



A Guide to Rain Gardens in Howard County Maryland

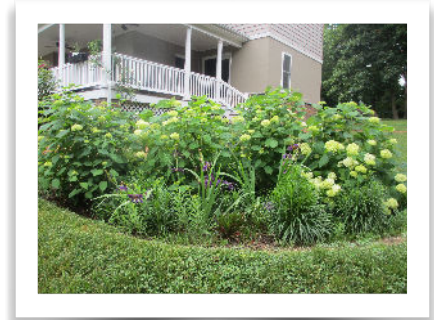


**LAUREN'S
GARDEN
SERVICE**

**ECO-FRIENDLY LANDSCAPERS
& NATIVE PLANT NURSERY**

What is a Rain Garden?

A Rain Garden is an area designed and built to collect and temporarily hold water that drains off your roof, driveway, patios and other impermeable surfaces. Its purpose is to intercept (and slow the flow of) water coming off of your property into storm water collections or local streams and rivers.

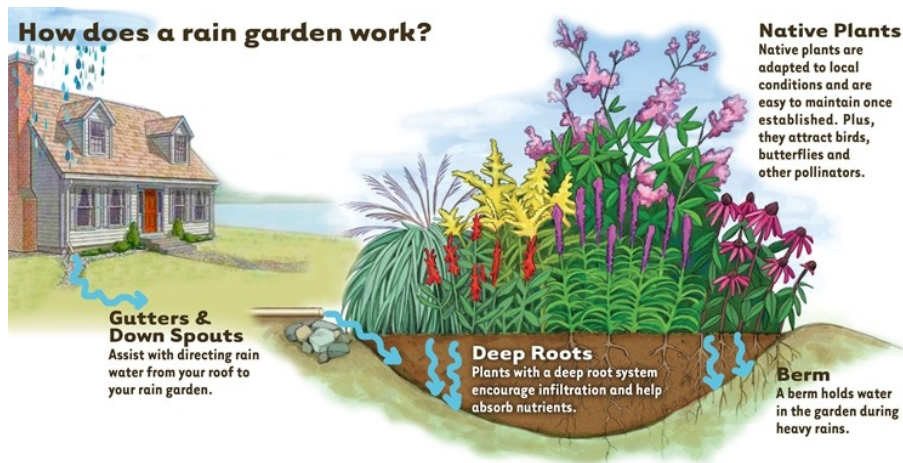


Why Plant A Rain Garden?

Common construction practices are to move all the water off the roof and other impermeable surfaces on a property and into the storm water system for processing or directly into local waterways.

With an increase in developed land the treatment systems have become overwhelmed. Along the way, the rain water picks up pollutants carrying them into the wastewater treatment facilities or directly into our rivers and the Bay. The water carries with it pollutants and sediment, which decreases the quality of life in the Bay and local water ways. Larger volumes of water running off of larger areas of impervious surfaces are degrading the quality of local streams and the groundwater has less of an opportunity to be recharged.

A rain garden will collect water and allow it to percolate on site, refilling the ground water and reducing the impact on current treatment systems and waterways, as well as allowing nature to clean and filter the water as it percolates through the ground.

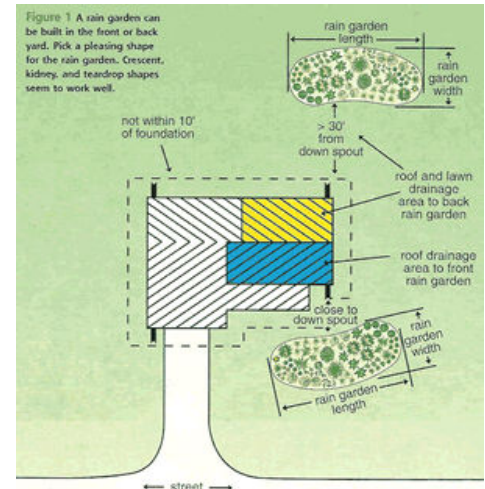


Find a Great Location for Your Rain Garden

Is there somewhere that you have seen water running off your property on the sidewalk or into storm drains? Locate a Rain Garden above that area to slow the flow. Intersect the flow of the water perpendicular with the rain garden.

