

Small Business Enterprise

News from the Small Business
Environmental Assistance Program



Minnesota Pollution Control Agency

Special Earth Month Edition  Spring 2009

Implementing low-impact development as part of a green strategy



Fairview Office Park utilizes many LID techniques such as rain barrels, pervious asphalt and low-mow grasses

The term “green business” is popping up all over the place these days. You may be thinking “what can I do to make my business green?” Low-impact development (LID) may be an option that allows customers to see and appreciate your green efforts.

LID can help:

- save money
- reduce stormwater utility fees
- meet regulatory requirements
- protect Minnesota’s water

LID allows stormwater to filter through soil before entering groundwater. LID captures runoff, including rain and snowmelt, from paved surfaces, reducing the amount of nutrients, sediments, heavy metals, and other pollutants that enter Minnesota’s waters.

Some LID practices used by businesses include rain barrels, rain gardens, vegetated filter strips, grass swales, permeable pavement or pavers, curbless streets, and green roofs. LID works almost

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Eliminating Fluids from Machining: CoolClean Technologies

Machine shops use oil- or water-based coolants and lubricants in their processes. These liquids, though, have drawbacks: they are messy, can cause health problems, and are costly to buy, store, and dispose of.

To explore opportunities for reducing or outright eliminating these fluids from



Spraying CO₂ “snow” on a part to cool and lubricate. No mess, no fuss, no post-machining clean-up needed.

machining operations in Minnesota, the MPCA awarded an Environmental Assistance grant to CoolClean Technologies. Their ChilAire system uses a spray of CO₂ ‘snow’ instead of liquid coolant or lubricant.

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We understand that receiving the printed Enterprise is your preferred delivery method. In these hard economic times, it is imperative for the MPCA to reduce costs whenever possible. We would ask that you strongly consider reducing the MPCA printing costs by subscribing to this publication online at <http://www.pca.state.mn.us/programs/sbeap-publications.html>. If you will not use the publication to its fullest extent by not getting a hard copy, simply do nothing and you will still receive one.

A story of an architectural woodworking shop

When being green isn't about being "green"

Interscapes Inc. President Ron Lyrek went to a woodworking trade show in 2007 – 20 years after Interscapes was founded. He learned that being green could result in higher profits by saving costs on energy, fuel and trash pickup. Suddenly, it made sense. The possibilities were endless.

It coincided with a trend he had observed at home, that the environment is on everyone's radar, from news reports to clients, who requested products made from environmentally-friendly materials. Lyrek believed it was crucial to review his green opportunities immediately.

Interscapes Inc. manufactures architectural woodwork, serving around 500 clients every year. In everything it makes, Interscapes Inc. offers Leadership in Energy and Environmental Design (LEED)-certified green products. For Lyrek, green isn't about an altruistic commitment to save the earth. It's about efficiency, his staff, good stewardship of resources and, most of all, profit.

Transforming Business

A self-proclaimed political conservative, Lyrek prioritizes his staff over profits, and profits over planet. There is no question that Lyrek's commitment to his staff helped persuade him to make the green transition. Before the first step of implementing recycling and waste reduction at Interscapes, employees would collect aluminum and plastic cans under their desks to recycle at home.

"If you baby-step it, you're won't be forced to create an instant changeover," Lyrek says of the switch. Walking onto the production floor, production manager Tom Chartier raised his voice over the sounds of edgebanders, routers and a wood grinder. "It's not easy going green," he shouts.

Interscapes cut its space from 15,000

to 13,000 square feet, which also cuts energy use. But production is running at an all-time high, at \$346 per square foot in sales. According to Lyrek, the industry standard is around half of that. Tangible benefits are already evident. The five dumpsters that used to take up nearly 30 square yards and were emptied three times a week have disappeared, along with the monthly trash fee of \$1,625 per month. Instead, the company has one 90-gallon can per week at a cost



Interscapes, Inc. President Ron Lyrek.

of \$30 per month. The rest is recycled. Hours that workers used to spend hauling trash are now spent on production.

Variable frequency drives on all electronic equipment will cut energy costs, as will an Ecogate System on the dust collection system that will slow RPMs when the system is not being used.

