

Sightline INSTITUTE

Industrial-Strength Stormwater Fix

A Blue-Collar Business Embraces a Green Stormwater Solution

Lisa Stiffler

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On Seattle's 8th Avenue South in the Georgetown neighborhood, empty school buses and recycling trucks rumble by. Semis squeeze past each other. Cars are parked on the street's gravel shoulder amid shoe-soaking pools of muddy rainwater.

Georgetown's busted streets and heavy-duty manufacturing plants seem like the last place where earth-friendly, sustainable stormwater solutions would take root. But this is the story of blue-collar industry partnering with a green-thinking community group to benefit them both. The trouble is, it was an unnecessarily long and challenging effort to get the project done.

The century-old Markey Manufacturing Co. is a neighborhood institution, cranking out marine winches used to tow barges and haul anchors out of the sea.[1] But Seattle's heavy rains were threatening to disrupt Markey's operations by pocking the company's driveway with gaping potholes, creating a perilous obstacle course for forklift drivers maneuvering their cargo.

There's no stormwater system in parts of Seattle's Georgetown neighborhood, so stormwater either puddles on the street or runs into the Duwamish River.

"It was becoming a real safety issue," said Bob LeCoque, Markey's vice president. "We had a couple of loads drop off."

The potholes are now gone, replaced with two paved driveways and three long, shallow, ditches that catch the rain. The ditches, or swales, are lined with sand, soil, and plants that soak up the water.

Throughout most of Seattle, when the rain falls on roofs and streets, it's shunted away by gutters and pipes. This area of Georgetown, however, is something of an anomaly; before the swales were built, there was no infrastructure to handle the stormwater and prevent flooding. When it rained,

the water sat in puddles that took days or weeks to evaporate. Or it streamed over the industrial landscape into the nearby Duwamish River, carrying with it toxic pollutants and mud.

LeCoque wanted to pave Markey's potholes, but city regulators opposed the plan unless something was done to address the potential increase in runoff that the paving could bring. LeCoque could lay hundreds of feet of pipe to connect with the existing King County stormwater system at the end of the street—at the cost of more than $1 million.[2]

A rain garden sprouts in Georgetown

While Markey was trying to resolve its stormwater troubles, a community group comprised of nearby businesses, residents, local government employees, and others was working to improve the area through an effort called the Georgetown Riverview Restoration Project.[3] The group teamed up with LeCoque to create a plan that was more environmentally friendly and cheaper than traditional stormwater infrastructure. They proposed what was essentially a rain garden in the heart of one of Seattle's grittiest industrial zones.

With help from Seattle's Department of Transportation, Markey and the community group built three swales along the front of the Markey site, the largest stretching 60 feet long and 14 feet wide. The swales were dug about 2 feet deep, then refilled with 3 inches of soil and sand.[3] The swales were ringed with wood chips and are still being planted with trees, grasses, and shrubs that can tolerate soaking wet soil in the winter and drought conditions in the summer.

The Georgetown Community Council, working with the nonprofit Duwamish River Cleanup Coalition, helped lead the construction of stormwater swales.

"We're trying to recreate what's in the forest," said Cari Simson, project manager with the Duwamish River Cleanup Coalition who helped lead the effort.[4] "Obviously, we're way removed from the forest."

The innovative project—which is being hailed as Seattle's first "industrial strength" natural drainage—is getting plenty of kudos now. But being the first of its kind, the project was tough to get done.

"It was a huge struggle," said Shauna Walgren, a planner with Seattle's Department of Transportation. There were months of meetings and countless questions about how it would work and what sort of precedent would be set.

"When you're trying to do something different," Walgren said, "the city doesn't have experience to draw from."

Walgren helped coordinate between the multiple city departments involved and was key to getting approval for the plan, Simson said. The project, which started in 2007,

was nearly derailed over concerns that the dirt to be excavated for the swales was contaminated with toxic chemicals. Fortunately, tests showed it wasn't too polluted, and the swales were dug in October 2009.

Designing and excavating the swales cost close to $40,000, paid for by the Department of Transportation. The Georgetown Community Council, working with the nonprofit Duwamish River Cleanup Coalition, spent another $20,000 on soil for the swales, plants, designs, and other support. Markey Machinery paid roughly $35,000 to pave the driveways and add new sidewalks. Total bill? Under $100,000, a bargain compared to the price tag for a traditional stormwater system.

