

## RainScapes Resources



35

## Water harvesting resources

**RainScapes**  
Environmentally-Friendly Landscapes for Healthy Homeowners

### Rain Barrels and Cisterns

**Why should I install a rain barrel or cistern?**

One inch of rain falling on a 100-square-foot roof can produce about 6 gallons of stormwater runoff. Roof downspouts typically direct the roof runoff directly onto hard surfaces such as driveways, streets, and sidewalks that prevent the water from soaking into the ground. When water runoff ends up on the ground, it flows over the surface and never soaks down into the soil to recharge. As it flows over hard surfaces and lawns, the stormwater picks up pollutants, such as sediment, grease and oil from cars, and pesticides and herbicides from lawns. The stormwater is collected in storm drain pipes that direct the flow into streams, which can lead to downstream erosion, fish, flooding, and water quality and stream habitat problems.

By collecting your roof runoff in rain barrels or cisterns, you can reduce stormwater runoff from your property. Stormwater runoff is reduced, because you are collecting the stormwater and allowing it to soak into the ground where you can use it for irrigation. When you use the

**What are they?**

Rain barrels and cisterns collect and store a portion of the rainwater that falls from your roof. The most common type of rainwater collection system used by homeowners is a rain barrel. Rain barrels come in a variety of sizes but typically as a 50-gallon container that collects roof runoff. Rain barrels can be added to any building with gutters and downspouts, and they have an outlet that can be connected to a garden hose to the rainwater can be used to water landscaping plants, shrubs, and gardens. Rain barrels require an overflow port. Cisterns are sealed tanks that can be located above ground, partially buried in the ground, or below ground. Cisterns are larger than rain barrels and require downspouts from one building or roof to have multiple outlets if they are large enough. Large cisterns may require a permit, as outlined above with the County's Department of Planning and Development. Rain cisterns in rain barrels are full, the overflow should be directed to a safe location away from the building's foundation. Cisterns can be located in a lot, well, or garden, or other area where the runoff can infiltrate.

Rain Barrels and Cisterns page 1 of 6



### Rainwater Harvesting: Guidance for Homeowners



<https://content.ces.ncsu.edu/rainwater-harvesting-guidance-for-homeowners>

This module is also available in Amharic, Chinese, French, Korean and Spanish

36

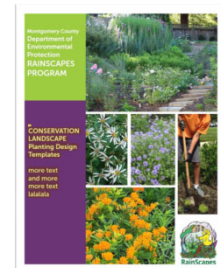
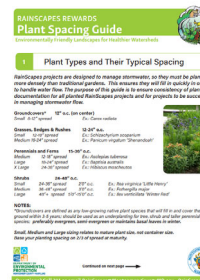
## Rain Garden Resources



37

## Conservation Landscaping Resources

Planting Design: Plants that Work  
Guidance for Bio-retention and Rain Gardens



38

# Rain Garden and Conservation Landscape Templates

## Ease/confidence in success

- Plant combinations for each zone already figured out
- Plant quantities determined
- No previous design experience
- Multiple options
- Benefit from others' efforts

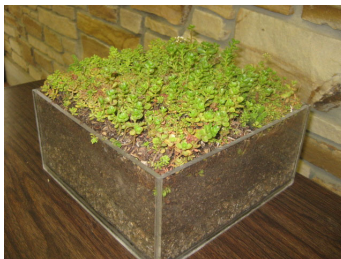
## Limitations

- Site doesn't match footprint of template
- Template isn't the right size
- Template options don't fit desired style



39

## Green Roof Resources



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Healthy Watersheds

**Green Roofs**

**Why should I install a green roof?**

Typical rooftops are hard surfaces that cannot absorb rainwater, so they contribute to stormwater runoff and increased pollution to streams. A green roof on a house or building allows rainwater to be absorbed by the plants and soil that are incorporated on the roof. This plant-based living roof reduces the amount of water leaving the property. This RainScapes technique reduces the environmental impact of a building roof, and usually provides energy savings and maintenance benefits.

Each green roof is unique and the type of benefits it provides will vary depending on the type of system installed. Studies have shown that 50 to 60 percent of annual rainfall at a site can be captured by green roofs, which significantly reduces runoff and harmful downstream ecological and environmental effects.

**What is a green roof?**

A green roof is a rooftop partially or completely covered with a specially designed soil and vegetation system. Green roofs create living green spaces on top of buildings and structures that help to capture rainfall and reduce stormwater runoff. This captured water may be used by plants on the roof, released back to the atmosphere through evaporation, or it can be reused in other locations on the property.

Green roofs are a roof system that includes a waterproof membrane, filter fabric, drainage layer, root barrier, growing medium (soil), and plants. Green roofs may be constructed using modular units that contain all components listed above, or the components may be installed step-by-step directly on the building's roof deck.

