

RAIN GARDENS & BIORETENTION FACILITIES

A rain garden/bioretention facility is a shallow, depressed, landscaped area designed to capture, temporarily store, and treat stormwater runoff from hard surfaces such as rooftops, driveways, roads, and parking lots. The captured runoff passes through a filter bed of sand, organic matter, soil, or other media before being discharged to a local waterway.

STORMWATER MANAGEMENT

QUEEN ANNES COUNTY, MD

STORMWATER RUNOFF: WHAT IS IT & WHY SHOULD YOU CARE ABOUT IT?

It is water from rain or snowmelt that is not absorbed into the ground, but instead flows over land and paved surfaces. It picks up trash, chemicals, pet waste, and other pollutants. Unlike water from inside your house which is carried via pipes to a wastewater treatment plant or a septic system, stormwater runoff goes straight from the storm drain system to local waterways without being treated. As a result, stormwater runoff is a major cause of polluted water in our local waterways.



Image from Boston Water and Sewer Commission

RAIN GARDEN/BIORETENTION BENEFITS:

Rain gardens/bioretention facilities allow approximately 30% more runoff to soak into the ground than traditional lawn areas. This helps to:

- ↓ Reduce polluted runoff to our local streams
- ↓ Reduce flooding
- ↓ Reduce erosion of our streambanks
- ↑ Increase groundwater recharge
- ↑ Increase wildlife habitat

By maintaining the facility on your property, you are doing your part to help protect local waterways in Queen Anne's County as well as the Chesapeake Bay.

WHAT SHOULD YOU EXPECT IF YOU HAVE A RAIN GARDEN/BIORETENTION?

The facility will temporarily store roughly 4-12 inches of water above the mulch layer during and shortly after a rain event. The facilities are designed for the stored runoff to slowly filter through the media bed within 24-48 hours. The plants will need to be able to withstand both wet and dry conditions; will need to be thinned and/or replaced over time; and weeds will need to be removed by hand as needed.

RAIN GARDEN & BIORETENTION COMPONENTS:

The primary components of a rain garden/bioretention facility (as shown in Figure 1) include the conveyance system, the filter bed/media, and landscaping.

- ☼ **Conveyance system/flow path:** provides for flow through the system and may include inflow pipes/channels, an underdrain, an overflow “catch basin”, and outlet.
- ☼ **Filter bed/media:** where the majority of the pollutant removal occurs. It is often comprised of a mulch layer, a planting media/soil layer, and a pea gravel/stone layer.
- ☼ **Landscaping:** provides additional pollutant removal as the runoff flows through the facility. The landscaping is often comprised of native plants which are also valuable for wildlife.

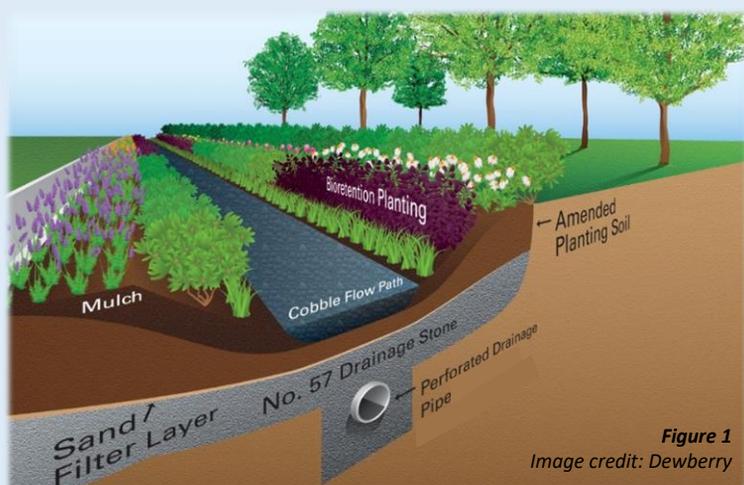


Figure 1
Image credit: Dewberry

MAINTENANCE: WHAT, WHEN & WHY?

As the property owner, you are responsible for regular maintenance of the facility. They require upkeep similar to other landscaped areas on your property including:

- ☼ Weeding/Pruning
- ☼ Mulching
- ☼ Trash & Debris Removal

Unmaintained facilities will stop filtering stormwater, will become more expensive to maintain, and will no longer function properly.

MAINTENANCE DO'S & DON'TS

DO:

- Remove weeds, invasive plants, trash, & debris
- Check for erosion or bare areas and stabilize with vegetation as needed
- Keep mulch no more than 3 in. deep. Consider using "green" mulch or low ground cover instead of mulch
- Confirm there is no standing water 48 hrs. after a rain event
- Inspect regularly and notify SWM Division if you have concerns

DON'T:

- Don't use fertilizer or pesticides
- Don't leave grass clippings, leaves, or debris on the facility surface
- Don't apply excess salt to areas draining to facility
- Don't push snow into the facility
- Don't fill in or remove facility

The first year following installation is critical for many of the rain garden/bioretention facilities maintenance activities, especially watering. New plants should be watered regularly for the first 18 months or in times of drought (no rain for more than 10 days). Table 1 provides recommended time frames for typical maintenance activities:

TABLE 1:	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Remove Sediment, Leaves, & Debris		★			★			★			★	
Remove Trash	★	★	★	★	★	★	★	★	★	★	★	★
Weed Facility				★	★	★	★	★	★	★	★	
Prune Vegetation		★							★	★	★	
Mulch Facility				★								
Water, Replant, Repair/Stabilize Eroded/Bare Areas	PERFORM AS NEEDED											

Queen Anne's County gratefully acknowledges the Cecil County Stormwater Management Division for sharing these materials

HAVE QUESTIONS OR NEED ADDITIONAL INFORMATION?

If you have questions or would like additional information, please contact the SWM Team at 410.758.0925 or visit our website at: <https://www.qac.org/997/Stormwater-Management>