

The Basics of Building a Rain Garden

Why Build A Rain Garden?

If you have a green thumb and are making plans for your yearly spring gardening ritual, you can make some subtle changes to help reduce water pollution. Consider building a rain garden in the spring of 2011 instead of your usual planting routine. Rain gardens are landscaped areas planted with wild flowers and other native vegetation that are designed to soak up water runoff from your roof, driveway and lawn. Holding back this runoff helps prevent pollutants such as fertilizers from washing off your yard into storm sewers, and eventually into our streams and Three Rivers. By reducing the amount of water that enters the storm drains, rain gardens can reduce the potential for local flooding after days of heavy rain.

Okay, How Do I Build A Rain Garden Then?

1. First, you will need to **select the best location** on your property for the garden. Observe your yard when it rains heavily, noting where water flows from and where it goes. The ideal spot for a rain garden is a location between the source of runoff (roofs and driveways) and the runoff point (drains, streams, low spots). Be sure to consider the following guidelines when selecting the location:
 - The garden should not be within ten feet of the foundation of the home.
 - Make sure to avoid underground utility lines.
 - The ideal location for the garden will be in partial to full sun.
2. **Soils and Drainage:** Check that your soil is suitable for the location you have selected. Rain gardens work best when constructed in well-drained or sandy soils, but they can also be installed on sites with less permeable soils such as clays. Dig a hole about 1 foot deep at the potential site to examine the soil to check for three signs of an impermeable soil:
 - The site ponds water or remains saturated for several days after a storm event.
 - The soil shows signs of being a wetland soil within one foot of the surface. A wetland soil is often gray with ribbons or areas of brown area.
 - Water poured into the dug hole is still there after two days, provided it has not rained. If you see any of these signs, you will need to select another location. Otherwise, your site is ideal for the rain garden.
3. **Sizing Your Garden:** Rain gardens can be large or small, with the size dependent on the site drainage area. To estimate the drainage area, first figure out the roof area draining to the site. The volume of water draining to the garden from the roof will be equal to the square footage of the house multiplied by the percentage of roof feeding the downspouts to the garden. Add to this number the surface area of your paved driveway. The combined roof and driveway drainage area make up the total impermeable drainage area for the garden.
4. **Garden Construction:** Prior to digging your rain garden, it may be helpful to do the following:
 - Outline the area using string or spray paint.
 - The garden should be dug four to six inches deep with a slight depression in the center. Use the dug out soil to create a berm along one side of the rain garden. This will allow water to be retained during a storm.
 - If the garden is located on a slight slope, the berm should be placed on the downhill sloping side of the garden.
 - Cover the berm with mulch or grass to prevent erosion.
 - For very well drained soils, adding compost to the top layer will allow plants to establish themselves better and also allow the retention of more water.
 - For compacted soils, add gravel or mulch to improve infiltration.
5. **Now Plant Away!** Note that plants in a rain garden will have to tolerate fluctuating levels of soil wetness. To help plants survive the wet times, it will be beneficial to plant them 'high' on the edge of the garden or on elevated mounds within the garden to raise the roots above the ponded water level. The area should be mulched within 2-3 inches of hardwood mulch. Lighter mulches can float, so avoid pine bark and pine straw mulches. Mulch is important in pollution removal, maintaining soil moisture, and erosion prevention.

The Three Rivers Rain Garden Alliance provides recommendations on its web-site for plants to choose, for your reference at www.raingardenalliance.org.