The two main types of green roofs are extensive or intensive green roofs.

Extensive green roofs are typically lighter and thinner, which makes them more suitable to residential properties, while intensive roofs are thicker, heavier, and are designed to support trees and larger shrubs.

**Extensive green roofs** are designed to be lightweight and to maximize the performance and environmental benefits that a green roof can bring to a building. Extensive green roofs feature a layer of growing media that is 6-inches deep or less and are planted with drought-tolerant plants. Extensive systems require less maintenance and have simpler irrigation and drainage systems, if they have any at all. Existing roofs on porches, garages, sheds, and sunrooms are excellent candidates for extensive green roof retrofits.

**Green roof the system**

**Green roof the system**

**Green Roofs**

page 1 of 4

40



## Permeable Pavement Resources



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Environmentally-Friendly Landscapes for  
Healthy Watersheds

### Permeable Pavers

#### Why should I choose permeable pavers for my hard surfaces?

Patios, sidewalks, and driveways are hard surfaces that prevent water from soaking into the ground. Various changes, or retrofits, can be applied to these hard surfaces to help prevent stormwater runoff and pollutants from entering our streams. An effective retrofit to reduce runoff from residential properties is the installation of permeable interlocking pavers.

Permeable pavers

- increase on-site infiltration and reduce runoff
- are easy to install
- can be an effective alternative

Permeable surfaces address important environmental issues and support sustainable living. They not only have a positive environmental impact, but can also be economical and function well with little or no maintenance.

#### What are permeable pavers?

Permeable interlocking pavers are connected blocks with materials such as stone or gravel that let water pass through, filling the gaps between the paving blocks. Replacement of traditional concrete or asphalt driveways with permeable interlocking pavers allows rainwater to naturally filter through the ground and reduces stormwater runoff.

Permeable interlocking concrete pavers provide a strong, solid surface. They can be installed on driveways, walkways, and patios and can also serve as attractive landscaping features, raising property values.



Permeable Pavers

page 1 of 5

41

## Pavement Removal Resources



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Healthy Watersheds

### Pavement Removal

#### Why should I remove pavement from my property?

Replacing pavement with turf, native plants, or native trees can help prevent stormwater runoff and pollutants from entering our streams. This water that runs off can carry pollutants such as dirt, lawn care fertilizer and chemicals, pet waste and trash into our streams. Depending on how your yard is graded, the water flowing from these paved areas may be leaving your property and entering the stormdrain system or causing drainage concerns for a neighbor. By reducing the amount of rainwater leaving your property, you can help improve local streams by reducing stream channel erosion and water pollution. Replacing paved surfaces also supports sustainable living, and adds attractive landscaping to the area.

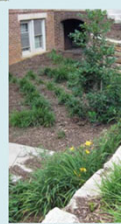
#### What are the benefits and incentives?

The RainScapes Rewards Rebate Program offers a rebate payment for converting a minimum of 100 square feet of property used for residential purposes and a minimum of 300 square feet for a commercial, institutional, or multi-family property. Your rebate amount will be calculated per square foot of pavement converted to turf. If the pavement is replaced with native plant species, your rebate will be calculated at a higher dollar amount per square foot. Visit [rainscapes.org](http://rainscapes.org) for additional rebate details.

Replacing pavement with natural vegetation offers many benefits to the community and the local environment, which include:

- Improved aesthetics with more green space
- Improved air quality
- Improved water quality
- Enhanced wildlife habitat
- Native species conservation
- Reduced stormwater runoff

Reduced erosion  
Pavement removal is a great way to help the environment, restore the natural water cycle, and protect your local stream and the Chesapeake Bay. To apply for a RainScapes Rewards Pavement Removal Rebate, please visit [www.rainscapes.org](http://www.rainscapes.org)



Pavement Removal

page 1 of 6

42

Visit our website at [RainScapes.org](https://www.rainscapes.org)  
Or web search “RainScapes Resources”

DEPARTMENT OF ENVIRONMENTAL PROTECTION  
MONTGOMERY COUNTY • MARYLAND

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Watershed Restoration Home Learn Take Action Restoration Projects Contact DEP

## RainScapes Resources

The resources on this page provide information for the general public and landscape professionals.

Jump to Your Section:

- Top 6 Resources
- Video Guides
- Plant Lists
  - Suggested Plants, Invasive Species & Plant Sales
- Resources by RainScapes Projects
  - Including Conservation Landscapes, Rain Barrels, Rain Gardens, etc.
- Language Resources
  - Amharic, Chinese, French, Korean and Spanish
- Additional Resources

**RainScapes**

- About RainScapes
- Rewards Rebates
- Resources
- Communities
- How to Apply for a RainScape

**Water Home**

43



44

## Templates for Conservation Landscapes



45

## Plant List Tool

Use the DEP-provided spreadsheet

Built in calculator!

