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.

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.

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

Weeding
Removing Trash and Debris
Pruning
Mulching

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.

**Troubleshooting**

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

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<thead>
<tr>
<th>Remove Sediment Leaves, &amp; Debris</th>
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<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
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<td>Watering, Replanting, Repair Eroded Areas</td>
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See the Vegetated Facility Maintenance Guidance Documents for additional information.

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, call the Montgomery County Customer Service Center at 3-1-1, or visit http://www.montgomerycountymd.gov/stormwater.