

RAIN GARDEN HISTORY: HOW DID RAIN GARDENS GET STARTED?

Mother Nature created our first rain gardens. Before humans changed the landscape, rain was filtered through soils, roots and plants in our native forests, wetlands and meadows. The majority of the water that entered our streams was cool, clean groundwater.

As we built homes, roads and infrastructure, the natural water-cleaning systems were gradually removed. Our streams and rivers became increasingly degraded as water ran off the land instead of being taken up by plants, soaking into the soil, and being filtered by soils and wetlands.

Rain gardens, or bioretention areas, were first conceived in 1990 by stormwater specialists in Maryland. The goal was to design a practice to mimic naturally occurring functions that help filter rain water.



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RAIN GARDENS: STORMWATER SOLUTIONS FOR ANY LOCATION



URBAN:
Rain gardens can be installed in parking islands instead of the traditional raised grass island, which requires mowing.



RESIDENTIAL:



BUSINESSES / SCHOOLS:



Stormwater Best Management Practices

Nonpoint Source Pollution
Reduction Strategy:

RAIN GARDENS



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STORMWATER RUNOFF POLLUTION

Stormwater runoff pollution occurs when precipitation flows over lawns, parking lots, farm fields, city streets and other impervious surfaces, picking up pollutants and carrying them into our streams, rivers and oceans.

Activities like littering, lawn over-fertilization, and improper disposal of chemicals contribute to the contamination of our local waters. These activities gradually increase the level of pollution in our waterways.

What can each of us do?

Strategies for preventing pollution of our waterways focus on reducing the amount of runoff that can wash pollutants off the land, and reducing the amount of pollutants that can be washed into streams. Reducing impervious surfaces, planting native species with deep roots, and installing rain gardens and rain barrels are great ways for homeowners to manage stormwater, reducing the amount of runoff from their properties.

It is equally important that each of us contribute as few pollutants as possible to the watershed. Pick up after pets, wash your car at a car wash, use sustainable products, do not litter, prevent soil erosion, and dispose of yard waste, hazardous chemicals, and pharmaceuticals properly. There are a host of other everyday behaviors to prevent pollution; just keep waterways in mind!

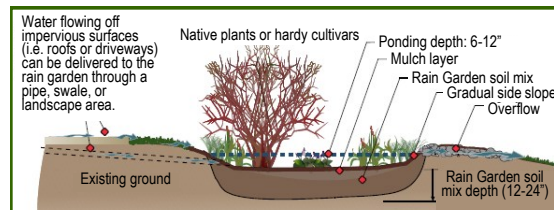
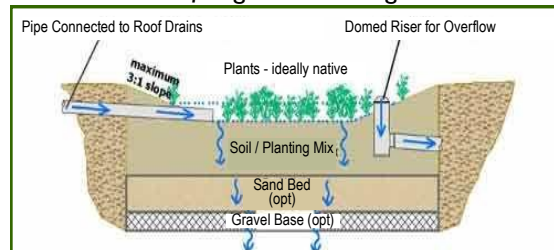
RAIN GARDENS

Rain Gardens are bioretention areas, slightly graded to retain water, and filled with native plants. These areas attempt to reproduce the physical, chemical and biological processes of the natural environment to create a more efficient, on site, water treatment area. The incorporation of plants, mulch and soil introduces natural biological processes that provide two important functions: (i) water quantity (flood) controls; and (ii) water quality improvements through removal of pollutants and nutrients associated with runoff.

Rain Gardens gather and store runoff rainwater until it can evaporate, be used by plants, or soak into the soils. This infiltration is important to recharge groundwater for human consumption and for maintaining stream base flows.

Rain Gardens resemble a typical perennial garden in many ways. The garden bed is prepared, or sometimes replaced, to a depth of several feet in order to de-compact the soils, making the garden able to absorb water. Designed with deep-rooted flowers, grasses, trees and shrubs, a well designed rain garden is low maintenance and looks great.

Cross-sections of engineered rain gardens:



QUALITIES & BENEFITS OF RAIN GARDENS

Environmental Benefits:

- Installing a rain garden makes you part of stormwater pollution solution by absorbing and filtering rain that would otherwise run off your property and down the storm drain.
- Rain gardens are lovely landscaping features and create wildlife habitat.
- Rain gardens help recharge our groundwater resources.

Maintenance:

- Rain gardens are low maintenance.
- Rain gardens can save you money by reducing the amount of lawn you have to maintain.

Application:

- A typical grassed lawn can be easily retrofitted with a beautifully landscaped rain garden.
- Rain gardens can be any size and placed in a variety of areas where rain water runoff can enter the garden.

Take Note:

- Rain gardens have a ponding area, but they are not ponds. There is a bowl-shaped dip in the garden, which holds the rain while it soaks into the soil, but this should not last for more than a day or two after a rain event.
- Rain gardens are often planted with wetland plants, but they are not wetlands.
- Many of the plants in the garden are native to the region and have extensive deep roots that help the garden absorb rain.