Easy to use!

<https://www.montgomerycountymd.gov/water/Resources/Files/rainscapes/Blank%20Plant%20List%20and%20Plant%20Calculator.xlsx>

Plant Calculator Instructions (Use blue cells only)	
1. Enter garden size in square feet in the user submitted data section	
2. Select "Yes" from dropdown to include understory trees/large shrubs	
3. Select "Yes" from dropdown to include medium/small shrubs.	
User Submitted Data	
Garden size (Square feet)	
Include Understory Trees/Large Shrubs?	
Include Medium/Small Shrubs?	
Plant Calculator	
Plant Type	Minimum Recommendations for Plant Quantity
Understory Trees/Large Shrubs	0
Medium/Small Shrubs	0
Large Perennials	0
Small Perennials/Groundcovers	0
<b>Total:</b>	<b>0</b>
Mulch and Compost Calculator Instructions (Use blue cells only)	
1. Enter garden size in square feet in the user submitted data section	
2. Enter desired thickness of compost in inches (number only, no symbols)	
3. Enter desired thickness of mulch in inches (number only, no symbols)	
Mulch and Compost Calculator	
3" of mulch and 2" of compost is recommended	
Compost thickness (Inches)	Mulch thickness (Inches)
2	3
2 Cubic foot Bags	2 Cubic foot Bags
0	0
3 Cubic foot Bags	3 Cubic foot Bags
0	0
Cubic Yards	Cubic Yards
0.0	0.0

**This part is optional**

46

## How the Tool Works

Scientific Name	Common Name	Container Size	Qty	Spacing
Clethra alnifolia 'Hummingbird White'	Sweet Pepper bush	3G	7	3'
Asclepias incarnata	Swamp Milkweed	4"	9	18"
Chelone lyonii 'Hot Lips'	Turtlehead	1G	9	18"
Iris versicolor Purple Flame	Blue Flag Iris	1G	5	18"
Monarda bradburiana	Bee Balm	1G	9	2'
Penstemon digitalis Husker Red	Beardtongue	1G	7	15"
Solidago sphacelata Golden Fleece	Goldenrod	1G	3	18"
Carex amphibola	Creek sedge	1 gal	34	15"
Panicum virgatum 'Cape Breeze'	Switch Grass	1 gal	5	2'
Magnolia virginiana	Sweetbay Magnolia Australis	15G	1	7'
Eupatorium	Joe pye weed	TP	2	2'

Non-Native (x)	Plant Type	Scientific Name	Common Name	Container Size	Qty	Spacing	Rec. Qty	Plant Spacing Calculations	% Native	% Plant Type
	Shrub	Clethra alnifolia 'Hummingbird White'	Sweet Pepper bush	3G	7	4'		Measured SF 360	% Native by Quantity 100%	Tree 9.78%
	Herbaceous	Asclepias incarnata	Swamp Milkweed	4"	9	18"		Calculated Coverage 368	% Native by Coverage 100%	Shrub 30%
	Herbaceous	Chelone lyonii 'Hot Lips'	Turtlehead	1G	9	18"		Difference -8		Herbaceous 60%
	Herbaceous	Iris versicolor Purple Flame	Blue Flag Iris	1G	5	18"		Plants to add -8		
	Herbaceous	Monarda bradburiana	Bee Balm	1G	9	2'		Plant spacing in inches 12		
	Herbaceous	Penstemon digitalis Husker Red	Beardtongue	1G	7	18"				
	Herbaceous	Solidago sphacelata Golden Fleece	Goldenrod	1G	3	2'				
	Herbaceous	Carex amphibola	Creek sedge	1 gal	34	18"				
	Herbaceous	Panicum virgatum 'Cape Breeze'	Switch Grass	1 gal	5	2'				
	Tree	Magnolia virginiana	Sweetbay Magnolia Australis	15G	1	7'				
	Herbaceous	Eupatorium	Joe pye weed	TP	2	2'				

<https://www.montgomerycountymd.gov/water/Resources/Files/rainscapes/Blank%20Plant%20List%20and%20Plant%20Calculator.xlsx>

47

## Plant Spacing Guidance

**RAINSCAPES REWARDS Plant Spacing Guide**  
Environmentally Friendly Landscapes for Healthier Watersheds

**1 Plant Types and Their Typical Spacing**

RainScapes projects generally aim to handle water flow. If documentation for all plants in managing stormwater is not available, use the following as a guide.

