

## Butterfly Milkweed

*Asclepias tuberosa*

### PLANT NOTES

Late summer bloomer that commonly occurs throughout Iowa. Provides nectar for many insects and hummingbirds and larval food for monarchs. The plant can take on a bushy appearance from multiple stems and branches. Single stem when young, multiple stems when mature. Dome-shaped with 8 to 25 flowers, 2" to 5" across.

*Photos: Shutterstock*



# Chapter 3

## Choosing a Rain Garden Type

### ▼ Two Types of Rain Gardens

There are two types of rain gardens covered in this guide, a basic rain garden and an enhanced rain garden. Selecting the type of rain garden suitable for your property will depend on a variety of factors such as soil type, percolation rate, compaction, age of home, and space constraints.

Basic rain gardens are suitable for well drained soils that can percolate water at a rate greater than one-half inch per hour. Many homes built in the 1970s or earlier will have yards that can support a basic rain garden. Basic rain gardens also provide more flexibility in their design when there is no place to outlet a subdrain. A subdrain is a feature of an enhanced rain garden.

Photo: Polk SWCD



*Native and non-native plants in a basic rain garden.*

Photo: Polk SWCD



*Enhanced rain garden with a vertical overflow structure.*

Enhanced rain gardens are often suitable for sites in newer developments where soils are compacted and have poor drainage. Some homeowners opt for an enhanced rain garden when space is limited, or a smaller footprint is desired.

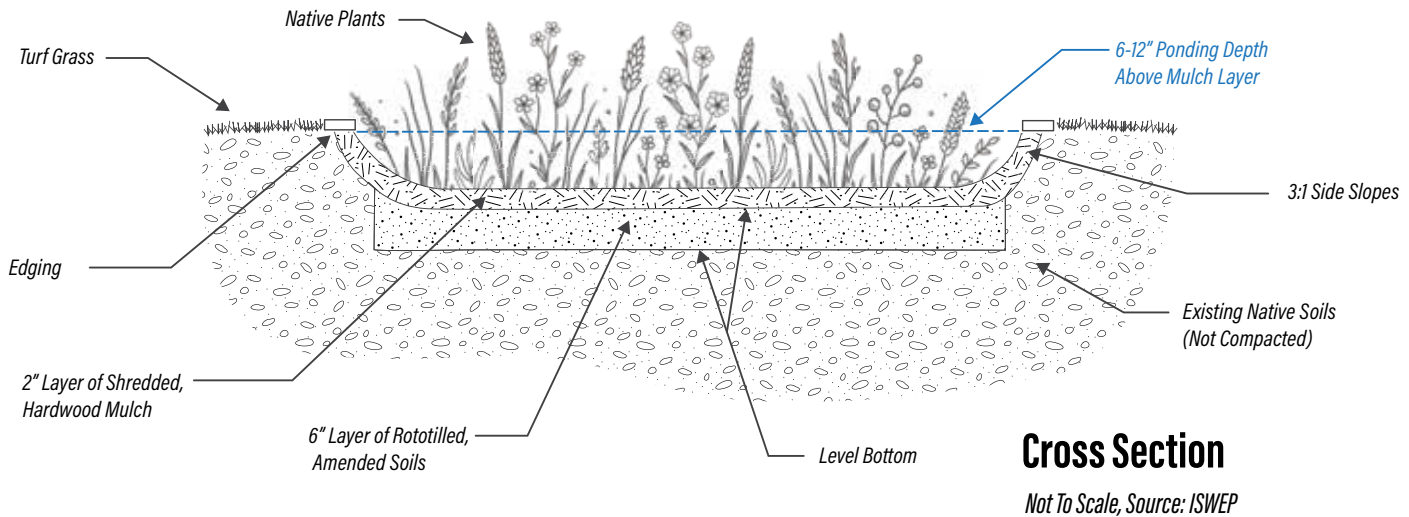
Although basic rain gardens and enhanced rain gardens may appear similar above ground, they are designed differently underground. Enhanced rain gardens are used in poorly drained soils and feature a subsurface perforated subdrain buried in aggregate. They also have an overflow structure for large rainfall events.





## Basic Rain Gardens

If site conditions and percolation rates are suitable, a basic rain garden is a simple solution for treating and managing stormwater runoff. Basic rain gardens feature four major components as detailed below. Both basic and enhanced rain gardens are designed to impound a specified amount of rainfall. This is known as the ponding depth and is typically between 6 and 12 inches above the mulch layer.

