

**PUTNAM VALLEY
CENTRAL SCHOOL
DISTRICT
PUTNAM VALLEY, NY**

**MS4PY1 STORMWATER
PROGRAM**

**FACT SHEET # 1
FEBRUARY 2011**

**THE PATH TO CLEAN
WATER: RAIN GARDENS**

**FOR MORE INFORMATION
VISIT
YOUR STORMWATER
WEBSITE AND/OR
CONTACT YOUR SWMP
COORDINATOR:**

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1. WHAT IS A RAIN GARDEN?

- A rain garden is a green stormwater management practice used to treat small volumes of stormwater runoff utilizing a structured planting soil bed and planting materials to filter stormwater runoff, remove pollutants through plant absorption and reduce water quantity through plant evapotranspiration
- It is a depression about 6 to 9 inches deep that collects stormwater runoff from a roof, driveway, parking lot or yard and allows it to infiltrate into the ground
- Rain gardens are typically planted with shrubs, grasses or perennials

2. KEY COMPONENTS

- Inflow component to collect and distribute the runoff evenly to the garden
- Shallow ponding area over planted soil bed
- Mulch layer
- Planting soil bed consisting of prepared soil mix
- Planting materials consisting of shrubs, grasses and flowers
- Gravel filter under the soil mix
- Overflow mechanism in the gravel filter to convey larger rain events to a nearby storm drain or waterway or receiving waters

3. BENEFITS OF RAIN GARDENS

- Improve the overall water quality in a drainage basin by reducing pollutant washouts into nearby waterways and adjacent MS4s
- Recharge local groundwater through soil infiltration
- Decrease flooding and drainage problems by reducing the stormwater runoff
- Reduce stormwater treatment costs by reducing the amount of runoff that leaves the site

- Provide beautification and aesthetic improvements by reducing hardscape surfaces
- Reduce maintenance costs by decreasing lawn cutting
- Shrubs and grasses absorb carbon dioxide and produce oxygen
- Shrubs and grasses provide a habitat for birds, butterflies and beneficial insects

4. PLACEMENT OF A RAIN GARDEN

- Locate the garden downstream of where it can easily collect the stormwater runoff from a roof, driveway, parking lot or yard
- Locate the rain garden at a site that has a slope of less than 12%. Slopes greater than 12% will require substantial excavation to create a level garden
- A rain garden should be constructed at least 10 feet from a structure to keep infiltration away from the building foundation
- A rain garden should not be constructed over your septic system, near your drinking water well or over any underground structure such as your oil tank, etc.
- A rain garden should not be constructed in a ponded area, wetland or other wet area as this will decrease soil infiltration and will not allow the garden to soak stormwater runoff rapidly
- A rain garden should be placed near a stormwater outlet such as a

a catch basin or nearby waterway, where excess runoff can be released during high intensity rain events

5. SIZING A RAIN GARDEN

- The surface area of a rain garden can be almost any size, depending on the type of soils and the amount of roof and/or lawn draining to the garden
- A typical rain garden ranges from 100 to 300 square feet

6. PLANTING THE RAIN GARDEN

- When selecting plants, check with your local nursery for height and form of each plant, bloom time and color and overall texture
- Use plants that bloom at different times to create a long flowering season
- Mix heights, shapes and textures with the highest plants in the back and/or center of the bed
- Clump individual species in clumps of 3 to 7 plants
- Repeat groupings in threes, if possible to create repetition and cohesion
- Incorporate annuals, perennials deciduous and evergreens, as well as sedges, grasses and rushes to create diversity

7. TYPE OF SOILS FOR A RAIN GARDEN

- Sandy or loamy soils are most preferred for a rain garden, as they have the fastest infiltration
- Clayey soils have the slowest infiltration and hence need a larger area than sandy soils

8. COSTS FOR A RAIN GARDEN

- The cost varies depending on who does the work and where the plants come from
- Typical costs range from \$3 to \$5 per square foot