**RAINSAPES REWARDS Plant Spacing Guide (page 2 of 4)**

**2 How Many Plants Do I Need?**

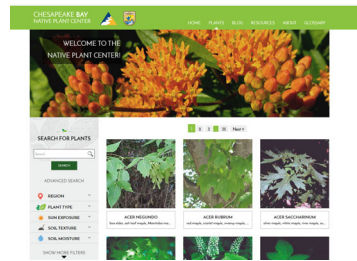
On Center Plant Spacing

Plant Type	Spacing	Plants per 10' x 10' Area
Groundcovers	12" x 12" spaced	64
Groundcovers	18" x 18" spaced	25
Groundcovers	24" x 24" spaced	16
Groundcovers	36" x 36" spaced	9
Groundcovers	48" x 48" spaced	4
Perennials and Ferns	12" x 12" spaced	64
Perennials and Ferns	18" x 18" spaced	25
Perennials and Ferns	24" x 24" spaced	16
Perennials and Ferns	36" x 36" spaced	9
Perennials and Ferns	48" x 48" spaced	4
Shrubs	24" x 24" spaced	16
Shrubs	36" x 36" spaced	9
Shrubs	48" x 48" spaced	4
Shrubs	60" x 60" spaced	3
Shrubs	72" x 72" spaced	2
Shrubs	84" x 84" spaced	1
Shrubs	96" x 96" spaced	1
Shrubs	108" x 108" spaced	1
Shrubs	120" x 120" spaced	1
Shrubs	132" x 132" spaced	1
Shrubs	144" x 144" spaced	1
Shrubs	156" x 156" spaced	1
Shrubs	168" x 168" spaced	1
Shrubs	180" x 180" spaced	1
Shrubs	192" x 192" spaced	1
Shrubs	204" x 204" spaced	1
Shrubs	216" x 216" spaced	1
Shrubs	228" x 228" spaced	1
Shrubs	240" x 240" spaced	1
Shrubs	252" x 252" spaced	1
Shrubs	264" x 264" spaced	1
Shrubs	276" x 276" spaced	1
Shrubs	288" x 288" spaced	1
Shrubs	300" x 300" spaced	1
Shrubs	312" x 312" spaced	1
Shrubs	324" x 324" spaced	1
Shrubs	336" x 336" spaced	1
Shrubs	348" x 348" spaced	1
Shrubs	360" x 360" spaced	1
Shrubs	372" x 372" spaced	1
Shrubs	384" x 384" spaced	1
Shrubs	396" x 396" spaced	1
Shrubs	408" x 408" spaced	1
Shrubs	420" x 420" spaced	1
Shrubs	432" x 432" spaced	1
Shrubs	444" x 444" spaced	1
Shrubs	456" x 456" spaced	1
Shrubs	468" x 468" spaced	1
Shrubs	480" x 480" spaced	1
Shrubs	492" x 492" spaced	1
Shrubs	504" x 504" spaced	1
Shrubs	516" x 516" spaced	1
Shrubs	528" x 528" spaced	1
Shrubs	540" x 540" spaced	1
Shrubs	552" x 552" spaced	1
Shrubs	564" x 564" spaced	1
Shrubs	576" x 576" spaced	1
Shrubs	588" x 588" spaced	1
Shrubs	600" x 600" spaced	1
Shrubs	612" x 612" spaced	1
Shrubs	624" x 624" spaced	1
Shrubs	636" x 636" spaced	1
Shrubs	648" x 648" spaced	1
Shrubs	660" x 660" spaced	1
Shrubs	672" x 672" spaced	1
Shrubs	684" x 684" spaced	1
Shrubs	696" x 696" spaced	1
Shrubs	708" x 708" spaced	1
Shrubs	720" x 720" spaced	1
Shrubs	732" x 732" spaced	1
Shrubs	744" x 744" spaced	1
Shrubs	756" x 756" spaced	1
Shrubs	768" x 768" spaced	1
Shrubs	780" x 780" spaced	1
Shrubs	792" x 792" spaced	1
Shrubs	804" x 804" spaced	1
Shrubs	816" x 816" spaced	1
Shrubs	828" x 828" spaced	1
Shrubs	840" x 840" spaced	1
Shrubs	852" x 852" spaced	1
Shrubs	864" x 864" spaced	1
Shrubs	876" x 876" spaced	1
Shrubs	888" x 888" spaced	1
Shrubs	900" x 900" spaced	1
Shrubs	912" x 912" spaced	1
Shrubs	924" x 924" spaced	1
Shrubs	936" x 936" spaced	1
Shrubs	948" x 948" spaced	1
Shrubs	960" x 960" spaced	1
Shrubs	972" x 972" spaced	1
Shrubs	984" x 984" spaced	1
Shrubs	996" x 996" spaced	1
Shrubs	1008" x 1008" spaced	1
Shrubs	1020" x 1020" spaced	1
Shrubs	1032" x 1032" spaced	1
Shrubs	1044" x 1044" spaced	1
Shrubs	1056" x 1056" spaced	1
Shrubs	1068" x 1068" spaced	1
Shrubs	1080" x 1080" spaced	1
Shrubs	1092" x 1092" spaced	1
Shrubs	1104" x 1104" spaced	1
Shrubs	1116" x 1116" spaced	1
Shrubs	1128" x 1128" spaced	1
Shrubs	1140" x 1140" spaced	1
Shrubs	1152" x 1152" spaced	1
Shrubs	1164" x 1164" spaced	1
Shrubs	1176" x 1176" spaced	1
Shrubs	1188" x 1188" spaced	1
Shrubs	1200" x 1200" spaced	1
Shrubs	1212" x 1212" spaced	1
Shrubs	1224" x 1224" spaced	1
Shrubs	1236" x 1236" spaced	1
Shrubs	1248" x 1248" spaced	1
Shrubs	1260" x 1260" spaced	1
Shrubs	1272" x 1272" spaced	1
Shrubs	1284" x 1284" spaced	1
Shrubs	1296" x 1296" spaced	1
Shrubs	1308" x 1308" spaced	1
Shrubs	1320" x 1320" spaced	1
Shrubs	1332" x 1332" spaced	1
Shrubs	1344" x 1344" spaced	1
Shrubs	1356" x 1356" spaced	1
