

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools



Highlights from the 2014 Honorees



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2014 U.S. Department of Education Green Ribbon Schools

Ohio

Milton-Union PK-12 School, West Milton, Ohio

A New LEED Gold Construction Results in Real Learning

The Milton-Union PK-12 school was recognized by the U.S. Department of Education's National Center for Educational Statistics and the New American Foundation's Federal Education Budget as top in the state for highest achievement and lowest costs. Throughout the evaluation, Milton-Union was in the top third of all Ohio schools for achievement and in the bottom third for spending. The Milton-Union Elementary School has been recognized as a National School of Excellence, while both it and Milton-Union Middle School have attained School of Promise status. The School of Promise recognizes schools attaining solid student achievement in reading and mathematics while serving a significant number of economically disadvantaged students.

Milton-Union maintains high educational achievement ratings, and the school's commitment to energy efficiency and environmental sustainability plays an integral role in keeping costs low. In 2012, Milton-Union replaced old and energy-inefficient buildings with a new combined prekindergarten through 12th grade building. The new building incorporates state-of-the-art environmental system controls and features enhancements to the building envelope for energy efficiency. The new school was awarded LEED Gold certification in 2013.

Energy efficiency and sustainability were at the heart of the building efforts. As a result, energy costs are 36 percent below those expected for a building of similar size. As of October 2013, measured energy costs were \$0.90 per square foot, compared to an average of \$1.40 per square foot for similar buildings. The building's rainwater-harvesting system is resulting in approximately 35 percent savings in water cost. From the beginning of the project, the goal was for the building not only to be energy efficient, but also a learning tool for sustainability for students, staff, and community.

The building site is an important resource to the community, with an abundance of natural green spaces that provide an array of teaching opportunities. The site is 130 acres, and was donated to the district in 1973. Of the total area, 44.2 acres are wooded, 8 acres are a former tree farm, 11.7 acres are former fields that have been converted to open prairie, and 2.8 acres are a new detention area and bioswale. In addition, 3.7 acres are dedicated to a park with picnic shelters and open space. The building itself occupies 14 acres. This includes approximately 6.2 acres of paved

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areas and 3.6 acres of playground, landscaped areas and rain gardens. The remaining 45.4 acres of the site are sports fields. New plantings of water-efficient, native species were included as part of the construction project.

From improved air quality to contaminant controls, the benefits of the building design help to improve the health and safety of students and staff members. Key features, such as rain gardens and a wind turbine, offer unique ecological education opportunities. In fact, the number of renewable energy systems installed at the school provides students direct exposure to a variety of sustainable strategies ranging from solar thermal, photovoltaic solar panels, rainwater harvesting and real-time monitoring of energy use.

A required Earth Science curriculum includes studying the solar thermal system that pre-heats water which offsets the use of natural gas, the impact that a “green” roof makes by absorbing rainwater while filtering dirt/minerals through its roots, the effects of window solar shades related to daylighting and reducing cooling loads, the energy produced by the on-site wind turbine and photovoltaic solar array, the rainwater collection system and the importance of water conservation, rain gardens and bioswales and the importance of protecting water shed areas, and the energy saved by maximizing natural lighting and using photometric sensors to turn off lights in unoccupied areas. Other programs include an elementary school rainforest unit and high school biodiversity unit, a STEM curriculum including the Envirothon competition, and special programs with the Master Gardeners, Park District and Miami Soil and Water Conservation District.

