



Tackling Stormwater Education and Outreach: Developing A Master Strategy for Lincoln

Education Goal #1:

Stormwater runoff is polluted, and it contributes to the pollution of local waters.

Primary Audience:

Kids

Key Messages:

- When it rains, water landing on driveways, roofs, roads, and other surfaces picks up pollutants and carries them directly to local water bodies without treatment.
- Storm drains carry water away without any treatment – anything that goes down a storm drain goes to local waters.
- Never dump anything down a storm drain.

Hooks To Incorporate Within Messages:

- Fishing, boating, and general water quality on the Blackstone are directly affected by the stormwater that goes down storm drains or flows directly into water bodies.

Overview of Possible Methods:

Method	Resources	Contact
Conduct storm drain marking program, in conjunction with local schools or community groups, using stencils or markers	URI Binder Section 2	-Save The Bay -das Manufacturing (for more info about markers, including "piggy-backing" on large orders) ¹ - Elementary schools for teacher contacts (4 th or 5 th grade) or in cooperation with high schools, using student volunteers - High school science teachers and environmental clubs
Incorporate storm drain info through Kid's Watershed display at a school or library program ²	URI Binder Section 6	-School science teachers -RI Resource Recovery ³ -Keep Blackstone Valley Beautiful ³ -Northern RI Conservation District -Audubon Society (Eugenia Marks) -Stormwater Education Programs (URI Binder Section 6)
"Scary Dad" display (with take-home factsheet) at local schools, YMCA, or youth organizations	URI Binder Section 7	-Elementary schools -YMCA

Footnotes and Ways URI Can Help:

1. Storm drain markers:

- Das Manufacturing currently has several printings scheduled. A small order could be “piggy-backed” onto other orders to reduce costs.
- **We can help with a custom design in standard two-color format.**

2. URI Cooperative Extension will be holding a free training on August 13, 2009 for environmental educators from all backgrounds, on how to use the EnviroScape Watershed Model. For details, contact Lisa at 874-5687.

3. We are currently coordinating a meeting between ourselves, RIRRC, and Keep Blackstone Valley Beautiful. Although Keep Blackstone Valley Beautiful’s VISTA intern, Emily Soergel, will be leaving in July, her supervisor has indicated that he is willing to help participate in stormwater education efforts within the Blackstone communities. We will keep you apprised of any progress we make, but if you have any specific needs, it would be helpful to have those itemized for the meeting.

When necessary, we can help adapt any of the existing materials contained within the binder, so that they are customized for Lincoln.

We can assist with questions or coordination with other groups.

Education Goal #1:

Stormwater runoff is polluted, and it contributes to the pollution of local waters.

Primary Audience:

Homeowners

Key Messages:

- When it rains, water landing on driveways, roofs, roads, and other surfaces picks up pollutants and carries them directly to local water bodies without treatment.
- Storm drains carry water away without any treatment – anything that goes down a storm drain goes to local waters.
- Never dump anything down a storm drain. Wash water, leaves, and other seemingly harmless materials also pollute stormwater and can clog drains, causing flooding.
- Recycle motor oil at a local center; drop-off paint and other household wastes at the Eco-Depot.

Hooks To Incorporate Within Messages:

- Fishing and boating on the Blackstone are directly affected by the stormwater that goes down storm drains or flows directly into water bodies.

Overview of Possible Methods:

Method	Resources	Contact
Direct mail to residents using cartoons and <i>It's That Time of Year Series</i> ¹	URI Binder Section 1	
Ads in the <i>Valley Breeze</i> or <i>Pawtucket Times</i> , using cartoons and <i>It's That Time of Year Series</i>	URI Binder Section 1	
Op-Ed articles in the <i>Valley Breeze</i> or <i>Pawtucket Times</i> , addressing general storm drain awareness	URI Binder Section 1	
Develop Lincoln's web content about stormwater ²	http://www.RIStormwaterSolutions.org Resources Link; Strategies Link URI Binder Section 1	
Incorporate stormwater education into existing recycling education efforts		

Footnotes and Ways URI Can Help:

1. Direct mail costs could be minimized, if a.) the information was included with a tax bill, or b.) postcards were used, or c.) the Town was divided into sections, with a phased mailing. **The appeal of mailing this information with a tax bill, is that existing materials could be customized to make a connection between stormwater issues and taxes.**

2. **If you are interested in pursuing this method, we can discuss a plan in greater detail.** One of the main improvements that we would suggest would involve making the stormwater page more accessible; it's fairly difficult to find. We also would suggest specific content to be incorporated (e.g. links to the Annual Report and SWMPP) and can even share some of the main images from our RIStormwaterSolutions website.

