



University of Minnesota Duluth

Location:

University of Minnesota
Duluth, MN

Project:

Stormwater Management
1,665 Sq Ft

Solution:

VAST Composite
Permeable Pavers

Completed:

2009



VAST Composite Permeable Pavers Pass a Tough Test at the University of Minnesota Duluth (UMD)



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The University of Minnesota Duluth was constructing a new Civil Engineering building. Managing storm water runoff from impervious surfaces and reducing such surfaces are elements of UMD's comprehensive [Stormwater Pollution Prevention Program \(SWPPP\)](#). Thus, plans for the building called for a permeable paver installation. The building's designer suggested using VAST Permeable Composite Pavers because of their permeable function and their recycled content.

Using VAST is consistent with UMD's overall commitment to sustainability as well as the SWPPP goals. But there were questions: How would VAST's engineered composite material stand up to Minnesota's extreme winters and repeated freeze-thaw cycles? Would snowplowing and

snow removal damage the pavers? What about the effects of salt applied for de-icing? And would VAST pavers be strong enough for truck traffic in loading dock areas?

UMD undertook a paver test to find the answers. Both concrete and VAST Composite Permeable Pavers were installed in test areas in the autumn of 2007.

"The location of the campus and the geology of the area combine to make stormwater management a priority – and challenge," says Mindy Granley, UMD's Sustainability Coordinator. "The soil has a high clay content and does not readily absorb water. Rainwater from the campus can get down from the top of the hill to Lake Superior in just 10 to 15 minutes."

Controlling the volume and velocity of water runoff is therefore essential. Holding



“When visitors tour the paver test areas, they see the difference and agree that the VAST Pavers look newer, neater and more visually appealing. They also like the way they feel under foot.”

Mindy Granley
UMD Sustainability Coordinator

back stormwater during heavy rains helps to reduce erosion and water pollution.

Two areas were selected for the paver test. The first was a 600 square-foot location on the north side of the university’s heating plant. The area gets heavy truck traffic for deliveries and parking.

“This was an appropriate area for the paver test because the site had poor drainage and became muddy after significant rainfall. It needed a hard surface,” says John King, Director of Facilities Management at UMD.

Concrete and VAST Composite Permeable Pavers were installed in side-by-side sections. The underlying base prepared for permeability and drainage was the same.

The second area was a 75 square-foot triangle outside the Sports and Health Center. The Building & Grounds division of Facilities Management had attempted to landscape the area, but with persistent foot traffic from students cutting across the triangle, landscaping could not be maintained. In addition, UMD sports teams load and unload buses right in front of the Sports and Health Center, and that activity also took its toll on the site. VAST Composite Permeable Pavers were installed to determine if they would make this area more user-friendly and easier to maintain.

Based on the results, in the spring of 2008, after a tough Minnesota winter, VAST Composite Permeable Pavers passed UMD’s test. Unlike the concrete

pavers, VAST was unaffected: no cracks, no color fading.

And 990 sq ft of VAST Composite Permeable Pavers were installed in the loading dock area of the new Civil Engineering Building.

It has now been three years since the first pavers were installed. How have the VAST Composite Permeable Pavers held up after two more Northeastern Minnesota winters in Duluth? “The VAST Permeable Composite Pavers still look new,” says Granley.

VAST Enterprises, LLC

VAST applies its patented technology to transform recycled materials into a new resource for green building: composite masonry. VAST composite products — including landscape pavers, permeable pavers for stormwater management, deck pavers and thin brick — offer an engineered alternative to molded concrete and clay brick. Award-winning VAST pavers are cradle-to-cradle green and deliver rich colors, superior slip resistance and unbeatable strength at one-third the weight of concrete pavers.

Made from 95 Percent Recycled Materials

All VAST products are made from VAST’s engineered composite material that consists of up to 95 percent recycled car tires and plastic containers. The manufacturing process uses recycled materials, emits minimal greenhouse gases, generates no volatile organic compounds, yields zero scrap, and produces products that are 100 percent recyclable.



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