Taking the LEED

Interscapes's commitment to the green movement extends far beyond recycling. "We're trying to go the extra mile," Lyrek says. Interscapes has earned the LEED Green Advantage certification, one of the most respected ways to be recognized as green. To that end, Interscapes is eliminating Volatile Organic Compounds (VOCs) from its materials and cleaning supplies. Rags are laundered to reduce the use of paper products. Products are shipped only in full trucks to conserve fuel costs. The company even sells its wood

shavings as animal bedding.

The company is moving to another building, which it hopes to convert to be LEED-certified. Moving to an existing building is one of the greenest things to do, because it avoids the waste and pollution generated from new construction. Built in 1969, the space will undergo a complete makeover.

Because LEED is based on a point system, Lyrek says the program pushes him to make even more changes than he might have otherwise. "Even transportation is part of the points," Lyrek says. The new location is on a bus line and a bike trail. Bike racks and a shower room will make biking to work comfortable and convenient.

For Lyrek, a big bonus is better employee morale. "I can tell you, there's been nothing but excitement."

Setting a Green Standard

Interscapes's green-certified desk and cabinet products, among other things, are becoming highly coveted. While many green materials are comparably priced, some are more expensive. Interscapes Inc. always shows customers the price difference in products made from green versus traditional building materials. Alternatives for adhesives, caulk and finishes typically cost more because of the chemicals involved in making naturally-derived yet equally dependable substitutes. On average, the company's green products cost five percent more to manufacture than traditional versions.

Lyrek says his company is still searching for the green standard. Though LEED is highly respected, there is no one set of benchmark requirements for companies looking to go green. In addition to LEED, Interscapes is also pursuing Forest Stewardship Council certification, a third-party verifier of the sustainability of wood building materials.

"A big thing with green is, what is green?" Lyrek says. "We've really been trying to figure it out." Interscapes, Inc. is certainly leading the way*.

**Article condensed from Enterprise MN Magazine, Sept/Oct 2008.*

LID as a success strategy

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everywhere, regardless of the type of business.

The cost of LID depends on soil type and other factors. Check with your city, soil and water conservation district, and watershed district to learn if financial assistance is available.

Success story: Fairview Office Park

When Syvantis Technologies, a small company, bought land for their expanding Fairview Office Park in Baxter, low-impact development was not part of the plan. However, when a partner suggested LID as an alternative to conventional stormwater management (curbs, gutters, stormwater ponds, etc.), they ran the numbers and it became the *only* plan. The company also implemented many other green building and energy-saving



features after realizing that in the next 10 years, they would save well over \$460,000 by adopting LID and green-building techniques. Here's what they did:

Recycle and reuse: Syvantis saved \$10,000 by re-using cabinetry and doors from their old office, and will save \$3,800 per year in garbage collection by recycling paper, plastic and aluminum.

Energy conservation: Syvantis will save \$148,000 over 10 years through the use of cycling air conditioning, heat pumps, right-sizing air-conditioning systems, and good insulation. Shutting down computers at night saves \$90 per computer per year.

Stormwater management: Rain and snow runoff is captured on-site with the use of rain gardens, pervious asphalt and rain barrels. Rain gardens save money

because they require no watering or mowing and little maintenance. Through the use of alternative stormwater management, Fairview Office Park will save \$175,000 in 10 years!

Site preservation: The natural landscape was preserved to the fullest extent by clearing only 10-15 feet around buildings. Syvantis saved \$15,000 by configuring the parking lot to provide the maximum number of parking spaces with the least amount of asphalt.

Janelle Riley, of Syvantis Technologies, believes what keeps businesses from adopting LID and green building techniques is the lack of communication between businesses and environmentalists. To get started on low-impact development for your business, call Sara Brown at 651-282-6143 or visit the new MPCA's "LID for Businesses" Web page at www.pca.state.mn.us/programs/sbeap-lid.html.

Eliminating Fluids from Machining

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To test the system, CoolClean worked with several machine shops. At each one, a constant CO₂ spray was set up at the cutting area to replace the flood or mist coolant/lubricant the shop traditionally used. Parts were then tested to make sure they met quality control standards. Some companies were also interested in achieving better production and/or part quality as well.

