

The Interchange

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State, Stormwater Solutions working for safe water

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RIDOT's extensive work building and maintaining the state's roads and bridges allows individuals, public transit and commerce to keep moving safely and efficiently. These roads, spans and highways also contribute to the bulk of the pollution to Rhode Island's rivers, streams and Narragansett Bay in the form of toxic stormwater runoff each and every time it rains. The rain flushes the accumulated oil, gas and grease deposits, and any wayward litter, into storm drains and deposits it into the nearest water body. This isn't a secret only RIDOT is in on. But what may be news to many Rhode Islanders is that the Department also has been a leader in educating the public about how to take action to prevent runoff pollution, and putting measures into place that are aimed at reducing that pollution. This RIDOT-supported project is RI Stormwater Solutions, which works in partnership with the R.I. Department of Environmental Management and the state's municipalities, and has received glowing reports from the regional office of the Environmental Protection Agency for its efforts. Under the direction of RIDOT's Peter Healey and through the implementation work of Allison Hamel, with assistance from the Nonpoint Education for Municipal Officials (NEMO) at URI's Cooperative Extension, RI Stormwater Solutions has engaged in a variety of strategies designed to involve stormwater management professionals, homeowners and the business community in the effort to promote clean water. That work involves training RIDOT and officials from cities and towns in ways to use tools such as low-impact development techniques and electronic mapping; preparing new and improved stormwater regulations that municipalities and businesses have to use to ensure current and upcoming projects meet pollution reduction goals; and using cartoons done by Rhode Island's famed artist Don Bousquet (see related story, Page 8) and classroom teaching devices such as EnviroScape at farmer's markets around the state to raise public awareness of RIDOT's work and how citizens can help it succeed.

One of the approaches being used by RIDOT called Low-Impact Development, or LID for short, incorporates new tools and techniques to save money and maximize environmental protection. At the beginning of 2011, new stormwater standards were put in place by the state, which guide the kind of work RIDOT and towns undertake. These new standards will help address this problem by spreading out the road runoff to receive natural cleansing and provide streams with water that flow to reservoirs and recharge groundwater drinking supplies. This concept of runoff reuse and recycling is at the core of the stormwater regulations and its practical techniques, which will benefit everyone, as well as the environment. New projects by RIDOT and municipalities will have to adhere to the updated stormwater regulations, and will

employ low-profile and cost-saving ways of dealing with runoff pollution problems. At RIDOT, Peter Healey, Chief Civil Engineer, Environmental and Capitol Projects, and Allison Hamel, RIDOT Environmental Scientist and Stormwater Coordinator, are overseeing use of the new LID techniques, along with other staff of the Natural Resources Unit.

The first RIDOT project to follow the new regulations will be the Route 138 reconstruction project in South Kingstown, where roundabouts will be built. Here, measures as simple as using grassed swales rather than conventional catch basins and pipes to convey stormwater into rivers and groundwater reduces construction costs, have a positive environmental impact and lead to more visibly appealing roads. In addition, the center of the roundabout will serve as a landscaped bioretention area where stormwater will be treated by plant uptake and filtered through soil. This summer, RIDOT engineers, outside consultants and municipal employees learned how to put state-of-the-art LID concepts to work across the state, from major highways to quiet backstreets. The workshops were part of a series on the new R.I. Storm Water Design and Installation Standards, sponsored by the Environmental and Capitol Projects section of RIDOT's Project Management Division. The Department and municipalities are now meeting or exceeding government standards for transportation, and the new stormwater manual and LID techniques being applied to proposed projects are helping to keep drinking water safe for residents, and keep local rivers, streams and Narragansett Bay clean and clear. Here is a sampling of some of the project's achievements during 2011:

- There have been more than two dozen training workshops held for RIDOT and municipal employees on new ways of preventing runoff pollution and meetings state and federal standards to ensure clean water. The workshops focused on topics ranging from using GPS units to map storm drain discharges to preventing pollution at public works garages and construction sites. Both RIDOT and municipal staff are incorporating improved pollution controls into roadway design, construction and routine maintenance.
- Stormwater Solutions had a public education booth at over 20 farmers markets this past summer and fall to teach everyone from children to adults about the importance of preventing stormwater pollution and how they can get involved in their community.
- Numerous articles and commentary pieces have appeared in local papers and organization newsletters about the progress being made by Rhode Island in helping deal with the challenge of stormwater runoff.
- Workshops to educate the public about how rain gardens, the use of rain barrels, and designing "green streets" in their community can help make everyone's environment a little bit cleaner.