

## PROJECT PROFILE



### DOW HALL NEW MEXICO MILITARY INSTITUTE ROSWELL, NEW MEXICO

**95%** of construction waste  
diverted from the landfill

**14%** of building materials  
manufactured regionally

**44%** reduction in water-use

**28%** less energy consumption  
than an equal project

**98%** of all wood was  
certified by the Forest  
Stewardship Council

### LEED® Facts

New Mexico Military Institute Dow Hall  
Roswell, New Mexico

**Gold 44\***

Sustainable Sites	11/16
Water Efficiency	3/7
Energy and Atmosphere	10/17
Materials and Resources	7/13
Indoor Environmental Quality	10/21
Innovation in Design Process	3/6

\*Certified: 29-36, Silver: 37-43, Gold: 44-57, Platinum: 58-79

The State of New Mexico requires that all publicly funded projects achieve a LEED Silver certification at minimum.

Van H. Gilbert Architect • PC

2428 Baylor Drive Southeast, Albuquerque, New Mexico 87106 • p 505.247.9955 • f 505.247.1826 • www.vhgarchitect.com



## NEW MEXICO MILITARY INSTITUTE DOW HALL

## New Mexico Military Institute Achieves Gold!

Dow Hall Becomes the First Higher Education Facility to Achieve Gold Certification under the LEED for Schools Rating System

## PROJECT BACKGROUND

The Dow Hall Classroom Building on the New Mexico Military Institute campus in Roswell, New Mexico is a 22,600 square foot, three-story building dating back to 1957. The building originally housed offices, classrooms, storage, locker rooms, and an indoor shooting range. VHGA renovated Dow Hall with a focus on sustainability and indoor environmental quality, resulting in Dow Hall becoming the first higher education facility to achieve Gold certification using the LEED® for Schools rating system™. The rating system for schools is unique among other LEED® programs as it addresses core learning areas and requires higher performance standards for air quality, acoustics, daylighting, and thermal comfort. Meeting the high standards of the rating system has been shown to improve student learning, health, and attendance.

## OPTIMIZING OPPORTUNITIES

The LEED® for Schools rating system™ provides a framework to integrate the project goals of implementing sustainable design strategies and techniques while focusing on enhancing the learning environment. The rating system™ is defined by seven categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, and Innovation in Design Process. VHGA looked to the rating system for guidance as it successfully developed the design strategy to attain LEED® Gold certification. The rating system rewarded Dow's environmental site assessment, enhanced acoustical performance, and the joint use of Dow Hall facilities by the Institute and the community.

The Dow Hall renovation began with the design team's work to identify, define, and address a wide-range of architectural goals that respond to an educational program aligned to the needs of the Institute. These design goals focused on meeting current building codes, energy and accessibility codes, and a commitment to improving and modernizing the environmental quality of the facility. Early in the design process, the team reviewed the existing conditions and performed an analysis of current applicable building and energy codes to help define architectural objectives. The project incorporated "green" and sustainable practices within the budget constraints and maintained a practical response to the scope of services.

## STRATEGIES AND RESULTS

The project team employed several strategies to minimize construction waste. 95% of construction waste materials were diverted from the landfill by implementing a recycling and materials reuse plan. These materials included concrete, asphalt paving, glass, lighting and plumbing fixtures, masonry, gypsum board, steel, aluminum, copper, plastic, paper and cardboard packing materials.

With the goal to reduce the heat island effect, the project team developed a site design which utilizes materials with high-reflectivity. Over 50% of paved surfaces on the site are shaded by natural vegetation. 50% of the site materials have a Solar Reflectance Index (SRI) above 29. 100% of the roofing surfaces have a high-Albedo rating (SRI above 78) to avoid excessive heat-gain, reducing total energy costs. Water conservation strategies included the use of water-efficient fixtures for all toilets, urinals, showers, and sink faucets which helped achieve a 44% water-use reduction.

The project team selected locally manufactured sustainable materials provided by environmentally ethical businesses. Fuel and transportation costs were reduced by using regionally manufactured, extracted, and processed materials where possible. Sustainable products with high recycled content were given priority. 14% of all materials and finishes were manufactured or harvested within 500 miles of the project location. 98% of all wood used on the project was certified by the Forest Stewardship Council (FSC) which encourages environmentally responsible forest management.

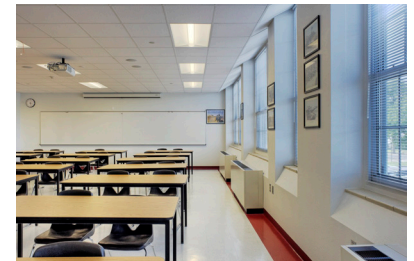
The building occupants now enjoy an exceptionally healthy indoor environmental quality. Prior to occupancy, the building was flushed-out with 14,000 cubic feet of outdoor air per square foot of floor space. Additionally, the project team specified paints, coatings, adhesives, sealants and carpet to be 100% low-VOC (volatile organic compounds) and to meet the highest quality of standards for low-VOC content. All classrooms and regularly occupied spaces exceed the standard ANSI S12.60-2002 for classroom acoustics by having a background noise level of less than 40 dBA.

## ABOUT NEW MEXICO MILITARY INSTITUTE

Located in Roswell, New Mexico, the Institute is the only state-supported, co-educational, and college-preparatory high school and junior college in the United States. The Institute enrolls students from 43 states, the District of Columbia, and 13 foreign nations.

*"A 30% reduction in overall energy consumption was achieved through the intense collaborative efforts of the design team, the contractor, and the Institute."*

Andy Benson, AIA, LEED® AP,  
Sustainable Design Director, VHGA



**Architect:**  
Van H. Gilbert Architect PC (VHGA)  
Steve Cechvala, AIA, Architect, Project Manager

**Owner's Representative:**  
David West, Vice President of Facilities  
Kent Taylor, Assistant Director of Facilities

**General Contractor:** Waide Construction, Roswell

**Sustainability Consultant:**  
VHGA – Andy Benson, AIA, LEED® AP

**Mechanical, Electrical and Plumbing Engineer:**  
Bridgers & Paxton Consulting Engineers, Inc.

**Structural Engineer:** MacCormack Engineering

**Acoustical Consultant:**  
Robert Mallory, CSI, CCS, CCPR, CCCA, LEED® AP

**Project Size:** 22,500 sf  
**Total Project Cost:** \$3,475,000  
**Cost Per Square Foot:** \$154/sf  
**Construction Completion:** December 2009

**Photography:** VHGA / Chas McGrath

## ABOUT LEED

The LEED® Green Building Rating System™ is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S. Green Building Council's web site at [www.usgbc.org](http://www.usgbc.org) to learn more about LEED® and green building. 'LEED' and related logo is a trademark owned by the U.S. Green Building Council and is used by permission.