Shrubs	1368" x 1368" spaced	1
Shrubs	1380" x 1380" spaced	1
Shrubs	1392" x 1392" spaced	1
Shrubs	1404" x 1404" spaced	1
Shrubs	1416" x 1416" spaced	1
Shrubs	1428" x 1428" spaced	1
Shrubs	1440" x 1440" spaced	1
Shrubs	1452" x 1452" spaced	1
Shrubs	1464" x 1464" spaced	1
Shrubs	1476" x 1476" spaced	1
Shrubs	1488" x 1488" spaced	1
Shrubs	1500" x 1500" spaced	1
Shrubs	1512" x 1512" spaced	1
Shrubs	1524" x 1524" spaced	1
Shrubs	1536" x 1536" spaced	1
Shrubs	1548" x 1548" spaced	1
Shrubs	1560" x 1560" spaced	1
Shrubs	1572" x 1572" spaced	1
Shrubs	1584" x 1584" spaced	1
Shrubs	1596" x 1596" spaced	1
Shrubs	1608" x 1608" spaced	1
Shrubs	1620" x 1620" spaced	1
Shrubs	1632" x 1632" spaced	1
Shrubs	1644" x 1644" spaced	1
Shrubs	1656" x 1656" spaced	1
Shrubs	1668" x 1668" spaced	1
Shrubs	1680" x 1680" spaced	1
Shrubs	1692" x 1692" spaced	1
Shrubs	1704" x 1704" spaced	1
Shrubs	1716" x 1716" spaced	1
Shrubs	1728" x 1728" spaced	1
Shrubs	1740" x 1740" spaced	1
Shrubs	1752" x 1752" spaced	1
Shrubs	1764" x 1764" spaced	1
Shrubs	1776" x 1776" spaced	1
Shrubs	1788" x 1788" spaced	1
Shrubs	1800" x 1800" spaced	1
Shrubs	1812" x 1812" spaced	1
Shrubs	1824" x 1824" spaced	1
Shrubs	1836" x 1836" spaced	1
Shrubs	1848" x 1848" spaced	1
Shrubs	1860" x 1860" spaced	1
Shrubs	1872" x 1872" spaced	1
Shrubs	1884" x 1884" spaced	1
Shrubs	1896" x 1896" spaced	1
Shrubs	1908" x 1908" spaced	1
Shrubs	1920" x 1920" spaced	1
Shrubs	1932" x 1932" spaced	1
Shrubs	1944" x 1944" spaced	1
Shrubs	1956" x 1956" spaced	1
Shrubs	1968" x 1968" spaced	1
Shrubs	1980" x 1980" spaced	1
Shrubs	1992" x 1992" spaced	1
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Shrubs	2016" x 2016" spaced	1
Shrubs	2028" x 2028" spaced	1
Shrubs	2040" x 2040" spaced	1
Shrubs	2052" x 2052" spaced	1
Shrubs	2064" x 2064" spaced	1
Shrubs	2076" x 2076" spaced	1
Shrubs	2088" x 2088" spaced	1
Shrubs	2100" x 2100" spaced	1
Shrubs	2112" x 2112" spaced	1
Shrubs	2124" x 2124" spaced	1
Shrubs	2136" x 2136" spaced	1
Shrubs	2148" x 2148" spaced	1
Shrubs	2160" x 2160" spaced	1
Shrubs	2172" x 2172" spaced	1
Shrubs	2184" x 2184" spaced	1
Shrubs	2196" x 2196" spaced	1
Shrubs	2208" x 2208" spaced	1
Shrubs	2220" x 2220" spaced	1
Shrubs	2232" x 2232" spaced	1
Shrubs	2244" x 2244" spaced	1
Shrubs	2256" x 2256" spaced	1
Shrubs	2268" x 2268" spaced	1
Shrubs	2280" x 2280" spaced	1
Shrubs	2292" x 2292" spaced	1
Shrubs	2304" x 2304" spaced	1
Shrubs	2316" x 2316" spaced	1
Shrubs	2328" x 2328" spaced	1
Shrubs	2340" x 2340" spaced	1
Shrubs	2352" x 2352" spaced	1
Shrubs	2364" x 2364" spaced	1
Shrubs	2376" x 2376" spaced	1
Shrubs	2388" x 2388" spaced	1
Shrubs	2400" x 2400" spaced	1
Shrubs	2412" x 2412" spaced	1
Shrubs	2424" x 2424" spaced	1
Shrubs	2436" x 2436" spaced	1
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Shrubs	2508" x 2508" spaced	1
Shrubs	2520" x 2520" spaced	1
Shrubs	2532" x 2532" spaced	1
Shrubs	2544" x 2544" spaced	1
Shrubs	2556" x 2556" spaced	1
Shrubs	2568" x 2568" spaced	1
Shrubs	2580" x 2580" spaced	1
Shrubs	2592" x 2592" spaced	1
Shrubs	2604" x 2604" spaced	1
Shrubs	2616" x 2616" spaced	1
Shrubs	2628" x 2628" spaced	1
Shrubs	2640" x 2640" spaced	1
Shrubs	2652" x 2652" spaced	1
Shrubs	2664" x 2664" spaced	1
Shrubs	2676" x 2676" spaced	1
Shrubs	2688" x 2688" spaced	1
Shrubs	2700" x 2700" spaced	1
Shrubs	2712" x 2712" spaced	1
Shrubs	2724" x 2724" spaced	1
Shrubs	2736" x 2736" spaced	1
Shrubs	2748" x 2748" spaced	1
Shrubs	2760" x 2760" spaced	1
Shrubs	2772" x 2772" spaced	1
Shrubs	2784" x 2784" spaced	1
Shrubs	2796" x 2796" spaced	1
Shrubs	2808" x 2808" spaced	1
Shrubs	2820" x 2820" spaced	1
Shrubs	2832" x 2832" spaced	1
Shrubs	2844" x 2844" spaced	1
Shrubs	2856" x 2856" spaced	1
Shrubs	2868" x 2868" spaced	1
Shrubs	2880" x 2880" spaced	1
Shrubs	2892" x 2892" spaced	1
Shrubs	2	