Locate in an area close to a downspout to redirect water easily from the downspout into the Rain Garden.

Locate in an area where you have significant water drainage on a regular basis- below a hill, near a sloped hardscape surface or driveway.



Some guidelines to keep in mind:

- Keep your rain garden at least 10 ft away from your foundation
- Do not to locate your rain garden directly under a tree
- Locating your garden in a sunny area is optimal for plant selection purposes
- Locate your garden 5 ft away from any property lines and away from any right of ways
- Locate your rain garden in an area that is less than 12% slope
- If you have a low lying area that collects water already then select another location since that area is already retaining water

Perform a Soil Test and Percolation Test

Dig down in a few spots where your rain garden will be. Is the soil sandy, silty, or clay? Most gardens that we run in to in Howard County are a mixture, but mostly clay! Is it grainy, smooth or sticky? Use some basic soil tests to see. You can find examples of these tests online.

Sand and silt will drain faster than clay. A rain garden located in clay soil will need to be larger because of the reduced infiltration rate.

Since we're talking about rain gardens in Howard County, I would recommend a percolation test to make sure your rain garden will drain properly. Now that you know the type of soil you have, it is time for a percolation test! Dig a hole 6 inches wide and 6 inches deep, then fill it with water. Measure the amount of time it takes for the hole to drain. If it takes longer than 24 hours find another location or heavily amend the soil.

At Lauren's Garden Service, we amend all Rain Garden soils, so that the soil drains more efficiently. Depending on the circumstances, we will amend by adding compost, sand, or other natural materials.

Determine the Proper Size and Shape of Rain Garden

Determine Drainage Area

You know where you'd like your Rain Garden and have tested the soil and examined the percolation. Now it is time to take some measurements and do some calculations! There are worksheets on pages 10-11 to assist you with these calculations. Please keep in mind that there are many different sources that give you slightly different ways to calculate rain garden size. The first one I give below is a more simplified version. If you are an engineer or just LOVE numbers then there is a more detailed version below the simple version.

Measure the size of drainage area- find the square footage of lawn, roof, driveway, any impermeable surface that is draining to your Rain Garden and add them together.

Length of drainage area x width of drainage area = sq footage of impervious surface

Example: 100 ft length x 10 ft width of roof area = 1000sq ft of drainage area

1000sq ft drainage area x .1 (10% size ratio for clay soil from chart below for a garden in clay soil and 30ft from downspout) = 100sq ft rain garden size

10-30 feet from downspout- you are collecting mostly the water from your downspout, so measure the length and width of the house and then divide the total by how many gutters you have (the amount of roof area that is draining to that gutter)

More than 30 from a downspout- add in the lawn area as well as the roof surface area to calculate the drainage area feeding in to the rain garden

Determine Slope and Ponding Depth

Ponding Depth- how deep the lowest part of the rain garden will be below the grade.

Find the slope of the area you will locate your rain garden by putting 2 stakes in the ground- one at your up hill location of the garden and one on your down hill location. Tie a string between both and level it. Measure the height of the downhill stake from ground to string and divide it by the length between the 2 stakes.

Please consult our worksheet at the end of the guide to help you determine the slope in your yard.

Slope = Rise/Run

The slope of your yard will determine the depth of the Rain Garden

< 5% -- 5 inches deep

5% to 7% -- 6 to 7 inches deep

7%-12% -- About 8 inches deep

Determine your Rain Garden Square Footage, Length, and Width

Determine Surface Area of your Rain Garden

Check out the worksheets on page 10-11 of the guide to help guide you through all these calculations.

