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Motor Pool Service Facility

Location:

Motor Pool Service Facility
Duluth, MN

Contractor:

A.W. Kuettel & Sons
Duluth, MN

Project:

Green Roof
2,835 Sq Ft

Solution:

VAST Composite
Deck Pavers

Completed:

2010



401 West Second Street, Duluth Minnesota

This project was made possible in part by support from

COUNTY OF SAINT LOUIS
NORTHEAST MINNESOTA REGIONAL SUSTAINABLE DEVELOPMENT PARTNERSHIP
NOAA
MINNESOTA'S LAKE SUPERIOR COASTAL PROGRAM

St. Louis County in Duluth Tops Motor Pool Service Facility with a Green Roof, Including VAST Composite Deck Pavers for Walkways



Phone: (612) 234-8958

E-mail: sales@vastpavers.com

Web: vastpavers.com



VAST Enterprises, LLC
1828 Marshall St. NE Suite 15A
Minneapolis, MN 55418

The St. Louis County Motor Pool Facility in Duluth, Minn. was constructed in 1957. Over the course of 50 years, building problems accumulated. With little insulation, and none in the roof, the facility was cold in the winter and hot in the summer. It was energy-inefficient and expensive to heat and cool. Condensation had caused extensive mold and mildew.

Planning for renovating the facility got started in 2007 with an initial focus on improving the interior environment with insulation and upgrades to the mechanicals. "During the planning process, we considered supportive changes to the building envelope," said Bill Scalzo, Scalzo Architects, Ltd., Duluth, Minn. "That included eliminating north-facing windows and replacing other old windows with new ones with a higher R value."

Tony Mancuso, director of the St. Louis County Property Management Department, is a champion of green building. He has worked to incorporate green building practices in many

county projects for more than a decade. "Tony was looking for an opportunity for a green roof installation," said Tom Romundstad, project manager in the department. "The 18,000 square-foot roof had been decertified for parking due to its age. But it still had the structural requirements for a green roof."

Mancuso and Romundstad took up the advocacy of a green roof for the facility. "This is what Tony and Tom do. They offer leadership on green building," said Scalzo. "They launched into educating the community on the benefits of a green roof for the facility."

-The expected useful life of a green roof is three times the typical 15-20 years of a conventional roof.

-A green roof reduces the facility's cooling costs by 25% in the summer months, and winter heating costs would be reduced even more.

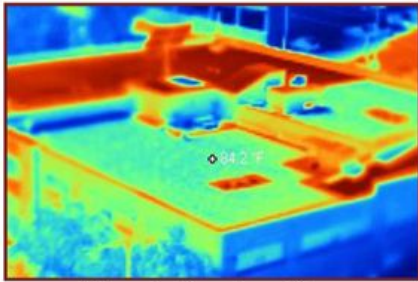
-The soil in the green roof planting trays absorb 95% of the first inch of every rainfall on the facility roof, while adding a



Before



After



Heat Reduction

By Using VAST Composite Deck Pavers, Green Roof Project in Northern Minnesota Kept 1,400 Scrap Tires and 42,525 Plastic Containers Out of U.S. Landfills

rainwater recovery system with cisterns could contribute even more to stormwater management.

The green roof's contribution to stormwater management is especially important in Duluth, which is located at the western end of Lake Superior — the largest of the Great Lakes and the source and headwaters of the entire Great Lakes ecosystem. St. Louis County is part of the Regional Stormwater Protection Team. And the [Lake Superior Coastal Program](#), a voluntary federal-state partnership dedicated to the comprehensive management of the coastal resources along Minnesota's North Shore of Lake Superior, provided a \$50,000 grant for the green roof.

The roof of the motor pool facility is 18,000 square feet. Half of the roof space is devoted to a LiveRoof® modular green roof system from LiveRoof, LLC, Spring Lake, Mich. LiveRoof modules are delivered with full-grown plants inside the containers ready set in place on a rooftop to create an instant green roof. Bachman's Wholesale Nursery & Hardscape, Farmington, Minn., distributes LiveRoof in Minnesota and planted the trays with seven different species of sedum for the facility roof.

The other half of the roof was set aside for a community garden with 18-inch deep planters. The Duluth Community Garden Club maintains the garden.

The roof design included 2,835 square feet of walkways among the raised timber planter boxes in the community garden. Scalzo recommended VAST® Composite Pavers, which he had used for a 3,750 square-foot parking area at [Sara's Table/Chester Creek Café](#). VAST pavers had also been used for stormwater management at the [University of Minnesota-Duluth](#).

Specifically, he recommended VAST Composite Deck Pavers, a lower profile version of VAST Composite Landscape

Pavers. "VAST Composite Deck Pavers allow you to bring the design versatility and look of brick pavers up onto roofs," said Scalzo.

Romundstad took Scalzo's recommendation and selected VAST for several reasons:

-Weight advantage - VAST Composite Pavers are 1/3 the weight of concrete pavers.

-Environmentally Friendly - VAST's engineered composite material consists of up to 95% recycled car tires and plastic containers. Compared to concrete product manufacturing, the VAST production process requires 82% less energy and releases 89% less carbon dioxide. VAST pavers are cradle-to-cradle green.

-Ease of Installation - VAST's inventive and patented grid system makes VAST pavers fast and easy to install. When the pavers are inserted into the grid, they are automatically spaced and aligned.

-Local Availability - Brock White, a construction materials supplier that meets the needs of both large and small contractors, distributes VAST pavers in Northern Minnesota.

VAST Composite Deck Pavers in three colors (Redwood, Boardwalk and Olive) were installed in a herringbone pattern for the walkways. "The finished result completes the look of the community garden," said Scalzo.

"We took an old maintenance facility that was decrepit and inefficient and costly in energy use and turned it into a showplace that the community takes pride in. The green roof is a big part of that," said Romundstad. "To be honest, there were folks who were initially skeptical about the utility and costs of a green roof for the motor pool facility. Now county officials are proud to lead tours up onto the roof."



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