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Rain check

UMD project filters water flowing off acres of blacktop before it flows to Oregon Creek and Lake Superior

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When rains falls on the University of Minnesota Duluth, water rushes off the four acres of blacktop of Parking Lot B, carrying litter and pollution into storm sewers and Oregon Creek.

To help solve the problem, UMD is building a third-of-an-acre rain garden along West College Street.

“It will clean and cool and slow down the water running into Oregon Creek,” said Candice Richards, an associate director with UMD Facilities Management.

Rain gardens are shallow depressions with plants that thrive in moist soils and help water seep into the ground. The gardens help keep streams and lakes cleaner by capturing sediments, fertilizers, animal droppings and other pollution carried in water flowing off of parking lots, sidewalks, sloping lawns and other surfaces.

About 32 percent of UMD's campus is covered by impermeable surfaces.

UMD began building the \$100,000 garden in May. Ironically, rain has slowed the garden's construction, but UMD hopes to finish the project before August.

Construction began with the removal of three feet of clay, said Erik Larson, senior engineer for UMD facilities management. Crushed rock and drain tile will go in the bottom of the excavation. About a foot of dirt and compost will go over the rock, and mulch will go over the soil.

“The rain garden itself will be about 18 inches, two feet below the existing grade,” Larson said.

“One of the common misconceptions is that it will be like a swamp or hold water a long time and breed mosquitoes,” Richards said. “That's not true. The longest it should hold water is 72 hours, and that would be extremely rare.”

Function was only one consideration in planning the garden.

“It's on the campus of UMD,” said Carol Andrews, senior environmental engineer with the Duluth office of Barr Engineering, which designed the garden. “Most of their plantings are very formal. We're trying to fit this in with that.”

Toward that end, some plants will be concentrated in specific patches of the garden.

“Hopefully, there will be big waves of color,” Andrews said. “The idea is to make it look like a garden.”

The garden's plants will include sedges, grasses, day lilies, blue flag iris, blazing star, joe-pye weed, steeple bush, flat-top aster and swamp milkweed.

“That's a real great one for attracting butterflies,” Andrews said.

While the garden's primary role is to filter and slow storm water, it will contain features of a demonstration project, including paths and signs.

“There are many faculty and students interested in this project and we expect it to be a convenient field trip for biology, environmental, education, art and engineering classes,” Richards said.

The Lot B rain garden is UMD's first. It may not be its last.

“We'll see how well this one works,” Richards said. “We've had some interest from the folks up at NRRI about doing something in front up there and we've talked to MnDOT some about it.”

The rain garden is just one thing UMD is doing to obey a federal law on storm water runoff. The school regularly aerates its lawns and athletic fields to increase their ability to absorb water. Two years ago, the school installed a large drainage system beneath Lot G to cool and slow water before releasing it into West Tischer Creek.

This year, UMD is rebuilding two parking lots to include sand filtration basins. And rainwater flowing off the roof of the new Swenson Science Building will be used to supply a pond in front of the building.

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