Multiply your drainage area (in square feet) by the correct size factor for your soil type:

Soil Type	Size Factor for > 30 Feet from Downspout
Sandy Soil	0.03
Silty Soil	0.06
Clay Soil	0.1

Size Factor for < 30 Feet From Downspout			
	5 inches	6-7 inches	8 inches
Sandy Soil	0.19	0.15	0.08
Silty Soil	0.34	0.25	0.16
Clay Soil	0.43	0.32	0.2

For example:

1000 sq ft of drainage area in clay soil, greater than 30ft from the downspout, with a 5% slope would follow the formula: $1000\text{sq ft} \times 0.10 = \mathbf{A\ 100\text{sq ft Rain Garden at 6-7 inches deep}}$

In general, a Rain Garden that is longer than it is wide works well.

Choose a width of your Rain Garden

The typical residential Rain Garden is around 10 feet wide. Choose a width you would like and divide the total square footage of the Rain Garden by that width to get the length.

For example, you have 250 sq ft available, and would like the Rain Garden to be 12 feet wide. to get the optimal performance from your garden you'd follow the formula and will have a garden longer than it is wide.

$$250\text{sq ft total Rain Garden area} / 12\text{ ft wide} = 20\text{ ft long}$$

A More In Depth Calculation:

If you would like to be more precise about your calculations here are some more in depth formulas for determining the proper size, depth and volume of water stored in your rain garden. This method takes into account if you would like to adjust the amount of inches of rain you would like to collect and the Runoff Coefficient for different surfaces of run off.

Sq footage of impervious surface x C (runoff coefficient of different surfaces-see Table below) x 1 (Size in inches of rain storm you are intending to collect, 1.5 for 1.5 inch rain storm, 2 for 2inch rain storm, etc) x 0.083 inch/ft conversion = volume of water you need to be able to collect in your rain garden for it to work properly and drain efficiently.

Example: 1000sq ft impervious roof x .95 C x 1.5 inch rain storm x 0.083 in/ft = 118 cu ft volume of water needed to store

Use this calculation to determine the correct ponding depth of your rain garden.

118 cu ft x 2 (assuming 0.5 ft ponding depth) = 236 sq ft rain garden

This size garden will be able to collect the volume of water coming off of your roof in a 1.5inch rain storm. It will actually collect more than this because each rain garden is dug to a 2ft depth. 6 inches of that depth collects 100% of the volume of the size and the remaining 18 inches below the soil will store 25% of its volume if it is made up of soil media mix, and 40% of its volume in rock aggregate.

For example

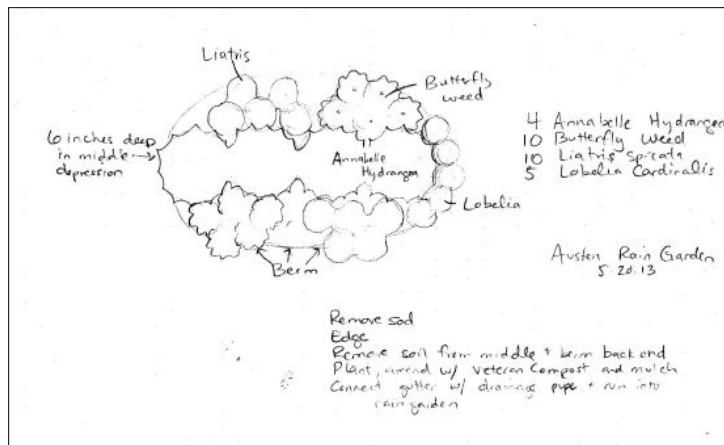
118 cu ft (the calculation of the volume of water stored in a 6 inch ponding depth) x 3 = the volume of the remaining 18 inches or soil media under ground = 354 x .25 = 88.5 cu ft store below the ponding depth

Total Volume Stored = Volume stored under the ponding depth + Volume stored above the ponding depth

Example: 118cu ft volume of water stored above the ponding depth + 88.5 cu ft stored in the 18 inch soil media below the ponding depth = 206.5 cu ft of water stored in a 236sq ft rain garden.

