

# How to maintain your RAIN GARDEN, BIOSWALE, AND MICRO-BIORETENTION PRACTICE

Montgomery County, Maryland

Department of Environmental Protection

Stormwater Facility Maintenance Program

## What are rain gardens, bioswales, and micro-bioretention facilities?

Rain gardens, bioswales, and micro-bioretention areas are functional landscaping features that filter rainwater and improve water quality.

Micro-bioretention areas are typically planted with native plants and have three layers: mulch; a layer of soil, sand, and organic material mixture; and a stone layer. A perforated pipe within the stone layer collects and directs the filtered rainwater from large storms to a storm drain system so the facility drains within 2 days. Micro-bioretention areas are often located in parking lot islands, cul-de-sac islands, or along roads.

Rain gardens are very similar to micro-bioretention, except they do not have a buried perforated pipe. They often collect water from roof gutters, driveways, and sidewalks. Rain gardens are common around homes and townhomes.

A bioswale is similar to a micro-bioretention area in the way it is designed with layers of vegetation, soil, and a perforated pipe within the bottom stone layer. Bioswales typically are located along a roadway.

**These facilities need regular maintenance, similar to other landscaped areas, including:**

**Weeding**  
**Removing Trash and Debris**  
**Pruning**      **Mulching**



## Actions you can take

### Do...

#### Monthly

- ✓ Regularly inspect the practice for signs of erosion, obstructions, or unhealthy vegetation.
- ✓ Remove weeds and invasive plants.
- ✓ Remove any trash that has washed into the bioretention area or the inlet channels or pipes.
- ✓ Check the facility a few days after a rain storm to make sure that there is not standing water after 2 days.

#### As needed

- ✓ Cut back dead stems of herbaceous plants in March and remove from the facility.
- ✓ Water new plants during initial establishment of plant growth (first 18 months) and extreme droughts. Watering should only be needed when it has not rained for more than 10 days.
- ✓ Replenish and redistribute mulch to a total depth of 3 inches.
- ✓ Contact DEP if you observe severe erosion.
- ✓ In Fall, remove fallen leaves from the area. Leaves may block the flow of rainwater.

### Don't...

- ✗ Don't apply excess salt and sand around the property in winter.
- ✗ Don't store snow and leaves on top of the bioretention area.
- ✗ Don't use fertilizer or pesticide.

### Who is responsible for this maintenance?

As the property owner, YOU are responsible for all of the maintenance of your micro-bioretention facility, rain garden, and bioswale. If you live along a Green Street with rain gardens in the County right-of-way, please see our Green Street R-O-W Fact Sheet.

## Can I remove the practice?

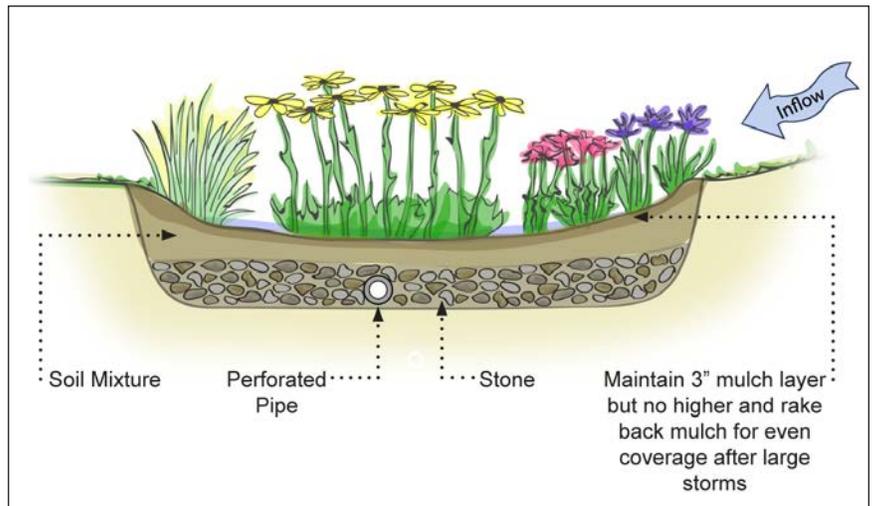
No, you cannot remove any facilities that were part of your building installation—these are permitted structures and DEP maintains a database of these facility locations. DEP may perform a maintenance inspection of your practice if it is a permitted structure. Contact DEP to find out if you have a permitted structure or if you would like to discuss options for modifying your facility.

## Why is it important to maintain these practices?

Unmaintained rain gardens, bioswales, and micro-bioretention facilities may:

- Stop filtering the rainwater and allow trash and pollutants to enter our local streams
- Be difficult or expensive to restore if left unmaintained
- Allow water to pool on the surface long enough to allow insects to breed (longer than 3 days)

By maintaining your practice, you are doing your part to help the environment and protect your local streams and the Chesapeake Bay.



You can prolong the life of your rain garden, bioswale, and micro-bioretention facility and save on maintenance costs by keeping your site clean and regularly inspecting and maintaining the facility to ensure it is functioning properly.

## Troubleshooting

| Symptom                           | Possible Cause   | Solution   |
|-----------------------------------|--|--|
| Standing water in the facility    | If standing water occurs for over 48 hours, the facility could be clogged or the underdrain may be blocked.        | The facility may need to be tilled and replanted, or the pipe may need to be cleaned.                                    |
| Erosion or bare soil              | The runoff is moving too fast and/or the vegetation has died.  | Stabilize the soil by planting new vegetation. If needed, use rocks to slow the flow.                                    |
| Dead or dying plants              | Your plants may be the wrong plant type for your shade and moisture conditions, or they may be smothered by weeds. | Plant new vegetation (see the Vegetated Facility Maintenance Guidance Document for more information)                     |
| Weeds taking over facility        | Established weeds that have already seeded may take multiple years to kill.  | Manually remove weeds as soon as you see them. Do not allow weeds to go to seed. Use good quality double shredded mulch. |
| No mulch or visibly reduced mulch | Mulch naturally decomposes over time. Large storms can also move mulch.  | Replenish mulch to a total depth of 3 inches over the entire facility.   |

## Recommended timeframes for typical maintenance

|   | Jan                         | Feb | Mar | Apr | May | June | July | Aug | Sep | Oct | Nov | Dec |
|---|-----------------------------|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|
| Remove Sediment Leaves, & Debris          |                             | ✿   |     |     | ✿   |      |      | ✿   |     |     | ✿   |     |
| Remove Trash                              | ✿                           | ✿   | ✿   | ✿   | ✿   | ✿    | ✿    | ✿   | ✿   | ✿   | ✿   | ✿   |
| Weeding                                   |                             |     |     | ✿   | ✿   | ✿    | ✿    | ✿   | ✿   | ✿   | ✿   |     |
| Pruning                                   |                             | ✿   |     |     |     |      |      |     | ✿   | ✿   | ✿   |     |
| Mulching                                  |                             |     |     | ✿   |     |      |      |     |     |     |     |     |
| Watering, Replanting, Repair Eroded Areas | — — — A S N E E D E D — — — |     |     |     |     |      |      |     |     |     |     |     |

### What if I need help or have additional questions?

DEP can answer your questions and provide additional guidance about maintaining your bioretention facility. Please e-mail us at [Askdep@montgomerycountymd.gov](mailto:Askdep@montgomerycountymd.gov), call the Montgomery County Customer Service Center at 3-1-1, or visit <http://www.montgomerycountymd.gov/stormwater>.

See the Vegetated Facility Maintenance Guidance Documents for additional information.