hall was designed to achieve an energy cost savings of 14.4% less energy than baseline predictions for a building of this type. This building is included in the University's commitment to purchase at least 10% of total campus electricity as green power purchases or SRECs. Of this, 110,000 kWh is reserved for this building for two years for total of 39.28% of its total electricity usage coming from green power sources.

The University selected refrigerants and HVAC equipment that work to minimize the emission of compounds that contribute to ozone depletion and global warming. Lakeview also does not have any fire suppression systems that contain ozone-depleting substances (CFCs, HCFCs, or Halons).

To optimize energy performance, limit resource consumption, and minimize water consumption, thorough commissioning took place to verify that Lakeview is operating as initially intended.



MATERIALS AND RESOURCES

Twenty percent of the construction materials, by value, were recycled materials. These recycled materials include 90% of the steel structure. Additionally, 38% of the total building materials value includes building materials and/or products that have been extracted, harvested or recovered, and manufactured within 500 miles of the project site. Finally, to manage the waste of building occupants, recycling is available throughout the building.



INDOOR ENVIRONMENTAL QUALITY

All of the carpet, adhesives, indoor paint and coating products throughout Lakeview Residence Hall are low volatile organic compound (VOC) products and therefore release limited emissions that could negatively impact the indoor air quality and the health of occupants.

To provide connectivity to the outside for building occupants, 91.98% of regularly occupied space throughout Lakeview, including group study rooms, classrooms and computer labs have access to views of outside.



INNOVATION AND DESIGN



To avoid using harmful pesticides and rodenticides, and limit risks to human health and the environment, the building uses an integrated pest management system to discourage the development of pest populations.

The Lakeview Residence Hall received an exemplary performance rating in maximizing open space by preserving more than 22,400 sq ft of vegetated open space, double the land necessary for the requirement, on campus.

Signs throughout the building along with this case study for use by individuals and classes help to educate the University community about sustainability efforts in this building. A final ID credit is earned for the involvement of a LEED Accredited Professional throughout the process. In this case, Andrew McBride, LEED AP, the University Architect during this project was involved throughout the design, construction, application, and certification processes.



LEED SCORE CARD

0010003359, UNIVERSITY OF RICHMOND, VA

LAKEVIEW RESIDENCE HALL

LEED for New Construction and Major Renovations (v2.2)

SILVER, AWARDED OCT 2013

SUSTAINABLE SITES		AWARDED: 8 / 14
SSc1	Site selection	1 / 1
SSc2	Development density and community connectivity	1 / 1
SSc3	Brownfield redevelopment	0 / 1
SSc4.1	Alternative transportation - public transportation access	1 / 1
SSc4.2	Alternative transportation - bicycle storage and changing rooms	1 / 1
SSc4.3	Alternative transportation - low emitting and fuel efficient vehicles	0 / 1
SSc4.4	Alternative transportation - parking capacity	1 / 1
SSc5.1	Site development - protect or restore habitat	1 / 1
SSc5.2	Site development - maximize open space	1 / 1
SSc6.1	Stormwater design - quantity control	0 / 1
SSc6.2	Stormwater design - quality control	1 / 1
SSc7.1	Heat island effect - non-roof	0 / 1
SSc7.2	Heat island effect - roof	0 / 1
SSc8	Light pollution reduction	0 / 1

WATER EFFICIENCY		AWARDED: 4 / 5
WEC1.1	Water efficient landscaping - reduce by 50%	1 / 1
WEC1.2	Water efficient landscaping - no potable water use or no irrigation	1 / 1
WEC2	Innovative wastewater technologies	0 / 1
WEC3.1	Water use reduction - 20% reduction	1 / 1
WEC3.2	Water use reduction - 30% reduction	1 / 1

ENERGY & ATMOSPHERE		AWARDED: 4 / 17
EAc1	Optimize energy performance	2 / 10
EAc2	On-site renewable energy	0 / 3
EAc3	Enhanced commissioning	0 / 1
EAc4	Enhanced refrigerant Mgmt	1 / 1
EAc5	Measurement and verification	0 / 1
EAc6	Green power	1 / 1

MATERIAL & RESOURCES		AWARDED: 4 / 13
MRC1.1	Building reuse - maintain 75% of existing walls, floors & roof	0 / 1
MRC1.2	Building reuse - maintain 95% of existing walls, floors & roof	0 / 1
MRC1.3	Building reuse - maintain 50% of interior non-structural elements	0 / 1
MRC2.1	Construction waste Mgmt - divert 50% from disposal	0 / 1
MRC2.2	Construction waste Mgmt - divert 75% from disposal	0 / 1
MRC3.1	Materials reuse - 5%	0 / 1

MATERIAL & RESOURCES		CONTINUED
MRC3.2	Materials reuse - 10%	0 / 1
MRC4.1	Recycled content - 10% (post-consumer + 1/2 pre-consumer)	2 / 1
MRC4.2	Recycled content - 20% (post-consumer + 1/2 pre-consumer)	0 / 1
MRC5.1	Regional materials - 10% extracted, processed and manufactured regionally	1 / 1
MRC5.2	Regional materials - 20% extracted, processed and manufactured regionally	1 / 1
MRC6	Rapidly renewable materials	0 / 1
MRC7	Certified wood	0 / 1

INDOOR ENVIRONMENTAL QUALITY		AWARDED: 10 / 15
EQc1	Outdoor air delivery monitoring	0 / 1
EQc2	Increased ventilation	1 / 1
EQc3.1	Construction IAQ Mgmt plan - during construction	1 / 1
EQc3.2	Construction IAQ Mgmt plan - before occupancy	0 / 1
EQc4.1	Low-emitting materials - adhesives and sealants	1 / 1
EQc4.2	Low-emitting materials - paints and coatings	1 / 1
EQc4.3	Low-emitting materials - carpet systems	1 / 1
EQc4.4	Low-emitting materials - composite wood and agrifiber products	0 / 1
EQc5	Indoor chemical and pollutant source control	0 / 1
EQc6.1	Controllability of systems - lighting	1 / 1
EQc6.2	Controllability of systems - thermal comfort	1 / 1
EQc7.1	Thermal comfort - design	1 / 1
EQc7.2	Thermal comfort - verification	1 / 1
EQc8.1	Daylight and views - daylight 75% of spaces	0 / 1
EQc8.2	Daylight and views - views for 90% of spaces	1 / 1

INNOVATION		AWARDED: 4 / 5
IDc1	Innovation in design	3 / 4
IDc2	LEED Accredited Professional	1 / 1

TOTAL 34 / 69