Designing Your Rain Garden

- Get a piece of graph paper-, each square will represent 1 square foot.



- Mark out the length and width of the garden to get an idea of the general size
- Draw the shape you would like your garden to be
- Count the number of squares inside your shaped rain garden to double check that you are at the right square footage
- Then use a circle template to draw in your selected perennials, shrubs, trees at the right size (example- 2 squares wide for a perennial that grows to 2 ft wide)

Some things to keep in mind while designing:

Use a variety of plants to incorporate a variety of textures and different bloom times. Clump a minimum of 3 of the same species of plants together, so the garden looks more organized and the visual impact of each particular species is more powerful. When plants are interspersed with each other, one here one there, it often looks random and messy. You can still have a ‘free flowing garden’ but just clump 3 or more of a species together.

Generally, it is a good idea to keep lower growing plants around the borders and taller plants in the middle. It is also okay to place taller plants in the back of the garden. One of the great things about custom designing a Rain Garden is that the design is developed to your own unique landscape and preferences. If you have a particular viewing or seating area, it may be beneficial to place the taller plants in the back instead of in the middle.



You will want to mark on your sketch where the berm will be located as well as inflow and outflow areas for the water coming in to and leaving the Rain Garden.

The berm is a wall across the bottom of the Rain Garden and will need to be highest at the downhill side.

To prevent erosion of the berm, cover it with mulch, plant grass, or use erosion control matting.

I recommend putting some pond cobble (dig slightly into the grade) at inflow and outflow areas to help keep the water flow from eroding the soil at the entry and exit point. You never want to have dirt washing away from your property in storm water- this causes many problems in local waterways and the Bay.

Remember the sketch is a guideline to help you determine size and number of plants and amendments needed- its ok to move things around and change it when you are building the garden. I almost always move some things around when we are installing our new gardens. I also often take some things out or add some new plants.



Plant Selections

When selecting plants it is important to spend some time observing your site while asking the following questions:

How many hours of direct sunlight will the plants in your rain garden receive?

Plants that like sun will need a minimum of 4 hours of direct sunlight (not dappled sunlight, moving sunlight, or on and off sunlight). If you are not sure if there are 4 hours or more at your location, then observe your location at several different parts of the day.

What sort of animals have been seen in your yard- who might eat your Rain Garden, who do you want to attract?

If you have deer regularly perusing your yard in the same area that the rain garden will be located, you will want to select 'deer resistant' plants. I must warn you though- the deer don't read the lists. If you would like to support wildlife like birds, insects, butterflies, and hummingbirds then select plants that attract those creatures.

What type of soil is your Rain Garden site made up of? Which plants thrive in this sort of soil?

Moist plants will prefer well drained soil. If you have heavy clay soils, you will need to heavily amend your Rain Garden planting site. Look for plants that like standing water or wet soil or grow well in clay.

In our blog, which can be found on our website, we've listed our favorite plants based on usefulness in the garden, for wildlife, and for the beginner gardener. These plants have been successful in Rain Gardens for us as well as our clients.

Remember to always select plants that are appropriate for your sun exposure and soil type- this is the step that really needs a lot of thinking, research and careful selection if you want your plants to thrive!

Check out our plant guide at the end of this guide- this is a carefully compiled list of our favorite native plants for rain gardens.

Building Your Rain Garden

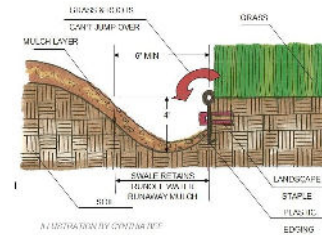
Now its time to break ground! This is my favorite part of the whole process. The first step is to mark out your location with a garden hose or using inverted spray paint. Once you layout the shape of your garden bed double check with your designs and your measurements to be sure you are around the right size.

