

Is Your Yard A Sponge?

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Allowing rainfall to soak into the ground, rather than flow over pavement, replenishes water resources and reduces flooding.

Just For Perspective

You've probably noticed water flowing down the street when it rains, but have you ever noticed water flowing off your own property? It's possible to get an idea of the magnitude of the issue of stormwater runoff, simply by calculating one year's worth of runoff from your own roof.

Step 1. For simplicity, we assume that the surface area of the roof is approximately the same as the square footage of your house.

Record that here: _____ square feet

Step 2. Multiply the square footage of your roof by the amount of rain typical for Rhode Island in one year: 42 inches. For this calculation, use 3.5 ft/yr.

_____ square feet x 3.5 ft/yr = _____ ft³ /yr

Step 3. Multiply the answer you got in Step 2 by a conversion factor of 7.5 gal/ft³ to get the appropriate units:

_____ ft³/yr x 7.5 gal/ft³ = _____ gallons

Are you surprised?

The amount of rain that flows off an average roof, over the course of a year in Rhode Island, would fill more than 500 bathtubs!

Divert and Collect

There are two ways to deal with all the water that run off of your roof: you can collect some of it using rain barrels, and you can divert some of it onto landscaped areas, rather than onto pavement.

- Roof runoff can be captured in a **rain barrel** and used later for irrigation, which not only reduces stormwater but also conserves water. In fact, it's estimated that a rain barrel can save 1300 gallons of water during the summer season. Rain barrels come in a variety of sizes, typically between 50 and 80 gallons. They are installed under a roof downspout or sometimes connected directly to the downspout. Many rain barrels even have a spigot for facilitating irrigation.
- If the runoff from your roof flows directly onto pavement, consider using downspout extenders to **direct the water onto a landscaped area** instead.
- Runoff also can be directed to a **rain garden**, which is a natural or dug shallow depression designed to soak up water. Rain gardens are created with highly absorbent soil and the proper mix of shrubs and plants to facilitate collecting water and infiltrating it back into the ground.



Make Pavement More Porous

Obviously, every home will have some paved elements. The following suggestions can be used, if you are planning renovations to your property, in order to make any new paved areas more stormwater-friendly.

- A wide range of **permeable materials** have become available and widely used as viable alternatives to conventional construction materials. Because permeable, or porous, materials allow water to pass through their surface (in the case of **porous asphalt or concrete**) or through void spaces (in the case of **block or grid pavers**), nuisance flooding is reduced and groundwater is recharged.
- **Wheel tracks**, also known as ribbon or Hollywood driveways, can be used in place of full-width asphalt or concrete driveways.
- **Loose aggregate** options such as gravel or shell driveways are particularly affordable.



Permeable block pavers on Broad Street in Newport photo courtesy of Unilock New York Inc.