



# Stormwater Best Management Practices (BMPs)

## WET PONDS



Wet retention ponds are constructed basins that have a permanent pool of water throughout the year, or at least most of the year.

Pollutant removal occurs through settling, as storm water runoff is stored in the pond. Additional pollutant uptake of nutrients also occurs through biological activity (i.e. algal uptake). Wet ponds are among the most cost-effective and widely used BMP when space is available.

## BIORETENTION AREAS



Bioretention areas, often referred to as rain gardens, are landscape features that store and treat storm water runoff. Runoff is directed into shallow, vegetated

depressions with underlying layers of soil, sand, and gravel. These areas are designed to mimic natural ecosystems where pollutant removal occurs through soil infiltration and plant uptake. They are commonly located in parking lot islands or in residential open spaces.

## PERVIOUS SURFACES



Pervious surfaces allow storm water to soak into the ground instead of running off. This helps reduce flooding and pollutant loading. These materials include gravel, ecostone, gridblock, grasspave, and pervious concrete.

## BACKYARD WETLANDS



Backyard wetlands temporarily store and filter runoff from your lawn, roof, driveway, or other surfaces. Sediment, nutrients, heavy metals, and bacteria are able to settle out or be taken up by naturally occurring microorganisms. Wetlands should be planted in naturally occurring wet areas on your property.

## SAND FILTERS



Urban sand filters are located in underground concrete vaults that have multiple chambers. The first chamber is for settling, the second chamber has the filter and underlying drainage system, and the third is a discharge chamber or clear well. As storm water flows into the first chamber, large particles settle out, finer particles and other pollutants are removed as storm water flows through the filter medium. Pollutants are removed by physical filtration, adsorption, and bacterial uptake.

## RAIN BARRELS



A rain barrel is designed to capture and store runoff from rooftops, which can then be used to water the landscape or houseplants. Several rain barrels can be used together to store additional water. A rain barrel with a tight lid and screen will prevent mosquitoes.

## SWALES



Swales are long, shallow, grassy depressions designed to hold and convey large amounts of storm water. They are typically much wider than they are deep and are found along roadsides, sidewalks, parking lots, and residential areas. Swales allow some removal of pollutants by plant material as well as some infiltration.

## RIPARIAN BUFFERS



Riparian buffers, also known as stream buffers, are vegetated areas that parallel waterways. Typically, these buffers are 50 feet wide. These buffers moderate the stream's temperature, mitigate flooding, reduce erosion of streambanks and filter out pollutants found in stormwater runoff.