



CASE STUDY: ICFs

RICHARDSVILLE ELEMENTARY SCHOOL

Richardsville Elementary School, Bowling Green, Kentucky

Completed: 2010

Stories: 2

Project Size: 72,285 sq. ft.

Project Cost: \$14.9 million

Architect: Kenny Stanfield, AIA,
Sherman-Carter-Barnhart

Project Owner: Warren County Public
Schools

Mechanical Engineer: Mark Seibert,
PE, LEEP AP, CMTA Consulting
Engineers, Inc.

ICF Manufacturer: NUDURA



AN EDUCATION IN NET-ZERO BUILDING.

As the nation's first net-zero school, Richardsville Elementary School sets the gold standard for energy-efficient buildings. With solar panels, geothermal HVAC heating and cooling, and other eco-friendly features, Richardsville Elementary actually produces more energy than it consumes. What helps support these energy-efficient initiatives? The school's Insulated Concrete Form (ICF) construction. A tight building envelope was critical to ensuring the building's overall performance, and there's no better building material to achieve this than ICFs.

01. High-performance building envelope.

ICFs were stacked together to form the building's interior and exterior walls. ICFs made for easier and quicker construction, and also reduce sound transfer between classrooms, the gymnasium, cafeteria and music media centre.

02. Greater energy savings.

The average U.S. elementary school's utility bill for one month is \$7,000. Richardsville generated enough solar energy in eight sunny days that they were able to save over \$4,300 in utility charges, and even received a credit of \$300 for selling energy back to the electric company.

03. Putting safety first.

Safety should be a school's top priority. Due to the school's location in Tornado Alley, ICFs will help keep the building's occupants safe in the event of a natural disaster. The same is true for fires as ICFs are virtually fire-proof.

04. Using concrete to reduce maintenance costs.

Stained concrete floors were used throughout the school, requiring less effort to buff and clean, ultimately reducing maintenance costs – a first for Warren County Schools.