

Idea EXCHANGE

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Sidewalks made of rubber offer tree-saving option

TREE-LINED STREETS.

Cracked and heaving sidewalks. The scene repeats in many Wisconsin communities where public works departments routinely budget to repair and replace concrete sidewalks made hazardous by soil and shallow-growing roots pushing individual slabs up and out of place.

Now two of those communities are experimenting with sidewalk pavers made from rubber. The Village of Poynette and the City of Fitchburg installed lengths of a rubber-based sidewalk paving system in recent years. Both saw the system as a solution for preserving desirable mature trees while giving neighborhoods longer-lasting walkable stretches of pavement.

A California company called Rubbersidewalks, Inc., introduced the unique paving product about seven years ago. Their high-

density paving tiles are made of 100 percent recycled tire rubber, crumbed and combined with polyurethane binder and colorant, then heated and molded under pressure. The manufacturer describes them as sturdy, resilient and reversible, with an expected life of seven years per face.

Poynette first in region

Poynette installed the product at three locations in December 2006. Administrator Dennis Linn notes the Village was the first community in a four-state region to do so. A year later, Poynette provided Fitchburg with input as they considered going the rubber route.

Linn says so far the system is an effective replacement for existing sidewalks that does not damage healthy, established trees. The three sites include residential sidewalks that carry foot traffic to a school complex and several that intersect with private walks.

"We gave it a try because the nature and shape of the material flexes over time and gives with the movement of the roots," he explains. "Eventually, we'll see some vertical heave, but it should be easy to lift, adjust and level any pavers that shift."

The sidewalk system Poynette installed consists of individual 2-foot-square pavers set side-by-side along the length of the section. The modular design creates permeable seams between the pavers that allow rain and melting snow to drain directly into the ground.

After two years and two winters, Linn reports the sidewalk system is performing well. There are no signs of wear or fading. In winter, the dark pavers absorb the sun so moisture from snow melts quickly, preventing ice buildup.

The biggest challenge for Poynette was finding a contractor to install the tiles. Because the system was new, Linn says he

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Resources

<http://www.rubbersidewalks.com/>

Link to product site with information on the recycled material, an installation Q&A and photos of installations around the country.



expected a learning curve for whoever took the job. Eventually, the Village contracted with Ziegler Landscaping in DeForest. Ziegler laid fine base gravel according to manufacturer's instructions and did all the work necessary to match new pavers with existing sidewalk and private walks.

According to Linn, total costs for the project, paid for on a time-and-materials basis, worked out to approximately \$24 per square foot. Although twice what Poynette spends on concrete replacements, he considers the cost reasonable for a spot fix that supports community goals of maintaining valuable urban trees.

Alternative worth it for Fitchburg

Transportation Project Engineer Ahnaray Bizjak says Fitchburg's decision to use the compressed rubber-sidewalk product was all about "the trees." The project involved two installations in locations that did not have sidewalks before, but they did have several large oak trees in good condition.

Bizjak recalls City Forester Ed Bartell learned about the porous, flexible sidewalk system Poynette used and thought it held potential for resolving serious conflicts between trees and paved walkways in Fitchburg. "Hearing about their experience was encouraging when we decided to do a pilot project on our new installations in August 2007," she says.

Fitchburg used larger pavers measuring 2.5-feet-square. The City paid for the sidewalk project on a time-and-materials basis with costs totaling \$16.63 per square foot, substantially more expensive than concrete. The City bid the project as an alternate method and also worked with a contractor new to the product. Bizjak expects costs to decrease once contractors are more familiar with the application.

A year after installation, one section of new sidewalk sustained some heaving that created a trip hazard. Because of the flexible pavers, Bizjak notes, a maintenance crew is able to correct the problem easily by lifting the



Rubber pavers make room for a large terrace tree along a section of sidewalk, part of a 2006 City of Poynette replacement project.

pavers, doing some minor root cutting and repositioning the pavers.

Bizjak says it helps having a real alternative to either relocating a stretch of sidewalk or destroying quality trees. But she predicts the expense means Fitchburg will install the system only where the situation justifies it. ■

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Additional scholarships available for EPD courses

LOCAL GOVERNMENT

employees in Wisconsin who take a transportation-related course offered by Engineering Professional Development (EPD) at UW-Madison can offset course costs by taking advantage of scholarships from the Transportation Information Center (TIC). TIC support covers two-thirds of a qualified participant's registration fee. Now additional money is available as TIC doubles its scholarship budget for fall and spring to help offset tightening local government training resources.

EPD short courses run from one to three days, exploring a technical topic in depth with expert instructors from industry, research, private practice,

government and education. Topic areas include bridge design, construction inspection, drainage design, fleet maintenance, municipal engineering, liability in public works, pavement design and maintenance, project management, soils engineering, traffic engineering and winter operations.

The curriculum targets technicians, engineers, managers, and superintendents. One or more of the EPD courses can help a new employee, a new supervisor or technician, or an employee who is taking on new responsibilities at the local level succeed.

Each issue of *Crossroads* includes calendar listings of the EPD seminars that qualify for a

TIC scholarship. The *Calendar* also lists upcoming one-day workshops presented by TIC that do not qualify for the scholarship program.

Apply for scholarships by contacting TIC at 800-442-4615 or tic@epd.engr.wisc.edu. Identify the local government agency requesting the scholarship; provide the name of the EPD course, course dates and location, the name and title of the person registering, and agency contact information. Approved applicants receive a scholarship form to submit with their registration. TIC awards the scholarships on a first-come, first-served basis, so apply early. ■

Resources

The EPD site has complete short-course curriculum and registration information.

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WEBSITE
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