

ENVIRONMENTAL UPDATE

Spring 2009

This is an archived article. Facts and links are current as of publication date.



Susan C. Galentine

The 1st Brigade Combat Team headquarters on Fort Carson, Colo., is oriented to make the most of sunlight and natural ventilation.

NEW BRIGADE HEADQUARTERS EARNS LEED GOLD CERTIFICATION CONSTRUCTION PROJECT RECYCLED OR SALVAGED 400 TONS OF CONSTRUCTION WASTE.

By Susan C. Galentine

Fort Carson

Soldiers and staff assigned to the newly minted 1st Brigade Combat Team headquarters, which also houses six battalion headquarters, will work in a first of its kind facility once fully staffed next summer.

The 1st BCT headquarters, completed in August 2008, is the first facility on an Army installation to receive the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Gold rating for new construction, according to Marie Coleman, communications coordinator with the USGBC. The Gold LEED® rating certification was announced in early December.

Gold LEED is the second highest of the four ratings – Certified, Silver, Gold and Platinum – in the internationally recognized sustainable building standards. The LEED system verifies environmental performance, occupant health and financial return of rated facilities.

Building sustainable facilities in the Army today merges the U.S. Army Corps of Engineers' traditional facility life-cycle standard of 50 years with the modern military construction sustainability aspects of energy efficiency, water conservation, reuse of materials and occupant health and comfort.

"It is only common sense to pursue design and construction elements that will save resources, lower costs and provide an overall better facility for the Soldier," said Maj. Mark Himes, Fort Carson Corps of Engineers liaison, said of building sustainably. "I believe it is our responsibility to lead the way for other government agencies and civilian industries to pursue sustainable construction projects."

The U.S. Army replaced its own Sustainable Project Rating Tool with LEED several years ago. Beginning in fiscal 2008, the Army required all new military construction projects to meet the LEED Silver rating standard. Building renovations should also try to attain the Silver standard.

Pursuing LEED certification for a new facility provides several benefits, said Matt Ellis, the Fort Carson Corps of Engineers Restationing Office resident engineer. It validates that Army sustainable construction efforts are "walking the walk, not just talking the talk." Knowing a project will require LEED certification also alerts contractors and designers to ensure their work will meet LEED standards.



Projects achieve a LEED rating by earning points for various design and construction aspects. For example, devices such as low-flow sinks or waterless urinals earn water conservation points. A Gold rating requires between 39 and 51 points.

The 140,000-square-foot headquarters, designed for approximately 600 occupants, began with an eye toward Silver certification. However, planners included enough additional points-earning features during the design build process to convince the Corps of Engineers to fund submission for a Gold rating.

Through "green" building construction efforts, Fort Carson reaps the additional benefits of positively affecting other sustainability goals including increasing sustainable procurement efforts, saving energy and water utilities costs, reducing toxic emissions into the air and alleviating traffic congestion by developing areas in a fashion that promotes walking.

The 1 BCT headquarters was constructed with an orientation to maximize the use of day lighting from the sun. The building's design provides greater exterior window exposure so that all interior spaces can benefit from natural daylight, ventilation and beneficial views. It includes environmentally friendly carpeting, paints and adhesives to make it safer for occupants.

The company operations buildings were co-located with unit motor pools in the surrounding 1st BCT complex of facilities so Soldiers can walk instead of drive between the two locations. Additionally, barracks and a dining facility currently under construction are located near unit and headquarters operations to provide a complete living and working environment and encourage walking.

One of the significant cost-saving efficiencies put in place during the project was purchasing recycled-content, modular furniture provided and installed by the building contractor. Using a single contractor to install all involved furniture, equipment and hook-ups to power and data networks optimized the cost-effectiveness, efficiency and timing of installation process.

During construction of the \$35.6 million facility, approximately 32 percent of the construction materials came from recycled materials, according to the Corps of Engineers. Through waste management efforts during the project, 400 tons of construction waste were recycled and/or salvaged.

Sustainable features of the facility could achieve a decrease of 31 percent in energy used, saving approximately \$110,000 per year. Low-flow water fixtures should reduce water use by 56 percent, translating into a water savings of 2.9 million gallons per year, said Himes.

The installation leadership understands and supports the need for sustainable construction on Fort Carson. "Constructing sustainable facilities that are much more energy efficient means that we at Fort Carson are being good stewards of taxpayer dollars. We can all benefit from 'going green'," said Director of Public Works Hal Alguire.

LEED design construction ratings also are available for projects including existing buildings; commercial interiors; core and shells of facilities; schools, healthcare and retail; neighborhood development (in pilot phase) and homes.

[Respond to this article](#)

[Issue Contents](#)