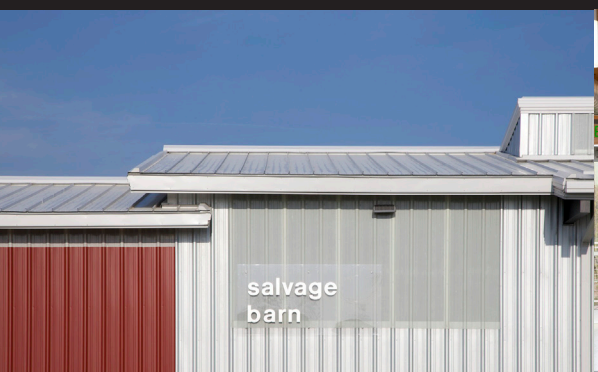
SHIVEHATTERY
ARCHITECTURE + ENGINEERING

East Side Recycling Center

CITY OF IOWA CITY, IOWA



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SHIVE-HATTERY is committed to providing SUSTAINABLE DESIGN services. Through appropriate use of Land and Resources; optimizing Energy utilization; practicing Water conservation; recognizing Environmentally preferable products; enhancing Indoor Environmental Quality; and consideration of Operation and Maintenance practices; we provide THOUGHTFUL, COLLABORATIVE and CREATIVE SOLUTIONS for the success of our Clients and Communities.

Overall Project

East Side Recycling and Education Center | Iowa City, Iowa

The East Side Recycling Center is a showcase of environmental best practices, renewable energy systems, and waste reduction. Public, private and nonprofit efforts are focused here to promote reuse, recycling and environmental education. One highlight of the campus is the education center which is targeted for LEED Platinum certification (certification pending).

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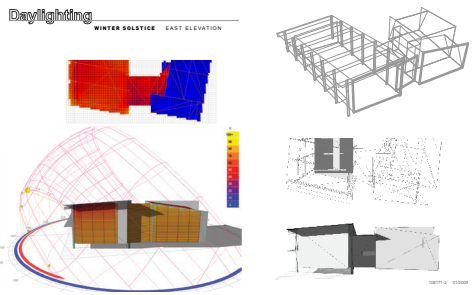
Energy Efficiency

Energy efficiency is practiced in several ways on the campus. A highly efficient geothermal heat pump system provides heating and cooling to the education center. Daylighting is used throughout the facilities to reduce the electrical loads needed for lighting. Well insulated building envelope and glazing systems limit heat gains and losses through the walls, roofs and floors.

Another way energy efficiency is promoted is through use of renewable energy sources. Besides the geothermal system, solar energy (photovoltaics) and wind energy are used at the center. The restrooms even feature a tubular skylight system that provides daylight to solar-powered sinks.



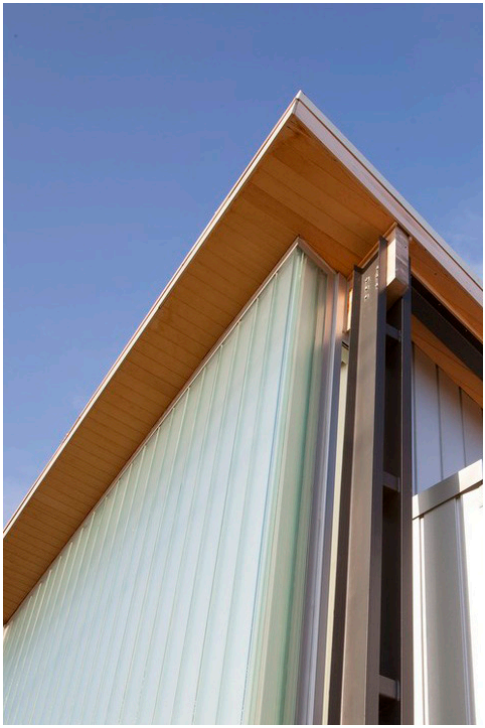
Land & Resources

The center is located on a former industrial brownfield. This required clean-up and removal of debris in order to be redeveloped into the facility that exists today. The existing building that was on the site was rehabilitated and expanded. The asphalt pavement that covered the majority of the site was milled into the base materials for the current parking lot and building floor slabs.

Another key design concept of the facility is conservation of resources. Many of the building systems used were pre-manufactured and assembled on site. This limits the amount of material used and reduces waste. Rapidly renewable, recycled, and reclaimed materials were also used. For instance, the rock located under and around the education center classroom was salvaged from a roof replacement project.

Water Conservation

The stream that runs along the south property line did not exist when the site was originally platted. As the properties to the north and west were developed, rainwater runoff accumulated and formed the stream that exists today. Several measures were taken to reduce, control and treat rainwater runoff at the East Side Recycling Center. The overall amount of pavement on the site was reduced, introducing more green space. Features like the green roof and pervious (allowing water through) pavement and pavers also slow rainwater runoff. The bioswales which border the stream act as contaminant filters, helping to protect the water supply. The education center also features high efficiency plumbing fixtures. These reduce the amount of water used by the facility.



