



FY08 UNACCOMPANIED ENLISTED PERSONNEL HOUSING (UEPH) BARRACKS (BUILDINGS 7872, 7874, 7882, 7884) FORT RILEY, KANSAS

29.6% reduction in energy costs (LEED)

24.5% reduction in water use

51.1% of construction waste diverted from the landfill

LEED Facts

FY08 Unaccompanied Enlisted Personnel Housing (UEPH) Barracks
Fort Riley, Kansas

LEED for New Construction Version 2.2
Certification awarded December 9, 2010

Silver 34

Sustainable Sites 6/14

Water Efficiency 3/5

Energy & Atmosphere 7/17

Materials & Resources 5/13

Indoor Environmental Quality 9/15

Innovation & Design 4/5

*Out of a possible 69 points

UNACCOMPANIED ENLISTED PERSONNEL HOUSING (UEPH)

Fort Riley Receives LEED Silver Certification

PROJECT BACKGROUND

The FY08 Unaccompanied Enlisted Personnel Housing (UEPH) Barracks (Buildings 7872, 7874, 7882 and 7884) consist of four three-story, UEPH facilities for single soldiers. They each contain 78 (1+1) room modules with supporting facilities to accommodate 156 persons. They are located south of East Graves Street, Fort Riley, KS.

The exterior architectural style is similar to previous seven barracks built in another area of Ft. Riley, but of a different exterior design. The materials and colors were selected to be compatible with the aesthetics of the surrounding architecture. These barracks utilize an integral color and pattern set into a precast concrete panels that is similar in color to brick. A precast concrete design was selected to achieve the Army's objective of a 25-year useful design life with a 50-year building replacement life. The precast panels include integral rigid insulation which is also supplemented by interior batt insulation. The roofing system is a sloped shingled roof with gabled ends. Building materials have been chosen based upon LEED requirements, life cycle costs, maintenance requirements, availability, color and texture as well as visual compatibility of the surrounding buildings.

Unit layouts were designed to create a residential feeling. Each room module consists of two sleeping rooms that accommodate 1 person each (1 + 1), each having a separate entry and individual lockable closets. Residents share a kitchen area with a microwave/refrigerator combination, a ceramic two burner electric cook top with ductless range hood, a stainless steel sink and garbage disposal and a lavatory with medicine cabinet. Each module shares a common bath/shower area and a toilet area with the adjacent sleeping room. All plumbing fixtures minimize water consumption.

Building common spaces include laundry rooms, storage areas, main vending and recycling areas, a reception area, communications and electrical rooms, and janitor rooms. The lobby also contains ADA compliant male and female public toilets for visitors.

STRATEGIES AND RESULTS

The Graves Street Barracks site was selected to avoid disruption of any wetlands, farmlands or endangered species habitats. The surrounding habitat was protected or restores in order to lessen the impact of construction on the local eco-system. A high ratio of open space to development footprint was provided to promote bio-diversity.

The facility utilizes an enhanced building envelope, energy efficient windows, variable speed pumping systems, high-efficiency condensing boilers, a ventilation air energy recovery unit, high efficiency lighting and controls and water saving plumbing fixtures to help achieve its sustainability goals. The combination of these energy conservation measures are anticipated to reduce the facility's energy cost by more than 29.6% when compared to a baseline building. To boost sustainability, the project also incorporated LEED fundamental commissioning, EQ performance and controllability of systems features.

The design-build team utilized materials with high recycled content including the concrete, structural steel and metals. Paints, adhesives, sealants and VCT flooring systems all feature low volatile organic compounds and chemical emissions. A carefully monitored construction waste management plan resulted in more than 51.1% of waste diverted from the landfill.

ABOUT FORT RILEY

Fort Riley, named in honor of Major General Bennett C. Riley who led the first military escort along the Santa Fe Trail, was established in 1853 as a military post to protect the movement of people and trade over the Oregon-California and Santa Fe trails. More than a century later, Fort Riley continues to play an important role in the defense of our nation and the training of our soldiers.

Located in the central flint hills region of Northeast Kansas, Fort Riley is approximately 60 miles west of Topeka, the state capital of Kansas. Surrounded by tallgrass prairie, the Fort Riley Military Reservation covers 100,656 acres across Geary and Riley counties.



U.S. Army Engineer District, Kansas City

Architect: Gossen Livingston Associates, Inc.
Civil Engineer: BHC Rhodes
Commissioning Agent: Hoss & Brown Engineers, Inc.
Contractor: Walton Construction Co.
Electrical Engineer: Hoss & Brown Engineers, Inc.
Interior Designer: Gossen Livingston Associates, Inc.
Landscape Architect: Gossen Livingston Associates, Inc.
LEED Consultant: Gossen Livingston Associates, Inc.
Lighting Designer: Hoss & Brown Engineers, Inc.
Mechanical Engineer: Hoss & Brown Engineers, Inc.
Owner: Fort Riley Directorate of Public Works
Plumbing Engineer: Hoss & Brown Engineers, Inc.
Structural Engineer: Dudley Williams and Associates, Inc.

Project Size: 228,432 square feet
Total Project Cost: \$46,072,439
Cost Per Square Foot: \$202
Photographs Courtesy of: U. S. Army Corps of Engineers, Kansas City District

ABOUT LEED

The LEED green building certification program is the national benchmark for the design, construction, and operations of green buildings. Visit the U.S. Green Building Council's Web site at www.usgbc.org to learn more about LEED and green buildings.

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