

Infiltration and Low Impact Development

Property owners, municipal officials and community groups can consider a variety of options to cleanse storm runoff and recharge the groundwater that replenishes streams and ponds in dry times. The chart below shows some popular lower-cost measures that can be used by varied community members.

The first step in choosing ways to reduce runoff is to walk the land during a storm – see where the storm water goes and decide the best ways to intercept the runoff from impervious areas (hard surfaces). Consider how multiple practices could be combined to achieve the best results – for example, a rock filled trench could convey driveway runoff to a rain garden. Likewise, a grass swale could convey roof runoff to a groundcover buffer and/or a porous patio area.

BGY partner organizations can assist with a runoff analysis, and help you to arrange design services that show how to combine infiltration practices into an attractive, functional landscape. We can also identify contractors who know how to install infiltration practices.

Join the many communities across the state that have installed measures to cleanse polluted runoff. Check out our [*Stormwater Solutions in Action: An Inventory of Projects Reducing Polluted Runoff in Massachusetts*](#) and [map](#) .

Stormwater Infiltration Practices and Low Impact Development (LID) Measures	Homeowners	Businesses	Builders	Municipal	Garden Clubs	Schools	Lake Groups	Churches
Community workshops & stormwater displays				●	●		●	●
Rain gardens & treebox filters (bio-retention areas)	●	●	●	●	●	●	●	●
Disconnecting downspouts (retrofits)	●	●					●	●
Groundcover buffer strips	●	●	●	●	●	●	●	●
Rock-filled soakage (infiltration) trenches	●	●	●	●		●	●	●
Grass/vegetated swales	●	●	●	●			●	●
Organic landscaping & lawn care	●	●			●	●	●	●
Porous paths, walkways, patios, etc.	●	●	●		●	●	●	●
Porous driveways	●	●	●				●	●
Porous parking lots & parking areas	●	●	●	●		●	●	●
Municipal LID/Stormwater bylaws/ordinances				●				
Open Space Residential Design (OSRD) bylaws				●				
Parking lot regulations (for infiltration practices)				●				
Leaching (infiltration) catch basins			●	●				

[The 145cc DFR Stormwater Handbook, Volume 2: Rain Gardens, Treebox Filters, and Other Best Management Practices for Stormwater Infiltration](#)

BGY references

The Internet offers a wealth of helpful guides, fact sheets and information about stormwater solutions that cleanse runoff. It is easy to use a search engine like Google and enter keyword for topic of interest (e.g., "rain garden", "porous paving" and so forth). You can also see examples of these solutions - use Google or another search engine and click on images, then enter keyword. Following is a short list of references about some topics of special interest.

Rain gardens

- [The Vermont Rain Garden Manual](#)

The 20 pp. manual has details on design, installation, and 6 planting plans. There is a separate download that has descriptions for 150 rain garden plants. By the Winooski Conservation District, 2008.

- [Rain Gardens, A Design Guide for Homeowners](#)

The 12 pp. guide has colorful illustrations about rain garden design, size, installation and a short list of suggested plants. By the University of Connecticut Extension Service, 2006.

- [Kansas City 10,000 Rain Gardens Initiative](#)

This website has many pages about garden design, photographs of rain gardens, and

descriptions of rain garden plants.

- [You Tube rain garden tutorials](#)
- [This Old House online magazine](#)
- [Project Native](#)

Descriptions and photos of native perennials, ferns, trees, shrubs and vines. Plants can be purchased at Plant Native's farm store in Housatonic MA.

- [Northeast Organic Farming Association](#)

Organic lawn care and gardening publications.

DIY infiltration practices (grass swales, soakage trenches and much more)

- [Rain Wise Solutions](#)
Seattle, Oregon
- [Stormwater Solutions Handbook](#)
City of Portland, Oregon
- [New Hampshire Homeowner's Guide: Do-It-Yourself Stormwater Solutions for Your Home](#)
- [A Homeowners Guide to Protecting Water Quality in the Blackstone River Watershed \(Download PDF\)](#)

Other helpful information for varied community interests:

- [University of Connecticut, Nonpoint Education for Municipal Officials](#)
- [US Environmental Protection Agency, Clean Water Is Everybody's Business](#)
- [EPA New England stormwater site](#)
- [EPA community outreach materials](#)
- [Massachusetts Department of Environmental Protection Stormwater Handbook and policies](#)
- [SuAsCo Watershed Community Council, Stormwater Matters](#)
- MA Watershed Coalition Stormwater Guides – *Coming Soon!*
- [A Community Guide to Growing Greener](#)
- [Stream Care Guide](#)
- Rain Gardens brochure (for schools)
- Green on a Budget brochure (for churches)
- [Stormwater for Town Officials](#)
- [Rain Garden Guide](#)