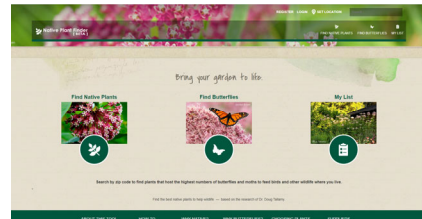




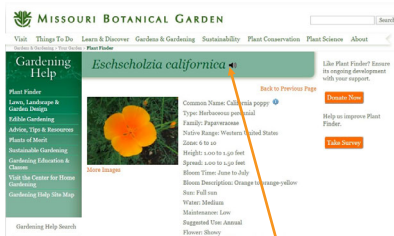




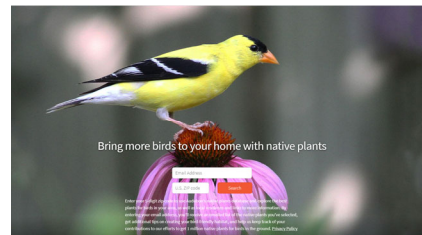
<http://www.nativeplantcenter.net/plants/>



<https://www.nwf.org/nativeplantfinder/>



Helpful audio pronunciation for Latin



<https://www.audubon.org/native-plants>

51

## Plant lists

### Sample Plant List

Scientific Name	Common Name	Pot Size	Quantity	Spacing
<i>Chionanthus virginicus</i>	Fringe tree	15 Gallons	1	N/A
<i>Monarda didyma</i>	Bee Balm	Quart	14	3' o.c.
<i>Asclepias tuberosa</i>	Butterfly Milkweed	Quart	7	18" o.c.
<i>Phlox subulata</i>	Moss Phlox	Quart	20	18" o.c.
<i>Symphotrichum novae-angliae</i>	New England Aster	1 Gallon	5	2' o.c.
<i>Echinacea purpurea</i> 'Kim's Knee High'	Purple Coneflower 'Kim's Knee High'	1 Gallon	11	18" o.c.
<i>Chasmanthium latifolium</i>	Sea oats	<del>Seed</del>	5	2' o.c.

Seed is not allowed.

If using a specific variety, please include the name so we can determine the plant's height and spread.