Environmentally Preferable

"Environmentally Preferable" products are materials which seek to minimize their impact on climate change, resource depletion, and human toxicity. They include items that are rapidly renewable, such as cork, bamboo and straw. Sustainably harvested wood products also fall into this category. The Forest Stewardship Council (FSC) has certified the wood products used in the education center, verifying they have been harvested without irresponsible practices such as clear cutting and herbicides.

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Indoor Environmental Quality (IEQ)

Sustainable building environments focus on occupant productivity, comfort and health. Many studies have been performed on the positive impacts daylighting can have on health and performance. Appropriate ventilation and moisture control also are important quality factors.

Preferred materials include those produced without potentially harmful chemicals. These materials often require a different manufacturing process than their "typical" counterparts. The paints, sealers, glues and cleaning products used in the education center were all selected to minimize these Volatile Organic Compounds (VOCs).

Operation & Maintenance

Materials and systems that were used throughout the campus were selected to simplify and reduce maintenance requirements. One example of such a system is the green roof. The modular system that is utilized is pre-vegetated and discourages the growth of weeds.

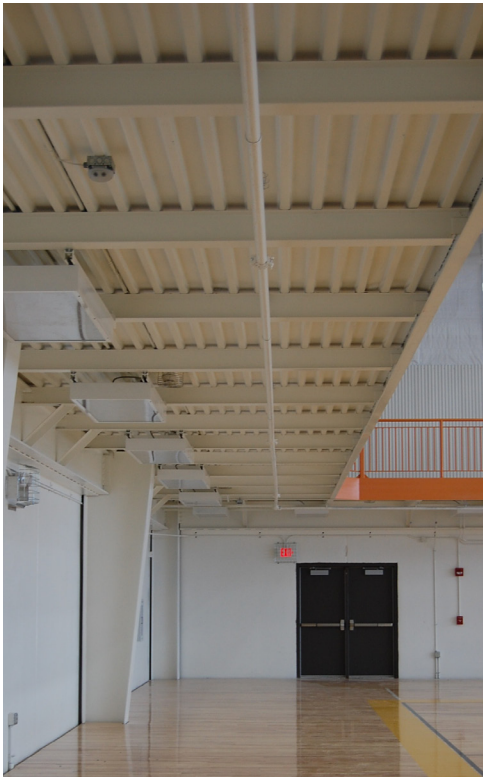
Another material that was selected for its maintenance aspects was Alaskan Cedar. Used in the beams, soffits and base boards, this durable wood is known for its natural resistance to both weather and insects.

Sustainable Projects

Sunrise Child Care/Parkside Activity Center | Wellman, Iowa

After 20 years of fundraising, the citizens of Wellman, Iowa turned their dream of a child care/community center into a reality. The new LEED Silver Certified 33,000 SF facility includes:

- An upper level child care center designed to respond to the developmental needs of age groups infant through preschool
- A lower level community center with a gymnasium, elevated jogging track, locker rooms/restrooms and a large multi-purpose/activity room



The design was based on a pre-engineered metal building system for maximum economy. It is a synergistic collection of many facilities that would otherwise be located in separate buildings and would not have the benefit of being under a single roof. Sustainable design measures include daylighting, geothermal heating and cooling, 68 percent recycled materials for the building and 29 percent regional materials.

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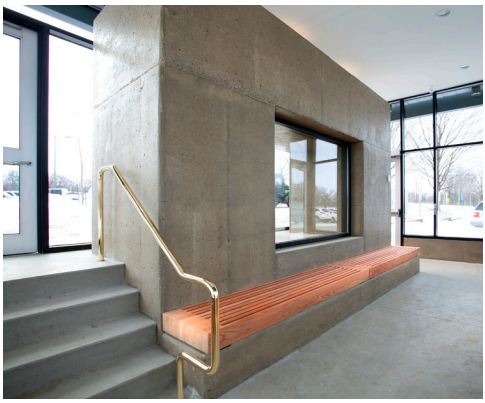
University of Iowa Commuter Parking Lot 75 Expansion with Bus Shelter