Calling Miss Utility

Before you start digging call Miss Utility to have them come mark the location of utilities on your property. They will want to know which part of the property you want marked, if you are using explosives (I hope not), what your address and nearest cross street is and what county you are in. They will mark everything within 48 hours.

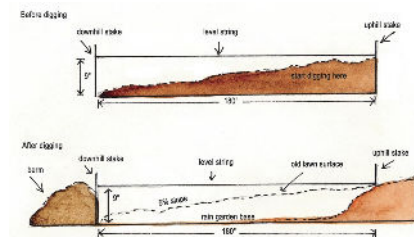
Edging

Next you want to dig a nice edge for your rain garden. A good depth is 2-3 inches deep, straight up and down. Spend a lot of time making sure the curves are perfect- not too many curves and no flattening out curves.



Removing the Grass

The best way to remove the grass is to rent a sod lifter. It goes for about \$150 a day to rent and makes your life easier, allows the sod to be reused and allows you to avoid using chemicals. If you plan your rain garden 6 months ahead of time you can use the lasagna method of layering cardboard, newspaper, straw and other materials that will block sun and water from getting to the grass and also break down over time. You can also pin down a tarp or landscape fabric to kill off the grass over at least 3 months. The last method is hand removal of grass- dig it up, knock off the soil leaving the dirt behind and then compost the grass. We do this for smaller rain gardens- it's not quite as bad as it sounds.



Digging

Now you start excavating your high end of the garden and putting soil in the berm area just outside the low end of your garden. You can place some stakes on the uphill and the downhill end to help you figure out how deep you are and where to put the soil. This diagram is helpful. When you are done you want the berm to be level with or higher than the ground level at the uphill stake. You also want your ponding area in the

middle to be the correct depth from your string down- as calculated in the ponding depth section.

If you are using stone for a dry river bed, inflow or outflow areas then remove soil in those areas and fill with pond cobble and pond stone. I think using 2 different sizes is nice.

The Berm

The berm will function as the water catchment system- keeping water in the rain garden, giving it more time to percolate into the ground. You may need to test out the berm by observing it in a rain or filling your rain garden to make sure it is high enough and level all around as it works into the grades on the sides.

Amending the Soil

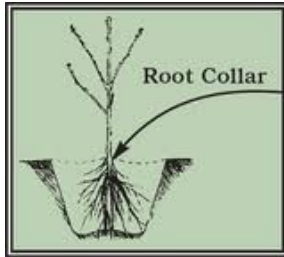
If your soil is mostly clay you will want to add more amendments to the soil. We usually use a mix of sand, peat, compost, leafgro, manure, etc. We remove an extra 1-2 inches in the ponding area in order to allow for the addition of amendments. We then till in our mix right in to the existing soil to a depth of 12 inches. This should put you in pretty good shape for increased permeability for your rain garden.

Proper Planting Techniques

This is my absolute favorite part of the project- placing and planting the plants. Place plants in their proposed spots based on your sketch or the design you are working with. Keep in mind how tall and wide they will be when they grow in. It's easier to fill the plants in a little closer together in order to allow them to grow in within few years and then more effectively block out weeds more quickly. That being said- don't

plant them too close!

When everything is placed step back and take a look- does it look good? Move some things around, add some things and take away some things until it looks right to you- always keeping in mind what it will look like when it grows in.



When you are satisfied start digging holes for your plants. You want the hole to be wider than the plant but not deeper than the plant. Always err on the side of 1/8 inch of the plant soil level above the existing soil level so the plant does not get planted too low, which will kill it. You have to keep in mind that you'll also be adding the soil from the hole around the plant as well as mulch. If you bury the plant any deeper



than the soil level in the pot that it came in then it will die. Shrubs, trees and perennials should never have soil or mulch at the base of their stems/trunks.