► Perennials are usually planted 12" - 18" o.c.  
► Shrubs are usually planted 3' - 4' o.c.  
o.c. (on center) is the distance from the center of one plant to the center of the next, which depends on the mature width of the plants.

- Planting densities and sizes meet requirements
- Seek substitution approval prior to installation.
- Separate practices need separate plant lists

52

## Perc Test

**RAINSAPES REWARDS**  
**Soil Percolation Testing**  
Environmentally Friendly Landscapes for Healthier Watersheds

Property Owner: \_\_\_\_\_ Date(s) of test: \_\_\_\_\_  
Property Address: \_\_\_\_\_ # days since test sets: \_\_\_\_\_

**Hole descriptions**  
Depth/Location of Test Hole(s): Hole 1 \_\_\_\_\_  
(dig 1st deep/Center of front lawn) Hole 2 \_\_\_\_\_

Add extra holes for larger gardens per our recommendations.  
Follow step-by-step instructions on pages 2 & 3.

Note: The hole(s) must drain within 36 hours each time in order to pass.

**Drain Time**  
(minutes)

Drain Time	1st Fill	2nd Fill	1st Fill	2nd Fill	1st Fill	2nd Fill
5	12"	12"				
12	6"	12"				
18	3"	6"				
24	2"	4"				
30						
36						

Test Performed by:  
☐ Homeowner  
☐ Contractor

Pass? (check if yes) ☐ ☐

**Rain Gardens:**  
One test hole for every 100 square feet in larger gardens. Observe one hole is sufficient. If it does not pass, please consider a conservation landscape or unpermeated rain garden instead. If a garden hole is slow draining, you will have better success if you choose wet soil adjacent plants. These are typically found as facultative wetland species or wet meadow species. Plant lists can be found on the RainScapes Plant resources and in the RainScapes Garden Templates publication.

**Permeable Pavement:**  
One test hole adjacent to the driveway or paved area, halfway between house and property line OR where possible close to the paved area. For pavement projects, add an underdrain if it does not pass.

Questions? Call 311 or email [RainScapes@MontgomeryCountyMD.gov](mailto:RainScapes@MontgomeryCountyMD.gov) - RainScapes.org

**RAINSAPES REWARDS**  
**How to Do a Perc Test** (page 2 of 3)

1. Contact Miss Utility 48 hours in advance to mark underground utilities: [missutility@montgomerycountymd.gov](mailto:missutility@montgomerycountymd.gov) or 1-800-387-7777 or 811.

2. The tools you will need are a digging bar, gloves and a post hole digger. The trash bag is for the soil you dig out of the hole.

3. Use the digging bar to break up the soil for removal with the post hole digger.

4. Using the post hole digger, remove the soil and place it on the trash bag.

Continued on next page →

Questions? Call 311 or email [RainScapes@MontgomeryCountyMD.gov](mailto:RainScapes@MontgomeryCountyMD.gov) - RainScapes.org

**RAINSAPES REWARDS**  
**How to Do a Perc Test** (page 3 of 3)

5. Dig a hole that is 2 feet deep and 1 foot wide to the depth of success.

6. Fill the hole to the top with water. Record the time.

7. Cover the hole for safety purposes.

8. Check the hole periodically. When it is empty, record the time. Calculate how long it took to drain.

9. If the first fill takes less than 36 hours to drain, repeat steps 4-8 in the same hole. Record the time for the second fill. If first or second fill takes longer than 36 hours to drain, then the perc test has failed, and a project such as a conservation landscape should be considered instead. After testing is completed, fill the hole with soil.

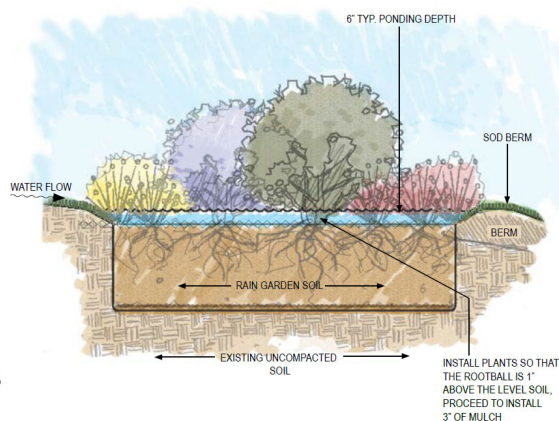
\* If the excavation will be 3 feet, then a 3-foot deep hole is required.

Questions? Call 311 or email [RainScapes@MontgomeryCountyMD.gov](mailto:RainScapes@MontgomeryCountyMD.gov) - RainScapes.org

53

## Rain Garden Details

- Water infiltrates into the soil aided by the roots.
- Overflows at least 10 feet over a vegetated surface.
- Inlet pipe above max ponding height.
- Directing downspouts through a vegetated swale is preferred.