Cheaper, greener stormwater solutions

Simson and others want to replicate the project in other industrial centers that also lack stormwater infrastructure, such as parts of Seattle's South Park and SODO neighborhoods. As the Markey example shows, natural drainage can be a cheaper fix than building traditional pipes and stormwater holding tanks. Plus, it's better for the environment because it re-greens areas with native plants, and the swales and retention ponds actually clean the stormwater by allowing it to percolate into the ground.

But this kind of project won't become more widespread unless the city makes it faster and easier to get approval for this sort of effort, said some of those involved. City departments—including Seattle's Department of Transportation, Public Utilities, and Department of Planning and Development—need to work better together and make clear who is responsible for which decisions and permits, community members said. Even city officials said Seattle should create a standardized protocol for doing industrial projects like this one, and appoint someone to help a business navigate the process. Another way to encourage more industrial strength, low-impact development is through financial incentives—grants, tax breaks, or a cut to utility bills—for green stormwater solutions. This sort of improvement helps preserve the city's industrial areas and all the jobs they represent, as well as benefit residents and the environment.

The new swales in front of the Markey Manufacturing Co. catch rainwater runoff that sinks into the ground or is taken up by plants.

Before the swales and driveways were installed, Markey was a muddy mess in the winter and LeCoque was loath to host visitors. "The place looked like hell," he said. That's changed.

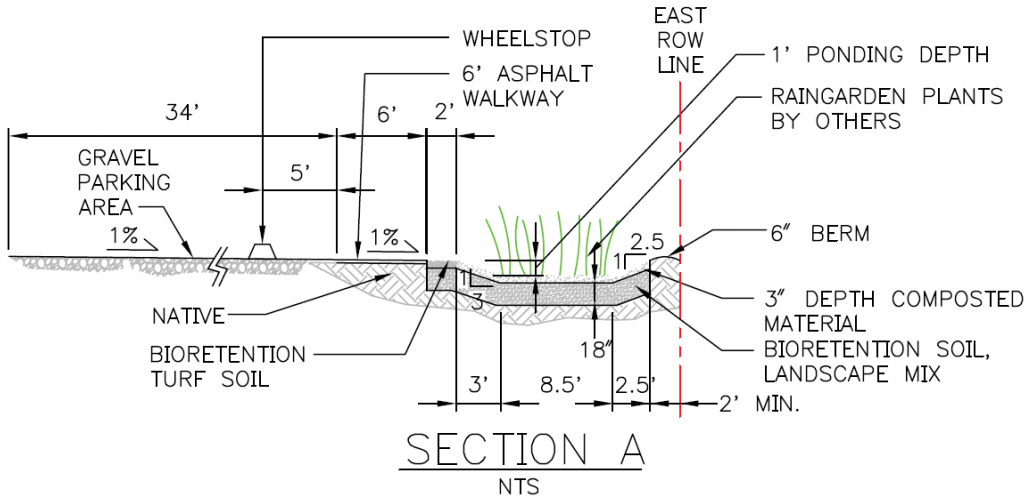
"I can walk from my car to my office without hip waders on," LeCoque said. "We're pretty proud of what we've done on the site here."

About Sightline

Sightline Institute is a not-for-profit research and communication center—a think tank—based in Seattle. Founded in 1993 by Alan Durning, Sightline's mission is to bring about sustainability, a healthy, lasting prosperity grounded in place. Our focus is Cascadia, or the Pacific Northwest.

Endnotes

1. Markey Machinery Co.: http://www.markeymachinery.com/history.asp.
2. Pers. comm. Bob LeCoque, Markey Manufacturing Co., February 9, 2010, and Shauna Walgren, Seattle Department of Transportation, February 12, 2010. The cost for installing gutters and sidewalks is approximately $600,000 per block in a residential neighborhood. The distance from Markey Manufacturing Co. to the King County stormwater system under East Marginal Way South is longer than a standard city block.
3. Georgetown Riverview Restoration Project, "8th Avenue South and East Marginal Way Intersection Design," February 2009, http://www.duwamishcleanup.org/uploads/GRRP%20Report%2002-12-2009.pdf.



4. Duwamish River Cleanup Coalition: http://www.duwamishcleanup.org/.

Photos courtesy of Laura Treadway.