

ENERGY STAR Building Design Profile

Protsman Elementary School
Dyer, IN 46311



The Protsman Elementary project was the result of a comprehensive, conditional and space utilization analysis of all of the facilities in the Lake Central Schools system. Of all of the 17 facilities in the school system, Protsman Elementary received one of the lowest, conditional scores overall and was the most crowded elementary facility in the school district. The School Corporation challenged the design team to relieve overcrowding, to produce a more aesthetically pleasing environment, and to improve the infrastructure and building systems in a way that reflected fiscal responsibility to the tax payers and the community.

Schmidt Associates chose ENERGY STAR as a guide post to establish energy usage goals and then to be able to track the potential, energy consumption through the design. Because the existing facility had so many deficiencies, it was decided to totally replace the existing facility on the same site, and phase the construction so that the original building could remain in operation to minimize the overall disruption of the educational process.

The resulting design is a facility which is designed to permit the seamless integration of a water cooled VRF (*variable refrigerant flow*) mechanical system into a highly efficient envelope that reflects the most current educational philosophies.

The estimated total energy savings for this project is 8,053,490 kBtu with an estimated cost savings of \$78,630. This is significant for a school corporation that is faced with budget challenges due to state mandated reductions in operational costs.

The highly efficient thermal envelope is accentuated by the use of solar orientations to maximize solar shading and take advantage of the use of day lighting concepts to assist in the natural illumination of interior spaces to minimize the dependency on artificial lighting.



Architect of Record:

Schmidt Associates

Engineering Firm:

Schmidt Associates

Building Owner:

Lake Central School Corporation

Design Energy Rating:

90

Percent Energy and CO₂ Reduction*:

39

Design Year/ Estimated Occupancy Date:

2014

Space Type:

K-12 School

Floor Space:

125,000 sq ft

Estimated Energy Use Intensity:

101 kBtu/sf/yr

Estimated Total Annual Energy Use:

4,385,259 kBtu/yr

Estimated Annual Energy Cost:

\$122,999

Technologies Specified:

Water cooled VRF mechanical system with high efficiency heat recovery system for exhaust and high efficiency lighting

For More Information

Contact Eric A. Broemel, PE Schmidt Associates, at

ebroemel@schmidt-arch.com

317-263-6226

320 East Vermont Street

Indianapolis, IN 46204

*Percent Energy and CO₂ Reductions are based on comparison to a median building of similar type.

EPA wants to feature your projects on the [Architects and Projects](#) Web page and in ENERGY STAR program materials. We encourage the AOR to submit a completed Profile with the certification application or by e-mail to spp@cadmusgroup.com.