



LEWIS & CLARK STATE OFFICE BUILDING Jefferson City, MO

60% more energy efficient than typical office building

70% domestic water reduction by rainwater harvest

50% lighting cost reduction using day lighting

LEED® Facts

Lewis & Clark State Office Building
Jefferson City, MO

LEED New Construction v2.0
Certification awarded March 13, 2006

Platinum 53*

Sustainable Sites 11/14

Water Efficiency 5/5

Energy & Atmosphere 15/17

Materials & Resources 5/13

Indoor Environmental Quality 12/15

Innovation & Design 5/5

* Out of a possible 69 points

The information provided is based on that stated in the LEED® project certification submittals. USGBC and Chapters do not warrant or represent the accuracy of this information. Each building's actual performance is based on its unique design, construction, operation, and maintenance. Energy efficiency and sustainable results will vary.

Lewis & Clark State Office Building

Redevelopment Project

PROJECT BACKGROUND

The 122,000-square-foot Lewis & Clark State Office Building is sited eight blocks from Jefferson City's downtown. The building is a mixed use urban redevelopment project. The 350 feet by 70 feet footprint size and placement were planned to minimize energy usage and maximize day lighting. The site was chosen from 17 possible locations. The Lewis & Clark building reused bricks from the former women's prison on several interior surfaces.

STRATEGIES AND RESULTS

Landscaping includes native indigenous plants, grasses, shrubs and trees that require no additional water other than normal Missouri rainfall levels. A system of drain tiles, bio swales and detention ponds hold rainwater to eliminate damage from storm water runoff. Landscaping maintenance primarily consists of pulling weeds and occasionally, mowing, which is much less labor intensive than traditional landscaping.

The building's long and narrow footprint is oriented along a long east-west axis (350 feet), which allows better control of daylight and solar heat gain. The narrow east and west faces (about 70 feet) reduce heat gain from the intense afternoon sun in the summer. In addition, external sun shades over the south-facing windows help reduce the load on the air conditioning system. Internal light shelves just below the clerestory windows reflect light up onto the ceiling and, from there, deep into the building's interior. Sensors throughout the building automatically turn off lights when there is enough natural light. Ceiling-to-waist-level operable windows allow workers to bring in fresh air. Lighting and heating and cooling system designs are expected to reduce the building's total energy needs by half, based on comparable ASHRAE modeling techniques.

There is a 50,000-gallon cistern under the building to catch rainwater, which is filtered and used to flush toilets, conserving 373,850 gallons annually. Waterless urinals eliminate additional water requirements. Chilled water for air conditioning is generated at night and stored in a cistern under the building for use during the day. One hundred and sixty-eight photovoltaic panels produce 21.5 kilowatts of electricity, 2.5 percent of the building's total electricity usage. Reflective roofing was used to reduce the heat island effect. A raised flooring system, used to reduce waste, will decrease renovation time if tenant needs change. The raised floor also allowed ceilings to be exposed, reducing material costs.

Furniture, manufactured through a mandated prison inmate vocational program, meets the Greenguard Indoor Air Quality Standard. Designers used materials throughout that contained no Volatile Organic Compounds (VOCs) to improve indoor air quality. Project concrete contains 25 percent fly ash and native Missouri wood flooring from sustainable forests was used. Exterior walkways, benches, and landscaping materials are reused demolished building brick.

ABOUT LEWIS & CLARK OFFICE BUILDING

The building consolidates several central offices and is the first part of the Jefferson City Correctional Center (JCCC) redevelopment project. Adjacent acreage will provide space for future construction of public and private facilities. The Lewis & Clark building will serve as a link between the JCCC redevelopment to the west and the wooded tract to the east of the building site, which is planned for recreational opportunities.

The building houses the Missouri Department of Natural Resources' Director's Office, Field Services Division, the Division of Administrative Services, and some programs of the Division of Environmental Quality and Division of State Parks. The building's name was chosen to honor the Lewis and Clark expedition and their spirit of discovery, diplomacy and stewardship.

"The Lewis and Clark State Office building incorporates numerous elements of sustainable design, which minimizes its impact on the environment. The building was designed to be compatible with the Missouri Department of Natural Resources' mission of preserving, protecting, restoring and enhancing Missouri's natural, cultural and energy resources. The Lewis and Clark State Office Building demonstrates that green buildings are not only good for the environment but also save money in the long run - making it all about the green."

Sara Parker Pauley, Director of the Missouri Department of Natural Resources



Architect: BNIM Architects
Civil Engineer: SK Design
Commissioning Agent: Sys-Tek
Contractor: Professional Contractors and Engineers
Developer: State of Missouri –Office of Administration
Landscape Architect: Conservation Design Forum
LEED/Sustainability Consultant: BNIM Architects
Environmental Building /Daylight Design/Energy Strategies: ENSAR Group (now RMI/ENSAR Built Environment)
Lighting: Clanton Engineering
Mechanical Engineer: Smith & Boucher
Electrical Engineer: FSC
Owner: State of Missouri–Office of Administration
Structural Engineer: Structural Engineering Associates
Estimator: Construction Cost Systems
Project Size: 122,726 sq. ft.
Cost Per Square Foot: \$147.48/sq. ft.
Photographs Courtesy of: Mike Sinclair

About USGBC-Missouri Gateway Chapter

USGBC is the nation's foremost coalition of leaders from across the building industry. Missouri Gateway Chapter members represent all segments of the building industry and work together to promote buildings that are environmentally responsible, profitable, and healthy places to live and work.

