

# How to Reduce/Improve Runoff from your Roof, Driveway, Parking Lot



Be a Good Creek Neighbor!



Keep Our Creek  
Clean & Alive!

The Spa Creek Conservancy is a volunteer organization dedicated to educating itself and its diverse resident and business neighbors to create, explore and carry out the rehabilitation and restoration of the Spa Creek watershed to meet its urban conservation and stewardship challenges

For More Information  
Visit SINCH:  
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[www.spacreek.org](http://www.spacreek.org)

Want to Get Involved to  
Protect and Restore Spa Creek?

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## Plant a Pleasing Rain Garden

Rain Gardens are planted/landscaped areas designed to catch, hold and filter rainwater, in order to prevent rapid runoff/flooding and to remove pollutants from the water as it infiltrates the garden soil.

## Grass Swales

Grass Swales are slight depressions in lawn areas that allow heavy rains to infiltrate the ground slowly, thereby reducing flooding.

## Install a Green Roof

Also called a "living roof", this attractive runoff reducer consists of a thin layer of soil and native plant material over a conventional flat or even sloped roof. The vegetation can range from turf grass to shrubs or even trees, depending on the climate and the load bearing capacity of the roof providing habitat for endangered pollinators.

Roof top areas can range from 35% to as high as 75% of the impervious surface on a building. A green roof can hold over 40% of the rain that falls on it —up to 80% in a given rainfall—more in summer months. For this reason, plus the aesthetic value of a "living roof," its potential for enhancing energy conservation, increasing air cooling, and air pollution control, a green roof is worthy of your consideration.

## Remember...

- Redirect your down spouts to gardens or rain barrels.
- Install a Rain Barrel, Install a Rain Garden
- Replace imperviously surfaced, driveways, patios, parking lots with ecopavers

## Resources & References...

MD Green Building Network, [www.dnr.state.md.us/smartgrowth/greenbuildings/rainbarrel.html](http://www.dnr.state.md.us/smartgrowth/greenbuildings/rainbarrel.html)  
Center for Watershed Protection, Inc., [www.cwp.org](http://www.cwp.org)

**I would like to join the Spa Creek Conservancy, Inc. and contribute:**  
 Regular/Family \$20     Associations/Businesses \$50  
 Patrons \$100     Benefactors \$500

Name \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Home Phone \_\_\_\_\_ Daytime Phone \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Where you would like to be involved: \_\_\_\_\_

*Please make out your check to: Spa Creek Conservancy, Inc.*

*Mail to: SCC Treasurer, P.O. Box 2199, Annapolis, MD 21404-2199*

# How to Reduce/Improve Runoff from your Roof, Driveway, Parking Lot

## Did You Know?

One of the major challenges Spa Creek and other urban watersheds face, today, is that nearly 50% of our watershed is covered by impervious surfaces. This means that not only do driveways, sidewalks, patios, rooftops and parking lots comprise half of the entire watershed but, from an environmental and cost perspective, half of our watershed does not allow rain water to percolate naturally into the ground

## Why are Impervious Surfaces a Problem?

In its natural state, the land itself is pretty much able to control the runoff of water. Most of it is absorbed into the ground and slowly released into creeks and rivers, minimizing pollution and flooding. In a largely urban environment such as Spa Creek, where buildings, roads and other impervious surfaces have replaced permeable vegetation. They have changed the natural flow of rain water. The result is high scouring flows and flooding from the increased speed and velocity of the rain water.

## Why Should I Reduce Impervious Surfaces?

As water flows over paved surfaces, it collects and carries soil, pet wastes, salt, fertilizers, oils, and other pollutants into our creek, eroding our shoreline and depositing loads of sediments that are deadly to aquatic life. Even if your house or business is not near a stream or river, the polluted runoff flows down the street and into the storm drain system, which carries it to the nearest body of water.

## How Can I Reduce Impervious Surfaces at my Home? at my Business?

When adding, repairing or rebuilding driveways, patios and garden pathways, consider paving blocks, permeable pavements, grass driveway strips, wood decks, wood chips, and crushed rock rather than concrete or asphalt allowing rainwater to soak through and help reduce and improve the quality of stormwater runoff.

## Wood Decks

**Wooden decks** will allow rainfall to flow between the boards and percolate into the soil underneath. In selecting the timber for your deck, avoid wood treated with chemical preservatives, which can leach into the groundwater.

As you lay out a **new patio or path**, grade the surface so that it slopes towards natural, permeable surfaces such as garden beds.

## Install Paving Blocks

There are types of paving blocks that substitute grid or lattice holes for solid concrete. These holes can be filled with soil and planted with grass, or they can be filled with gravel. A fraction of stormwater runoff will be trapped in the shallow depressions, and some may actually infiltrate into the soil. Not only do paving blocks help reduce runoff, but they offer an attractive alternative to pavement. Traditional bricks can also be used. As you lay them out, leave space in between the bricks. Fill the space with sand and the effect on stormwater will be the same.

## Choose Permeable Pavement

Permeable pavement or concrete is similar to traditional pavement, except that the gravel used in the mix is larger, resulting in spaces through which rainwater can percolate. Check with contractors for specific information about the types of paving materials that may be best for your parking area.

## How Can Good Creek Neighbors Control & Improve Runoff?

**Did you know that residential irrigation can account for 40% of domestic water consumption in a given area.**

Keep gutters clear and equip downspouts with aprons that carry water away from your roof or paved areas onto permeable landscaped areas. In this way, you will reduce the need for watering, reduce the flow of water and increase the infiltration



of water through the soil. *Redirect down spouts to gardens or rain barrels.*

## Buy or Build a Rain Barrel

Using a rainbarrel during storms can not only lower your water bills, but decrease water demand during the hot summer months. Help the environment by preventing the pollutants such as oil and grease, bacteria and nutrients from flowing in the the storm sewers and ultimately into our Creek.

A rain barrel collects and stores runoff from your roof for later use on your lawn and garden, for car washing and even for cleaning windows. The more rainwater you reuse, the less demand there is for chlorinated or chemically treated tap water.

Purchase a rain barrel at most major lawn and garden centers. Or, you can make a rain barrel using a large trashcan and a little ingenuity.

Try: [www.watertanks.com/rainwatertank.html](http://www.watertanks.com/rainwatertank.html)  
[www.gardenwatersaver.com](http://www.gardenwatersaver.com)  
[www.sprucecreekrainsaver.com](http://www.sprucecreekrainsaver.com)  
[www.greenculture.com/ps/pp\\_ws.html](http://www.greenculture.com/ps/pp_ws.html)

## How Do I Install a Rain Barrel?

To install a typical barrel, disconnect your downspout, cut off a portion of the downspout and redirect it into the top of the barrel. Most rain barrels have an overflow pipe that when full, redirects the rainwater back into the downspout or onto your lawn or other surface.