

High Efficiency Lighting



Daylighting and artificial lighting were designed to maximize energy efficiency. Building orientation and proper window placement maximizes daylight potential. Artificial lighting efficiency is maximized through the use of vacancy sensors, daylight sensors and automated building controls.

Mapleton Public Schools



Daylighting



The placement of the buildings at Skyview Campus allows plenty of daylight to pour into the space. Ceilings are slanted in order to bounce the natural daylight into the darkest parts of the classroom. The overhead lights only turn on when there is not enough daylight in the classroom. Classrooms are also painted white to improve the rooms' ability to harness daylight.



Low Volatile Organic Compounds (VOC)



Interior finishes, such as the flooring, were installed using low-VOC adhesives. In addition, paints, sealants, carpeting, and composite wood products were selected to minimize harmful effects to the people in the building.



Sunshades



Sunshades are mounted on south facing exterior windows to prevent glare from direct sunlight.

Common areas such as the cafeteria and classrooms have sunshades that maximize daylight penetration while minimizing glare.



Mechanical Systems



Variable Refrigerant Flow heating and cooling systems allow simultaneous heating and cooling throughout the building. VRF can swap hot air from one part of a building that is too warm and transfer it to another part of the building that is too cold (and vice versa).



Solar Tubes



The Solar Tubes above your head provide natural light through a tube that is 99.7% reflective. Only 0.3% of light is lost at each bounce with 99.7% of the light continuing on its path to the room below. The diffuser is made up of multiple Fresnel lenses and provides a consistent quality of natural daylight.



Heating and Cooling Fans



The larger than usual ceiling fans located in the cafeteria serve two functions. In the winter the fans will take down the warm air that has risen to the ceiling and bring it back down to where the students and staff are using the space. In the summer the fans provide a cooling effect by increasing the rate that perspiration is evaporated from the skin's surface. These ceiling fans provide an energy savings of up to 30%.



CO2 Sensors



The carbon dioxide sensors measure the CO2 levels created by the number of occupants in any particular room. Fresh air coming into the space will either increase or decrease depending on the current CO2 levels. Proper levels of oxygen provide a healthy learning environment for students by increasing blood flow and stimulating brain activity.



Construction Waste



The building and construction industry are one of the main contributors to landfill waste. During construction at the Skyview Campus, approximately 85% of the building debris from both buildings was recycled. This amounted to 1,838 tons of concrete, metal, wood, gypsum board, and cardboard that were kept out of the landfill. Many times diversion is a win-win situation, with recycling fees costing less than landfill fees.



Recycled and Regional Content



Mapleton Public Schools The floor, wall and ceiling materials installed contain pre-consumer and/or post-consumer recycled content, which contributed to the LEED credit.

Special efforts were made to purchase products within a 500-mile radius of the project site to minimize the environmental impact that comes from transporting materials long distances.



Water Efficiency



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Pint flow urinals, high efficiency flush valves, and sensor faucets create a 40% water savings.

We are estimating 332,890 gallons of water savings over the EPACT92 baseline. When less water is used there is less wastewater treatment needed, resulting in even greater savings.

World's Water 97% Salt water 2.5% Frozen fresh water 0.5% Accessible fresh water



Sustainable Site



Site Selection - Location affects the sustainability of a building and its site based on several factors, such as the environmental report (clean vs. contaminated soil), distance in miles the site is to residences and other public use buildings and whether or not mass transportation is nearby.



Sustainable Site



Heat Island Effect - Dark colors on horizontal surfaces absorb heat which raises city temperatures. This is known as the Heat Island Effect. The use of light colored materials that reflect UV rays reduces the site's contribution to Heat Island Effect.



Sustainable Site



Joint Use of Facility - By creating a building that allows for flexible use of space, we are eliminating the need for single-use buildings and enhancing land conservation.



Accessible Roof



Extending learning beyond the classroom, the paver system on the roof provides utilization of this outdoor space by teachers and students. Outdoor settings allow other kinds of learning that could not normally take place indoors. This space is excellent for large projects, horticulture, exposure to natural light and is a fresh environment for learning.