When necessary, we can help adapt any of the existing materials contained within the binder, so that they are customized for Lincoln. If Lincoln's stormwater web pages are developed, we could add that URL to any materials.

We can assist with questions or coordination with other groups.

**Education Goal #2:
Eliminate illegal connections/discharges from businesses**

Primary Audience:
Local business owners

Key Messages:

- Connections that send sewage, process wastewater, wash water, or indoor drains or sinks to the City’s storm drain system are illegal and must be removed, as specified in the Illicit Discharge Detection and Elimination (IDDE) Ordinance.
- Contaminated stormwater runoff from business sites also contributes directly to the impairment of local waters.

Hooks To Incorporate Within Messages:

- Businesses offer a public face that makes them ideal to help lead the movement toward better stormwater management in the town.
- Publicized activities, promoted as stormwater-friendly or “green,” might boost the recognition and appeal of a local business.

Overview of Possible Methods:

Method	Resources	Contact
Prepare a list of all local business owners (or those in targeted areas such as those adjacent to water bodies) and develop a mailing list		-Chamber of Commerce -Town database
Customize a letter and send with the self-inspection checklist and information about <i>In Business For The Blackstone</i>	URI Binder Section 5	Blackstone River Coalition
Offer to meet with businesses or civic groups to discuss the IDDE ordinance, its impacts on local businesses, and the <i>In Business For The Blackstone</i> Program.	URI Binder Section 5 (including a sample PowerPoint presentation)	- Chamber of Commerce - Blackstone River Coalition
Send an Op-Ed piece to the <i>Valley Breeze</i> and <i>The Pawtucket Times</i> , highlighting the ordinance and what businesses can do or are already doing (could be co-authored by town and business groups)	URI Binder Section 5	

Footnotes and Ways URI Can Help:

When necessary, we can help adapt any of the existing materials contained within the binder, so that they are customized for Lincoln.

We can assist with questions or coordination with other groups such as the Blackstone River Coalition.



Education Goal #3:

Support adoption and promote compliance with a stormwater ordinance designed to keep stormwater runoff onsite with new construction, expansion and redevelopment on individual parcels. Incorporate into zoning, other ordinance or subdivision regulations.

NOTE: Model provisions will be developed based on DEM's upcoming revision of the Stormwater Design and Installation Standards Manual as well as the LID Guidance Manual.

Objectives:

Prevent increase in volume of stormwater runoff from existing or pre-development conditions to

- prevent nuisance flooding to neighboring properties;
- reduce stormwater volume and pollutants entering drainage system;
- promote pollutant removal by filtering and infiltration, maintain groundwater recharge and stream flow.

Primary Audience:

- Council, board and commission members
- Developers, builders
- Property owners
- Applicants for building permits.

Options:

Does a general ordinance already exist that applies to individual parcels? If so, educational materials can focus on existing requirements, information to be included in an application, and example solutions.

Example ordinances from other municipalities

1. The following East Providence zoning provision ties the allowable increase in impervious area to the lot building coverage.

East Providence

Code of Ordinances

Chapter 19 Zoning

<http://clerkshq.com/default.ashx?clientsite=eastprovidence-ri>

ARTICLE VIII. DEVELOPMENT PLAN REVIEW

Sec. 19-455. Drainage/erosion standards.

