

Environment

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Bringing low impact development home

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When the lead drainage engineer for Parsons Brinckerhoff's Seattle office gets home, he drives over a 10-inch pervious layer of rock and coarse sand.

Flooding problems — and research he did through his work on low impact development — inspired Bill Lider to replace his asphalt driveway with a pervious one.

When Lider realized the downward slope of his driveway led to flooding, he bought five pallets' worth of interlocking pavers called EcoStone, made by a Florida company. He also bought a product called TurfStone to create a "grass grid" in his yard that looks like a normal lawn but doesn't compress under the weight of a car. This is where Lider and his wife, Sally, wash their car.



Photos courtesy Bill Lider

Seattle drainage engineer **Bill Lider** replaced his asphalt driveway with a pervious one.

Sally coordinates environmental education for the city of Edmonds, so convincing her to put in a pervious driveway, TurfStone and rain barrels to catch roof runoff wasn't too hard.

Sixty-gallon rain barrels are strapped to the side of the house and connected to a drip system of hoses that carries water to the garden, which is mostly native plants.

Lider said in Snohomish County, where he lives, stormwater management standards for development are outdated. He said it doesn't make sense to move rainwater long distances to holding sites. Problems arise when those sites get overwhelmed, he said.

"You want to infiltrate as close to the spot where the raindrop fell," Lider said.

Before the construction of buildings and parking lots, vegetation and deep soils soaked up water. He said if more development included porous surfaces, there would be less runoff to manage, and rivers and streams could be cleaner.



Lider

Lider said he hopes the low impact retrofit at his house will be an example for others.

He has asked the Snohomish County Council to waive a yearly \$65 drainage fee as an incentive to encourage more homeowners to do low impact work on their sites. Waiving the fee won't cover the cost initially, he said, but "over 30 years, that's a chunk of change."

Lider had a chance to test his system of pervious layers, drains and backups several months after installing it. In October 2003, there was a 100-year storm and Lider said he saw no overflow from a spout designed to spill excess water.

At Parsons Brinckerhoff, Lider designs stormwater detention and temporary erosion controls for clients such as the city of Seattle, Sound Transit and the Washington state Department of Transportation. Through research for his work, he learned about low-impact materials that "weren't new but had a lot of potential."

When neighbors and visitors come to see his system, Lider explains how the engineered surfaces work and points out how water stored in rain barrels also could be handy in case of an earthquake or other disaster. "I tell them, 'You should think about trying this.'"

He's not the only one with that message.

Even before seeing Lider's home drainage setup, Craig Young of Snohomish County's Public Works Department had been trying to get people to do low impact development on their own property.



Lider's wife, Sally, washes the car on their TurfStone lawn. The interlocking pavers are strong enough to support a car but also let grass grow through.

The Washington Department of Ecology awarded a five-year, \$475,000 grant to fund Young's effort. Now Snohomish County is looking for an environmental consultant to help measure the value of voluntary projects.

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