Work some compost or manure into the holes of the plants that will be planted outside of the amended ponding depth area.

Mulching

Apply a 2 inch layer of double or triple shredded hardwood mulch to your garden. I prefer bagged mulch from nurseries or local hardware stores. It is much better in quality and doesn't smell odd. Do not use dyed mulch. Mulch is meant to add a protective barrier to the garden, keeping water in and weeds at bay. It is also supposed to break down and add organic matter to the soil. Tan bark mulch is the best of the best but is not always available at local centers. Do not apply mulch to the base of any plants and do not fill the edges level with mulch.



Maintaining your Rain Garden

Weeding

Check your garden weekly and pull any weeds out by the root. If you keep up with this regularly for the first year, then the garden will have less and less maintenance over the years as the plants fill in and compete with the weeds. Using pesticides is never recommended, nor is it needed. You may also choose to hire a professional to routinely

maintain your Rain Garden for the first year.

Mulching

Mulch your Rain Garden with double shredded hardwood or pine fines once a year.

Fertilizing

Add compost once a year in the spring, before mulching.

Rain Garden Plant Care

Cutback/Pruning- Leave dead perennials intact over the winter for wildlife use. Cut back dead plant material in early spring before new growth starts coming up. Shrubs that need to be pruned can be pruned in later winter or after they bloom. You do not need to prune unless branches on the inside of the plant are becoming too thick.



Watering- Your Rain Garden will need about an inch of water a week for the first season, until it establishes on its own. You can purchase a rain catcher at a garden center, such as Home Depot, and put it in the garden to see how much rain it gets throughout the week and then supplement it by hand watering once a week. It is not recommended to put the sprinkler on and leave it on. Your Rain Garden doesn't need that much water and you will be able to water it by hand in 15 minutes. Watering by hand to check on the plants also enables you check in on the plants and be sure they are thriving in their new environment.

Deadheading- Many flowering perennials and shrubs do well when you cut back the dead flowers, this allows energy to be used for continued flowering. For best results, cut the dead flower back to the next leaf node.

Troubleshooting Your Rain Garden

- If there are areas where rain water is causing erosion on the way out of the Rain Garden, then remove more soil in that area and replace with stone.
- If the rain water breaks through on a typical 1 inch storm, then you may need to reconfigure your ponding size, depth, and berm in order to bring the garden to a functioning level.
- If there is standing water in your rain garden after a storm- great! It's working! However, if there is standing water beyond 48 hours (and its not winter with frozen ground) then you may need to add more amendment and till it in to the ponding area.

Rain Garden Frequently Asked Questions

How much does a Rain Garden cost?

Usually the cost of a rain garden is about \$13-\$18 a square foot professionally installed or about \$5-8 per square foot installed by the homeowner.

How do I apply for my reimbursement?

Go to Howard County's Cleanscapes program, <https://www.cleanwaterhoward.com/what-is-your-role/residential-properties>. There you will be able to submit forms for reimbursement.

How much is reimbursed for the Rain Garden in Howard County?

Howard County will reimburse half of the cost of a professionally installed rain garden, up to \$1200. So if your rain garden is 120 square feet, which would cost \$2400, you would pay \$2400 to the contractor and the County would reimburse you \$1200. If the Rain Garden is 100 square feet, and you paid \$1000 to the contractor, the county will reimburse \$500.

How do I select a professional to install a Rain Garden?

Talk with the contractor about their past experience, specifically with installing Rain Gardens. Ask to see their calculations for your customized plan. Professionals will also have a portfolio of designs, pictures, or customer testimonies. You may also be able to contact references from past clients.

What will the Rain Garden look like in the winter?

This depends on your particular garden. At Lauren's Garden Service, we usually design a mix of plants, with something evergreen in the Rain Garden to look at in the winter. Some Rain Gardens are designed with mostly perennials and these would look like bare mulch beds in the winter. If you have Lauren's Garden Service design and install your garden, be sure to specify your preference on whether or not you'd like your Rain Garden to have plants visible during the winter season.