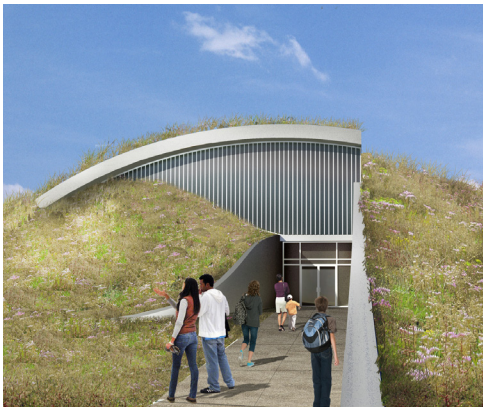
Iowa City, Iowa

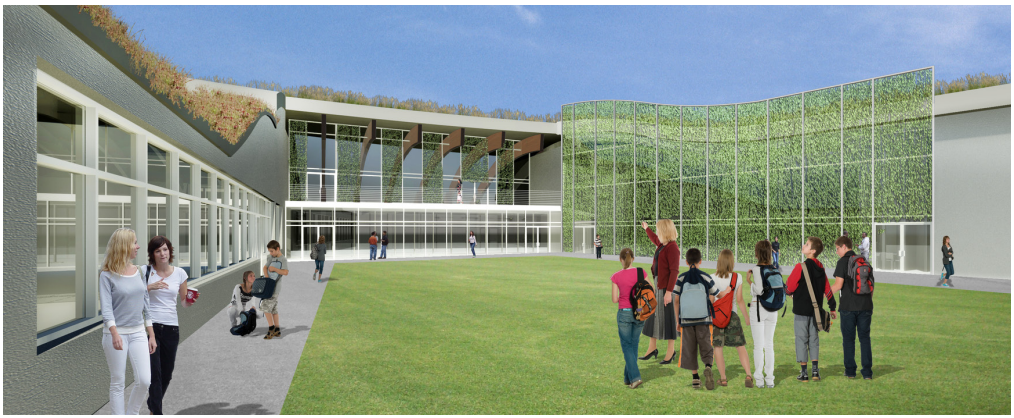
The new transit shelter, part of a larger project to expand an existing parking lot, takes the principle material of a parking lot—concrete—and makes it the centerpiece of the sustainable design. The design includes a small radiant floor heating system to augment the solar heat gain. All parts of the system are enclosed within the concrete mass. Roof overhangs are sized to shade the concrete mass during the summer months so that the process is reversed—the mass stays cool which, along with operable windows, keeps the interior cool. Other sustainable design features include the use of recycled steel and LED lighting fixtures throughout. Riders within the shelter can sit against the thermal mass and enjoy the warmth or coolness of the mass while an electronic sign displays arrival times of incoming buses.



Louisa Interpretive Center at Langwood | Louisa County, Iowa

The Louisa Interpretive Center's educational mission emphasizes the importance of environmental conservation. This is interwoven into educational exhibits that will tell stories about the history, culture, geology, hydrology, fauna and flora of the unique area. Nestled into the landscape, the building blends into the environment. Minimal paving at the main drive and native grasses on the building's roof will reduce storm water run-off. Wind and solar power are planned to be harvested on site to serve outdoor educational exhibits. Recycled materials and sustainability harvested wood products will also be used throughout. The building's thermal mass, a high efficiency geothermal heating and cooling system and natural day lighting will be utilized to conserve energy.





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Driftless Area Wetland Centre | McGregor, Iowa

The Driftless Area Wetlands Interpretive Centre was designed to provide sustainable education opportunities reflecting responsible design and storm water management. Storm water from the site's patios and parking areas flows through a series of check dams before entering a constructed wetlands area. This allows the water to naturally filter and seep into the ground. The building roof was designed to focus rain to an impluvium, or floor basin. This catches the water allowing it to flow to the wetland through a let-down structure of recycled steel piling . The roof form also allows natural light into the classroom/ community gathering space and provides views to the surrounding bluffs. A geothermal heating and cooling system with natural ventilation, low flow plumbing fixtures, efficient lighting fixtures, and minimal finishes were used to further reduce the overall impact on the environment.

Roshek Building | Dubuque, Iowa

Shive-Hattery designed plumbing, mechanical and electrical renovations for the nine story, 300,000 square foot Roshek Building. The building was constructed between 1929 and 1931 in the center of downtown Dubuque to house the Roshek Brothers Department Store and private professional offices. It was extensively remodeled in the early 1970s for commercial offices when the department store moved from the downtown area. It is a certified historic structure as determined by the National Park Service and the State of Iowa Historic Preservation Office.

This building rehabilitation project enabled the historic structure to be used for modern commercial, office and retail space. IBM is using floors 5 through 9 as a technology service center. The first level has commercial/retail tenants. Renovations to the lower levels took place while the spaces were occupied. The building core and shell have earned LEED Platinum Certification.

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Alliant Energy IP&L Training Center | Marshalltown, Iowa

Alliant Energy was in need of a new Technical Training Center for its subsidiary, Interstate Power and Light Company's (IP&L) gas and electric apprentices. The existing Training Center was lost during the extensive flooding in 2008. There was a need to get the facility up and running as quickly and efficently as possible.

The site was designed to limit disruption and pollution of natural water flows by managing the quality and quantity of stormwater runoff. The site features a 30% reduction in water use compared to a conventional water system. Additionally, landscaping with low to moderate water needs was used to eliminate the need for permanent irrigation.

To increase the efficiency of the facility, control systems for HVAC and lighting were included allowing for the building to be monitored and operated remotely since it is not occupied 100% of the time.

The facility was awarded LEED Gold level certification in the USGBC's green building rating system.

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