Nordic Ware: Found they could maintain product quality and improve tool life using the ChilAire system, and also learned that compressed air could be used to meet product specs. Improved tool life alone did not result in sufficient savings to justify the new system.

Remmele Engineering: Found they could maintain part quality without using an oil misting system, and so it counted the test successful. However, the limited oil savings was not adequate reason for them to use the ChilAire system permanently.

Graco, Inc.: Found they could replace their current system with a single lathe using the ChilAire system. Graco is also looking at other areas where they could

use ChilAire technology to replace lubricants. In addition, Graco is also examining the cleanliness of the parts using the ChilAire system instead of oil to see if it will allow them to eliminate a costly secondary cleaning operation.



The ChilAire® System can be moved between machines depending on your machining requirements and stored when not in use.

R&D Labs, Inc.: CoolClean set up on multiple machines with various types of material and machining processes. For the most part, lubricant was able to be completely replaced with the CO₂ spray. In

some cases, it was difficult to get the spray exactly where it was needed, and some lubricant was required. However, it was possible to reduce oil from a flooded spray to a mist.

Test results show that the ChilAire system could greatly reduce or eliminate the need for liquid-based lubricants and coolants in some machining operations. Additionally, some operations showed improved productivity and tool life by replacing their current flood or mist systems with a ChilAire system.

Some machine setups lend themselves more readily to the current generation of ChilAire systems -- mainly those that are relatively open where the machining takes place. CoolClean is currently working on a system to address this issue.

To learn more about CoolClean Technologies and their ChilAire process, visit: www.coolclean.com/applications/machining-chilaire/machining-chilaire.php.



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New SBEAP and One Stop Program Web Pages!

The MPCA's Small Business Environmental Assistance Program (SBEAP) and One-Stop Web sites have been revamped. Resources and publications are easier to find and links to other small business resources are now included. New information has been added about low-impact development, pollution prevention, and The MPCA's Small Business Environmental Assistance Program (SBEAP) and One-Stop Web sites have been revamped. Resources and publications are easier to find and links to other small business resources are now included. New information has been added about low-impact development, pollution prevention, and National



Emission Standards for Hazardous Air Pollutants (NESHAP). The Web site will be continually updated as environmental requirements change. Visit www.pca.state.mn.us/programs/sbap_p.html. Check out the new One Stop page, too, at www.pca.state.mn.us/programs/onestop.html.

Resources



Small Business Environmental Assistance Program

800-657-3938 or 651-282-6143
www.pca.state.mn.us/sbeap

Full-service, non-regulatory support for small businesses, providing information and advice on rules and regulations on a variety of environmental topics. Free site visits, grants, and record-keeping resources.

Small Business Ombudsman

800-985-4247 or 651-757-2121
www.pca.state.mn.us/programs/sbomb_p.html

An independent entity responsible for reviewing environmental regulatory activities to ensure that they are fair, reasonable, and appropriate for small businesses — accomplished by receiving and investigating complaints, mediating disputes, and by representing small business interests during rulemaking.

Identify Cost-Saving P2 Opportunities

Parts Cleaning, Metal Fabrication, Painting and Coating, Metal Casting

Interested in pollution prevention (P2) and not sure where to go? Several sector-specific P2 presentations were held this past winter at the MPCA. If you didn't get a chance to attend, check the one-hour classes in the MPCA *Cost Saving Pollution Prevention and Energy Efficiency Opportunities* series taught by MnTAP engineers:

- *Parts Cleaning and Industrial Cleaning Operations* with Karl DeWahl. www.pca.state.mn.us/streams/mntap_cleaning/.
- *Metal Fabrication Operations* with Jeff Becker. www.pca.state.mn.us/streams/mntap_metal_fabrication.
- *Painting and Coating Operations* with Paul Pagel. www.pca.state.mn.us/streams/mntap_painting_coating.
- *Metal Casting P2 Opportunities* with Mick Jost. www.pca.state.mn.us/streams/mntap_metal_casting/.

This newsletter is published quarterly by the Small Business Environmental Assistance Program.

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