Is a Rain Garden considered a pond?

No, a pond has standing water on a regular basis. A Rain Garden only has standing water after a rain storm and the water drains within 24-48 hours.

What types of plants can I have in my Rain Garden?

Many types of landscape and garden plants can be planted in a Rain Garden. You want to select plants that will allow water inundation after storms, but also thrive in dry conditions when it isn't rainy. Remember to visit our blog found on our website, laurensgardenservice.com, for a list of plants that work well in Rain Gardens.

Will there be mosquitos in my Rain Garden?

The water in a Rain Garden does not stand long enough for mosquitos to breed in it. Rain Gardens do not support mosquitos.

Rain Garden Worksheets

Locating your Rain Garden- find a place that will intersect water flowing off the property.

How many feet is this location from property lines _____ ft
(at least 5 feet)

How many feet is this location from my downspout? _____ ft

What type of soil do you have ? _____

How many minutes did it take for a 6 inch x 6 inch hole filled with water drain? _____

Determine your drainage area - Water draining to this area is flowing from (fill in all that apply):

1. Lawn with the square footage of _____ inches length x _____ inches width = _____ total sq ft

2. Roof with total square footage of length _____ ft x width _____ ft = _____ total sqft
then divide by amount of roof area draining to that particular downspout

3. patio, walkway, driveway, other impermeable surface

length _____ ft x width _____ ft = _____ sq ft total

length _____ ft x width _____ ft = _____ sq ft total

length _____ ft x width _____ ft = _____ sq ft total

Now add all total square footage from sections 1, 2, 3 above to get your total drainage area square footage

_____ sq ft total of all areas

Determine the slope of your lawn

Find the slope of the area you will locate your rain garden by putting 2 stakes in the ground- one at your up hill location of the garden and one on your down hill location. Tie a string between both and level it.

Measure the height of the downhill stake from ground to string and divide it by the length between the 2 stakes.

Slope = Rise/Run

_____ inches from ground to string on lower end of rain garden stake
divided by
_____ inches length of string from lower end to upper end stakes
= your slope

The slope of your yard will determine the depth of the rain garden:

< 5% -- 5 inches deep

5% to 7% -- 6 to 7 inches deep

7%-12% -- About 8 inches deep

Determine the surface area of your rain garden

You multiply your drainage area (in sq ft) by the correct size factor for your soil type:

Soil Type	Size Factor for > 30 Feet from Downspout
Sandy Soil	0.03
Silty Soil	0.06
Clay Soil	0.1

Size Factor for < 30 Feet From Downspout			
	5 inches	6-7 inches	8 inches
Sandy Soil	0.19	0.15	0.08
Silty Soil	0.34	0.25	0.16
Clay Soil	0.43	0.32	0.2

Your drainage area _____ ft x _____ your soil size factor (see tables above) = _____ sq ft your Rain Garden surface area

For example:

1000sq ft of drainage area, with clay soil and located greater than 30ft from the downspout with a 5% slope would need to be 1000sq ft x 0.10 = **A 100sq ft Rain Garden at 6.5 inches deep**

Determine the Length and Width of your Rain Garden

Choose a width of your Rain Garden (usually around 10ft for a typical residential Rain Garden) and divide the total square footage of the garden by that width to determine an ideal length.

For example: an area of 250sq ft, you decide to have the Rain Garden 12 ft wide, using the formula, your Rain Garden will be 20 feet long for optimal performance. See example below:

$$250\text{sq ft total rain garden area} / 12 \text{ ft wide} = 20 \text{ ft long}$$

Rain Garden Materials Checklist Work Sheet

Plants-remember to use 5-7 of each plant variety for perennials, it is recommended to purchase in 1 quart or 1 gallon size

- 1
- 2
- 3
- 4
- 5

Shrubs- Remember to use 3-5 of each variety for shrubs, and it is recommended to purchase shrubs in 2 or 3 gallon size

- 1
- 2
- 3
- 4
- 5

Trees- it is recommended to purchase in 5-7gal size

- 1
- 2

Amendments

Measure the inside ponding area of your Rain Garden using the formula **length x width** and then multiply by 2 (for 2 inches of amendment) . Be sure to remove an extra 2 inches of soil when you are excavating the ponding depth to account for the amendment.

