

construct

your rain garden

in the simplest terms, you will:

1. dig a hole, 2. aerate the soil, 3. amend the soil, 4. plant plants, 5. enjoy

tools you will need:

shovels, tarp, rake, rocks, plants, garden hose or rope, flags or spray paint

first things first:

1. Call 811

811 is a free service that identifies and marks underground utilities like cable, phone, electricity and gas lines. Always determine where utility lines are located BEFORE you dig! You may need to change the location or design of your rain garden to avoid utility lines. Call 811 at least a week in advance. Dial 811 or visit www.call811.com.



next steps:

2. Infiltration test

Before beginning your garden, do an infiltration test to be sure that water will infiltrate into the surrounding soil in just a few days.

- Locate where you would like your rain garden.
- Dig a hole 24" deep and 12" wide.
- Fill it with water.

If it takes more than 36 hours to drain, the site is not appropriate for a rain garden. If you hit the ground water table while you are digging the hole, the site is also not appropriate for a rain garden.

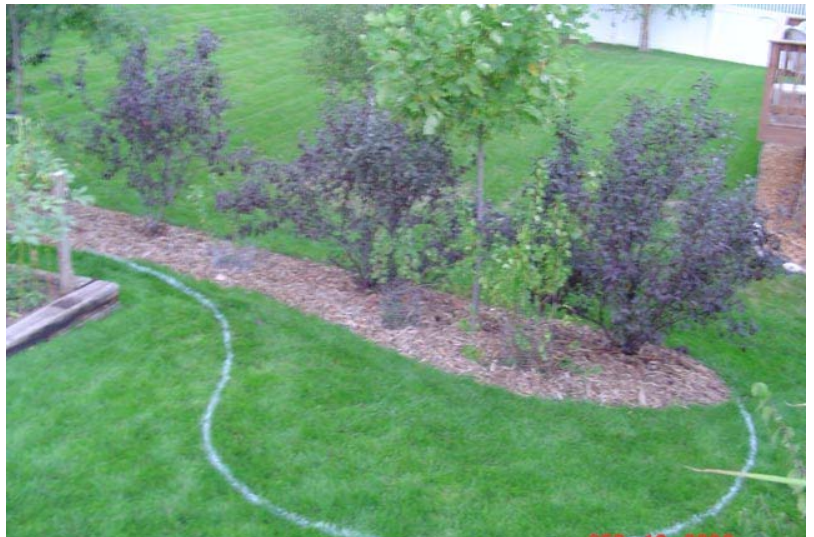


3. Outline your rain garden

Use a garden hose or some rope to lay out the shape of your garden. The size you determined for your rain garden was for a rectangle, so lay out the rectangle first, then move the length of hose around to the shape you want. The inside area will be close enough to the original rectangle you

the steps (continued):

measured. Step back, take a look and move it some more until you are happy with the shape. You may want to let it sit there for a day or two, so you can get a feel for how it will look in your landscape. Once you have the shape you want, you can mark it with marking paint or flags. Remember, the size was determined using one inch of rainfall, so if you need to make it slightly bigger or smaller, that is fine. It will either hold a little more or a little less runoff. The garden will have an inflow area where runoff will enter and an outflow area, in case you receive more rain than the garden is designed to hold. Identify these two spots when laying out your rain garden. This is where you will incorporate some rocks.



4. Remove any turf

Remove the turf in thick sheets. Save some to use on your berm. Use the rest elsewhere to patch up parts of your lawn, or compost it.

5. Use a tarp

Lay a big tarp on the ground next to the garden, where you will place excavated soil. More than one tarp comes in handy.

6. Dig

When you sized your rain garden, you determined how deep it would be. Remove that many inches of soil, plus three inches to account for mulch. So if you sized your rain garden for six inches deep, remove nine inches of soil. If you removed high-quality topsoil, you can dig an inch or two deeper and put back in that much topsoil. You may use some of this soil to build a berm and work it in other areas of the yard. Rough up the remaining soil with a shovel about six inches deep, to aerate and loosen it. Slope the sides of your rain garden and think about where your inflow and outflow will be.



resources:

- NC State University Extension rain garden publications: chatham.ces.ncsu.edu/rain-gardens.
- City of Durham rain gardens: durhamnc.gov/787/Rain-Gardens.
- NC State provides residential rain garden instruction and certification. Find a list of certified professionals here: www.bae.ncsu.edu/workshops-conferences/rg-201.
- Ask your local garden store or nursery for ideas, especially on design and plant choice.

the steps (continued):

7. Amend the soil.

Ideally, you will determine the kind of soil you have. Your county's Cooperative Extension office can test soil samples for free and provide information for improving soil for plant success. Clay soil infiltrates water very slowly. Soil amendments help improve drainage, reduce pollutant levels and support plant growth. Add soil amendment to the garden hole and mix it in with the loosened soil. One standard is to aim for at least



25 percent soil amendment. Pine bark fines (pea-sized nuggets) or leafy compost are good choices. Make sure the final depth of the rain garden bed is a little deeper than you intended, to account for mulch. If six inches of ponding is desirable, the final bed will be about nine inches deep.

The depth of your garden, the aeration of the soil and the addition of amendment should result in a rain garden bed that supports plants, allows water to soak into the ground and also holds some ponding water.

8. Build a berm

If your rain garden is on a slope, use some of the excess soil to create a berm that is 3-6 inches taller than the garden bed on the downhill end of the rain garden. This allows the rain garden to retain water during a storm. The height of the berm will determine how much water is held in the garden.



9. Stabilize your inflow and outflow

The inflow point, where water enters your garden, can experience extreme water-flow conditions during rainfall events. Use rocks to help dissipate and disperse the energy of the flowing water. Excess water that does not fit in the rain garden will flow over the lowest point of the berm, called a weir. The weir should be at least a foot wide and a few inches lower than the berm. Decide where this will be and use rocks and plants to help stabilize this area.

10. Plant!

You can now plant your plants. You can also split up this project over a few days and plant in the following days. If it rains, water will flow into the rain garden and you might even decide to change the berm or inflow area before you plant.

the steps (continued):

11. Mulch

Add three inches of mulch. Triple shredded hardwood mulch is less likely than other varieties to float during a rain event. Mulch protects plants from extreme temperatures, keeping the soil cooler in summer and warmer in winter. It limits evaporation from the soil, holding moisture for plants. It also helps stop weed seeds from sprouting.

12. Maintain

Water your rain garden in the first year to help the plants get established. After that, it should only need watering during droughts. Weed as needed. Replace the mulch every two to three years. With some care, your garden will stay beautiful for years to come.

what rocks?

Rocks are used to slow the flow of water entering and leaving a rain garden. You can use rocks you find around your yard or purchase fancier rocks. The rocks help slow down the water, so it does not erode the edges of the rain garden. You can also use rocks to channel water from your downspout to your rain garden.

