

DESIGNED
TO BE
NET-ZERO

Richardsville Elementary



Courtesy of: Richardsville Elementary School.

School District: Bowling Green, Kentucky (Warren)
Principal: Kory Twyman
Superintendent: Tim Murley
Year school was built: 2009-2010
Architecture Firm: Sherman Carter Barnhart
Engineering Firm: CMTA, Inc.
Size of school building: 72,285 Square Feet
Cost per square foot: \$168.22

Energy Efficiency Features:

- ✓ Geothermal HVAC system utilizing dual compressor heat pump units
- ✓ High performance building envelope featuring insulated concrete forms
- ✓ High performance roof system, including 348kW solar PV system
- ✓ Active daylighting with automated daylight-dimming controls
- ✓ Low-E, argon filled, UV-coated vinyl vision windows
- ✓ Low-flow toilets and urinals
- ✓ Building orientation - building was placed within a north-south orientation for maximum exposure to daylight and solar absorption

Conservation Programs/Curriculum

Geothermal Hallway Display - Components of the geothermal system, along with temperature gauges, offer students the chance to watch the system at work.

Solar Hallway Display - Allows students to see the output of solar panels being transferred to laptop batteries.

Water Conservation Hallway - Displays information about rainwater collection and filtration through site bioswales.

Recycling Hallway - Includes bins for recycling while measuring quantities of waste. An outdoor compact weather station gathers data continuously and uploads this information to the Internet, encouraging students to compare the building's performance through Kentucky's four distinct seasons.

The building's outdoor classroom is fitted with a wireless, solar-operated outdoor weather station capable of measuring rainfall, temperature, humidity, wind speed, solar and UV radiation. It includes software to upload information automatically to the building's media center and to the Internet.

The Warren County Water Company donated an interactive display for student educational purposes, featuring a display mascot. "Splash" travels throughout the water cycle, featuring rivers, ground water, streams, etc. The display also presents water wise tips and other saving ideas.