- (10) Stormwater management. All developments shall be constructed and maintained such that adjacent or neighboring properties are not unreasonably burdened with surface waters as a result of such developments. More specifically:

- a. No development may be constructed or maintained such that development unreasonably impedes the natural flow of water from higher adjacent or neighboring properties across such development, thereby unreasonably causing substantial damage to such higher adjacent or neighboring properties;
- b. No development may be constructed or maintained such that surface waters from the development are unreasonably collected and channeled onto lower adjacent or neighboring properties at such locations or at such volumes as to cause substantial damage to such properties. The drainage plan shall address potential impacts on downstream property based on a 25-year storm. Off-site analysis shall be included in the drainage plan when required by the DPR committee; and
- c. Storm drains shall be designed based on a ten-year storm design.

(11) Impermeable surface coverage.

a. Impermeable surfaces. For the purposes of calculating the amount of impermeable surface coverage, impermeable surfaces shall include all roads, driveways, parking areas, buildings, decking, rooftop landscapes and other impermeable construction covering the natural landscape. Swimming pool surface water areas for pools which discharge to the storm drainage system shall also be included. Water quality and detention basins, swales, and conveyances for drainage purposes only shall be calculated as impervious cover.

b. Amount permitted. The maximum amount of the site that may be covered by an impermeable surface shall be determined by adding 20 percent of the site area to the maximum percent of lot building coverage established in schedules in sections 19-145 and 19-146, as applicable, of the zoning ordinance. For developments located near (within 200 feet of surface waters which are sensitive to runoff impacts, or for any developments from which runoff is discharged into any wetland or coastal feature, as defined by the state department of environmental management or the RI CRMC, the DPR committee may require a reduction of up to ten percent of the maximum allowable area of impermeable surface in order to mitigate the potential impact to the surface waters or wetland system. For developments located near wetlands or coastal features, compliance with requirements imposed by the DPR committee shall not remove the need to obtain appropriate state or federal approvals and to comply with any associated conditions.



c. Design. Applicants shall integrate the location of permeable surfaces with the overall drainage plan for the site. Natural buffer strips should be maintained adjacent to surface waters. Where this is not possible, vegetative filter strips, using seed mixtures recommended for this purpose and which require minimal or no fertilization should be used.

d. Parking areas. For developments located near surface waters, or for any developments from which runoff is discharged into any wetland, the DPR committee may permit the use of permeable paving materials for surfacing parking areas, provided adequate provisions have been made for delineation of parking spaces and for maintenance. It is the intent of this section that permeable surface areas shall be landscaped, and use of permeable paving materials for parking areas shall be permitted only where warranted by water quality and drainage enhancement considerations.

2. The following Narragansett ordinance requires stormwater control for projects increasing impervious cover more than 10%. The standards for keeping runoff onsite could be stronger and also apply to redevelopment projects.

Narragansett

Code of Ordinances

Chapter 78 Utilities, Article III. Sewers

<http://www.municode.com/resources/gateway.asp?pid=11204&sid=39>

(Ch. 789, § 4, 9-20-1999; Ch. 811(1), § 1(7.6), 3-4-2002; Ch. 878, § 2, 7-3-2006)

7.7. Supplementary drainage requirements.

No land alteration, construction, or development in the town of Narragansett may result in an increase in the rate or volume of stormwater runoff, erosion, or sedimentation off-site or downstream. All proposed construction and development which will increase the impervious surface on any lot or tract by more than ten percent of the lot area shall include systems to manage stormwater and to control erosion and sediment.

(1) Stormwater *management*. The stormwater management system for any site shall be designed to offset the increase in the rate of stormwater resulting from the proposed development. It shall implement the techniques and measures recommended in the most current revision of or supplement to "Urban Hydrology for Small Watersheds, Technical Release No. 55," prepared by the United States Department of Agriculture, Soil Conservation Service.

The system shall incorporate, to the maximum extent practicable, the natural drainage features of the site, including natural drainageways and permanent and periodic ponding areas. It also shall include stormwater control facilities such as pipes, ditches, culverts, swales, and, if necessary, water retention areas and structures.

The system shall prevent the discharge of stormwater runoff onto adjoining property in a manner which causes flooding or impairs the use or development of the property. Temporary stormwater and erosion control facilities adequate to protect adjoining property shall be installed at the commencement of construction, excavation, grading, or removal of vegetation. For purposes of this section, any property which faces a construction site across any street or highway shall be deemed adjoining property.

