

RAIN GARDEN
DESIGN & INSTALLATION



Photo credit: thisoldhouse.com

SITING

Drainage Area

Small to Medium Areas 500 -1000 SF; Sized to drain within 24 hours.

Space

Graded low points, but soils must infiltrate.

Topography

Rain gardens are easiest to install in flat or slightly sloped areas.

Soils

Well drained soils are necessary. Avoid placing the rain garden in a low spot in the yard that always seems wet. A rain garden is not a water garden or a wetland.

Setbacks

Min 10' from building foundation
Min 5' from septic systems and
Min. 25' from "404" wetlands

DESIGN INFORMATION

DESCRIPTION

A rain garden is a depression (about 6 to 18" inches deep) that collects storm water runoff from a roof, driveway or yard and allows it to infiltrate into the ground. Rain gardens are typically planted with shrubs and perennials (natives are ideal), and can be colorful, landscaped areas in your yard.

BENEFITS

1. Rain gardens also often provide habitat that can attract beneficial wildlife such as butterflies and hummingbirds.
2. Increase groundwater recharge.
3. Easy to install and maintain.
4. Enhance the beauty of your yard and the neighborhood.

DESIGN CONSIDERATIONS

For most residential settings, you will be capturing runoff from your house roof and directing it to your rain garden. This can be accomplished by piping the downspout directly into your garden, or by letting it run over grass before entering the garden.

1. Pick a Site – make sure you take into considerations all setbacks and utilities.
2. Check the soils; make sure the soils properly infiltrate.
3. Maximum width of 10' (100 SF) applies to most Rain Garden sizing.
4. Plant material should fill 60 % of the rain garden.

SIZING CALCULATIONS

1. Calculate Tributary area in Square Feet.

Vertical Separation

-Min 12" separation to seasonal high-water table.

2. Divide the Tributary area by 100, then multiply by 15 to get water quality volume requirement in cubic feet.
3. Calculate the storage volume of your Rain Garden $L \times W \times D \times L_{\text{sideslope}} \times R_{\text{side slope}}$; see worksheet B for more detail.
4. If you are taking advantage of open space/tree credits and storm water control measure credits, see worksheet A for confirmation of volume required.

OPERATION & MAINTENANCE

(TO BE CONDUCTED POST-CONSTRUCTION & ANNUALLY)

With the use of native vegetation and an appropriately planned design, long term maintenance in a rain garden is low relative to conventional landscaping.

Watering

During the establishment period of the first year, watering may be required on a more frequent basis. Once established, watering should not be necessary at all except in cases of extreme drought.

Weeding

Weeding will be required during the first three years of establishment and will be less frequent after the three-year period.

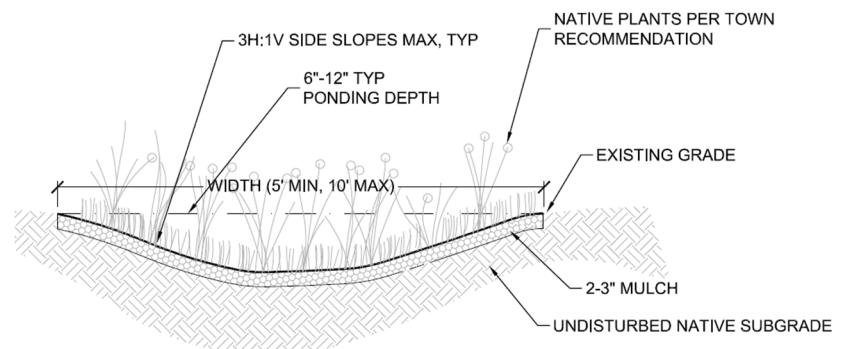
Remedial Measures

Annual maintenance is not necessarily different than traditional landscaping and includes removal of dead vegetation each spring, addition of mulch, periodic inspection of soil erosion, plant health and removal of litter as needed.

INSTALLATION

MATERIALS

- After calculating the appropriate size, stake out the garden with string and measuring tape.
- Excavate the garden to design depth + thickness of mulch layer, with appropriate side slopes.
- Plant and Mulch. Consider the plants water requirements as the middle of the rain garden may be slightly wetter than the outer edges.
- Consider placing landscape rock on the side slopes to reinforce the rain garden during storms.
- Very heavy rainfall can cause the garden to overflow, so plan for that in the design. Excess water can go into another SCM, like another rain garden, a vegetated swale or other approved storm water control measure.



Typical Rain Garden Cross Section.

Not to Scale.