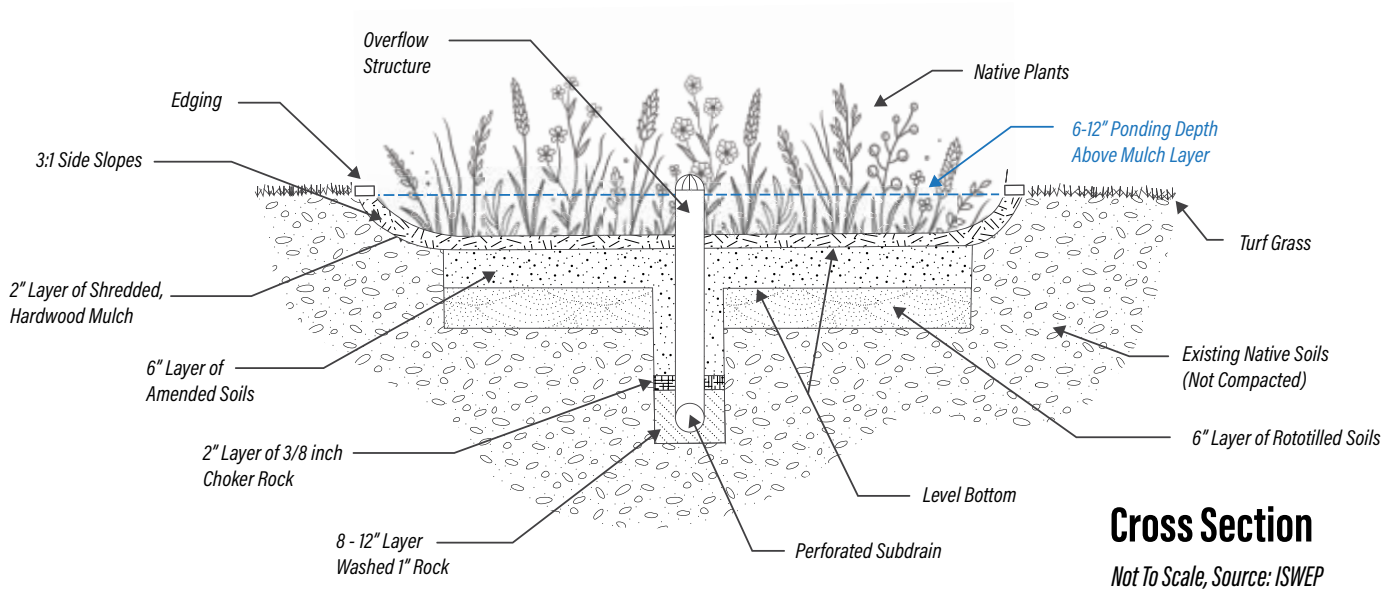


### Basic Rain Garden Components

- 1. Amended Soils.** Many rain gardens have amended soils in the base of the garden, especially if percolation rates range from ½ - 1.0 inch per hour. A recommended starting point is to amend with 2 inches of purchased topsoil, 3½ inches of washed concrete sand, and ½ inch of compost for a total depth of 6 inches. If you have healthy soils, topsoil that is loose and uncompacted with good percolation rates, it may not be necessary to amend the soils.
- 2. Shredded Hardwood Mulch.** A two-inch layer of shredded hardwood mulch is added above the amended soils for weed suppression and moisture retention. Shredded hardwood is used since it is less likely to float when the rain garden has ponded water.
- 3. Native and/or Non-Native Plants.** The use of native Iowa plants in rain gardens is recommended. Native plants are hardy and adapted to Iowa's fluctuations in seasonal temperatures, rainfall, and soils.
- 4. Edging.** Many rain gardens have defined edges using paver blocks, landscape edging, or mulched trenches. This makes mowing around the rain garden easier and prevents encroachment from roots of the surrounding turf grass.

## Enhanced Rain Gardens

An enhanced rain garden can be installed in areas where soils drain slowly or where space is limited. The use of a subdrain, overflow structure, amended soil, and rock layers are the primary differences between the two types of rain gardens. Due to a more complicated installation, most homeowners hire a landscaping contractor to install this type of rain garden. A detailed cross section can be found in Appendix G.



### Enhanced Rain Garden Components

- 1. Amended Soils.** Amended soils consist of a mixture of washed concrete sand (75-90%), topsoil (0-25%), and compost (0-10%). They promote rainwater percolation and create a suitable planting bed for young plants. After rototilling, a six-inch layer is placed in the excavated depression.
- 2. Perforated Subdrain.** The subdrain is placed horizontally within a trench filled with 8 to 12-inches of washed rock. There are typically two inches of rock below the subdrain.
- 3. Overflow Structure.** The overflow riser is a solid pipe that extends vertically above the ponding depth. There are openings on the cap of the riser that are used for drainage overflow generated from large rainfall events.
- 4. Washed Rock.** An 8 to 12 inch layer of washed one-inch rock surrounds the perforated subdrain pipe.
- 5. Choker Rock.** A two-inch layer of 3/8-inch washed rock is placed above the washed rock layer to prevent the amended soil from entering the subsurface rock and subdrain.