54

**RainScapes Rewards**

Home | My Application | Application Forms (Preview) | Contact Us

### Apply for RainScapes Rewards Rebates

Thank you for taking the time to apply for a RainScapes Rewards rebate. What you are doing right now will make a huge difference both to health of your property and the overall health of our watershed.

Follow these steps to make sure you have a successful application:

**Step 1: Are you in the right place?** Have you visited our home page and looked at our project manuals at [www.rainscapes.org](http://www.rainscapes.org) to learn about the RainScapes project types?

**Step 2: What you should know before you start:**

- The application will take approximately 15-20 minutes. Applications should be completed.
- Once you submit your application, someone will typically get back to you within 2-3 days.
- This is what you will need:
  - Your property tax id number: <https://www2.montgomerycountymd.gov/PropertyTax/Default.aspx>
  - A specific project type: If you're not sure about the RainScapes guidelines, look at the specific project type requirements in the columns on the right.

[Is this a new application for a RainScapes Rewards Rebate?](#)  
(Be sure to record your application submission date and number when you finish.)

[Check the status of your application.](#)

\* With the exception of rain barrels RainScapes projects must be pre-approved prior to installation.  
† The money for rebates is allocated on a first-come, first-served basis.

[RainScapes Home](#) | [Privacy Policy](#) | [User Rights](#) | [Accessibility](#) | [Disclaimer](#) | [County Code](#) | [RSS](#) | [Blog](#)

**Resources**

[RainScapes Terms](#)

**Requirements & Guidelines**

- [Conservation Landscaping](#)
- [Dry Wall](#)
- [Green Roofs](#)
- [Green Infrastructure](#)
- [Rain Barrel](#)
- [Rain Garden](#)
- [Tree Canopy](#)

**Rewards Calculator**

[Rebate Calculator](#)

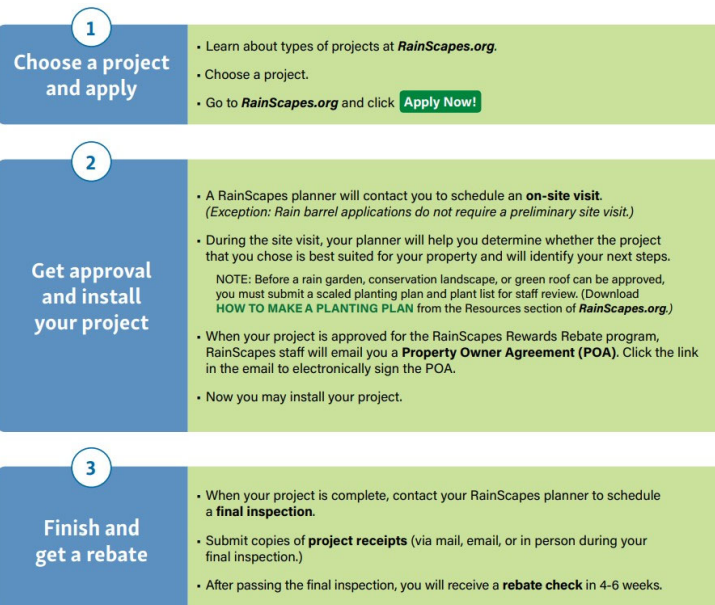
### Windows of application

The schedule for accepting applications\*:

**July 15 – October 15th**  
**February 1<sup>st</sup> – March 31<sup>st</sup>**

*\*May be adjusted according to demand*

55



56



## Project Approval Process

- Do not install a project until you have approval from your RainScapes planner. Proceeding without approval can void rebate eligibility for the property owner.
- Approval is for a specified area, plan and dollar amount; changes are program and budget dependent; **any change** should be agreed to prior to final submission.
- Provide a final plan or redline that reflects major, agreed-to changes that happened during the plan review process.

57

## Rebate Process Timeline- Plan 6 months ahead!

Process step	Time Frame	Required Documents
Application submittal	15 minutes	
Preliminary Inspection scheduling	Up to 2 months	
Site Assessment report sent	2 weeks after preliminary inspection	Report sent to applicant
Project design submission	within 3 months of receiving assessment report	Design, plant list or other based on requirements
Project Design Review	within 2 months of receiving documents	
Project Approval	within 1-2 weeks of successful project design review	Project approval email sent to applicant. POA generated.
Installation	within 6 months of project approval	Installation photos
Request final inspection	within 3 months of installation	
Final Inspection scheduling	within 1 month of inspection request	After photos, updated plant list, <b>signed POA</b>
Rebate paid	8-12 weeks after final inspection	

58

## RainScapes :



RainScapes.org

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DEPARTMENT OF  
**ENVIRONMENTAL PROTECTION**  
MONTGOMERY COUNTY • MARYLAND