

Building GREEN in Greensburg

USD 422 Greensburg K-12 School



Courtesy of McCownGordon Construction

Originally destroyed by the tornado, Greensburg's new K-12 School was built green from the ground up and completed in time for the 2010–2011 academic school year. The 120,000-square-foot, two-story facility holds more than 300 students ranging from preschoolers to high-school seniors. With the goal of achieving 60% energy savings and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) Platinum for Schools certification, the school incorporates many energy efficiency and renewable energy features.

ENERGY EFFICIENCY FEATURES

- **East to west building orientation** takes advantage of abundant natural daylight and helps warm the interior in the winter
- **Daylighting** significantly reduces electrical lighting in classrooms, corridors, the gym, and regularly occupied spaces
- **Overhangs on south facing windows** limit summer solar gains and allow for passive solar tempering in the winter
- **Operable windows** in all classrooms allow for natural ventilation
- **Building envelope and insulation** eliminate the heat/cold migration through structural insulated panels in the roof and walls
- **A high-efficiency hybrid ground source heat pump system** provides heating and cooling to the school through ninety-seven 410-foot-deep vertical wells and a cooling tower.

RENEWABLE ENERGY FEATURES

- **On-site wind generator** produces 50-kW of power or 10% of the school's annual energy use
- **All-electric heating and hot water system** takes advantage of renewable electricity from the Greensburg Wind Farm.

WATER EFFICIENCY

- **Low-flow water fixtures and waterless urinals** reduce water use throughout the campus
- **Brita® water stations** located throughout the building allow students and teachers to fill their reusable bottles with filtered water, reducing bottled water waste

- **Rainwater is captured onsite** and used for irrigation
- Storm water runoff is controlled through **bioswales**.

SUSTAINABLE MATERIALS

- **Regional and reclaimed building materials** used throughout the building are manufactured with low volatile organic compounds (VOCs)
- Building exterior features more 3,500 board feet of **reclaimed wood from Hurricane Katrina**
- **Reclaimed temporary steel building** occupied by staff and students since the tornado will be used to construct a city recreational facility.

AIR QUALITY AND INDOOR ENVIRONMENT

- **Rain screens** prevent excessive air leakage, reduce energy losses, and eliminate moisture problems
- **Natural plant- and mineral-based cleaning products** create a clean, healthy environment for students and staff.



Photo from McCownGordon Construction/PIX 17867