

HOW TO MAINTAIN YOUR RAIN GARDEN, BIOSWALE, & MICRO-BIORETENTION PRACTICES

WHAT ARE RAIN GARDENS, BIOSWALES, AND MICRO-BIORETENTION PRACTICES?

Rain gardens, bioswales, and micro-bioreentions are best management practices (BMPs) for stormwater management that double as functional landscaping features. These stormwater practices filter stormwater runoff and improve water quality.

Micro-bioretenention practices 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 is often installed within the stone layer to collect and direct the filtered rainwater from large storms to a storm drain system so the micro-bioretenention drains within four days. Micro-bioretenention practices are often located in parking lot islands, cul-de-sac islands, residential lots, or along roads.

Rain gardens are very similar to micro-bioretenention, except they do not typically have a buried perforated pipe. These practices retain water and encourage rainwater to infiltrate instead of running off into storm drains. They often collect water from roof gutters, driveways, and sidewalks. Rain gardens are common around residential lots.

A bioswale is similar to a micro-bioretenention practice 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 stormwater BMPs need regular maintenance, similar to other landscaped areas, including: weeding, removing trash and debris, pruning, and mulching.

WHY ARE MICRO-BIORETENTION PRACTICES IMPORTANT?

Micro-bioretenention practices improve the health of local waterways by removing pollutants and sediment from stormwater runoff.

Why is it important to maintain these practices?

Unmaintained rain gardens, bioswales, and micro-bioretenention practices may:

- Stop filtering the rainwater and allow pollutants to enter our local waterways.
- 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 three days).

By maintaining these practices, you are doing your part to help protect your local streams and the Chesapeake Bay. Accordingly, maintaining them may be required by your municipality or your local VSMP (Virginia Stormwater Management Program) Authority.



GOOD TO 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 no standing water after 4 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 at least every 3 years.
- ✓ If you observe severe erosion, reestablish grass and vegetation. For guidance, contact your locality.
- ✓ In all, remove fallen leaves from the area. Leaves may block the flow of rainwater.

DON'T...

- ✗ Apply excess salt and sand around the property in winter.
- ✗ Store snow and leaves on top of the bioretention area.
- ✗ Use fertilizer or pesticide.

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

CAN I REMOVE THE PRACTICE?

If your stormwater BMP was installed as a condition of development, it cannot be removed. It is best to contact your municipality to discuss options before making any changes to your rain garden, bioswale or micro-bioretenion practice.



	SYMPTOM	POSSIBLE CAUSE	SOLUTION
TROUBLESHOOTING	Standing water	If standing water occurs for over 4 days, the facility could be clogged or the under-rain 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.
	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 three inches over the entire facility.

RECOMMENDED TIMEFRAMES FOR TYPICAL MAINTENANCE

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
REMOVE SEDIMENT, LEAVES & DEBRIS	✓	✓	✓		✓			✓			✓	
REMOVE TRASH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WEEDING				✓	✓	✓	✓	✓	✓	✓	✓	
PRUNING		✓							✓	✓	✓	
MULCHING			✓	✓							✓	
WATERING, REPLANTING, REPAIRING ERODED AREAS	AS NEEDED											

WHAT IF I NEED HELP OR HAVE ADDITIONAL QUESTIONS?

Your municipality or local VSMP (Virginia Stormwater Management Program) Authority can answer your questions and provide additional guidance about maintaining your stormwater facility.

No matter where you are in Hampton Roads, askHRgreen.org can assist you in connecting with the stormwater professionals in your locality. For assistance, please email us at hrgreen@hrpdcva.gov, call (757) 420-8300, or visit us online at askHRgreen.org/WaterQuality.

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