Ponding area length _____ ft x width _____ ft = _____ sq ft amendment- use this number and check the bag of the amendment you are getting for instructions on how much you need. Use the same method for areas that you will put stones, such as inflow and outflow areas. Measure the area to get your square footage of stone and then multiply by how many inches thick you want the stone, giving you how many yards, cubic feet or bags you need.

Compost _____

Sand _____

Peat _____

Screened topsoil _____

Leafgro _____

Drainage stone _____

Pond cobble _____

Resources for you and Suppliers we use at Lauren's Garden Service:

Kendall Hardware- 12260 Clarksville Pike, Clarksville, MD 21029, (410) 531-2111, locally owned independent hardware store, mulch, stone, compost, sod cutter and tiller rental

Clarks Ace Hardware: (410) 465- 9633 \one of our favorite local suppliers for mulch, stone, compost, tools, and other materials

Lauren's Garden Service- Ecologically sustainable landscape design and build company

Native Plant Nursery- large selection of native plants, knowledgeable staff

Cultivate Garden & Goods- nature inspired gift shop, houseplants, bird feeding and watering supplies, air plants and much more

13554 Triadelphia Rd, Ellicott City, MD 21042

laurensgardens@gmail.com

Herring Run Nursery: 6131 Hillen Rd, Baltimore, MD 21239, (410) 254-1577 ext. 104, <http://www.bluewaterbaltimore.org/herring-run-nursery> - local nursery specializing in native plant sales

Howard County Online Resources: <http://livegreenhoward.com/>
<http://livegreenhoward.com/green/clean-water-howard/>

Kendall Hardware:1 www.kendallhardware.com - another favorite local hardware for stone, mulch, compost, tools

Leafgro: leafgro.com 100% organic compost, can be purchased at a variety of locations

Low Impact Development: www.lowimpactdevelopment.org -ideas for Rain Garden planning

Putnam Hill Nursery: email: mel@putnamhillnursery.com, phone: Melanie Ruckle (443) 722-2012, putnamhillnursery.com, by appointment only, wide selection of natives

Sun Nurseries: 14790 Bushy Park Rd, Woodbine, MD 21797, (410) 442-2090, sunnurseries.com
- local supplier of plants, compost, supplies, etc.

Veteran's Compost: 328 Bush Chapel Rd, Aberdeen, MD 21001, (410) 935-6404, veterancompost.com
-local company where we purchase compost

Information, diagrams, photographs, and clip art in this guide have been compiled and edited by Lauren Turner and Nicole Pupshis, respectively, from a variety of sources including those listed below and personal experience.

The Perennial Farm
Nigel Dunnet Rain Gardens
Create Your Own Rain Garden in 6 Easy Steps, published by URS Corporation
Rain Gardens Across Maryland, published by Worcester County Department of Development, 6/08
Rain Gardens: A How to Manual for Homeowners, published by Town of Ocean City
Rain Garden Design and Construction, published by Fairfax County
<http://www.fairfaxcounty.gov/nvswcd/raingardenbk.pdf>
Lauren's Garden Service Portfolio
RainScapes Landscape Professionals Resource Binder
Native Plants for Wildlife Habitat and Conservation Landscaping
Homeowner Guide for a More Bay Friendly Property, October 2013
Cleans capes: Residential Best Management Practice (BMP) Incentive Program Criteria
Build Your Own Rain Garden, Chesapeake Bay Foundation
Environmental Site Designs Process and Computations, July 2010



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