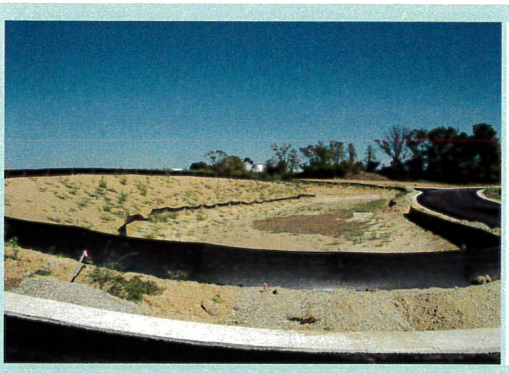
What is a Rain Garden?

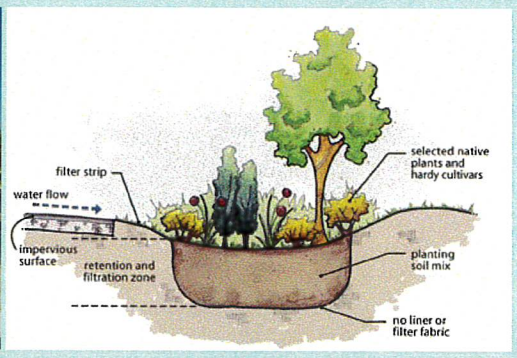
A rain garden is a type of Low Impact Development (LID) stormwater management Best Management Practice (BMP)

BMPs can be utilized in residential and commercial settings to reduce the need for stormwater transportation and treatment, reduce flooding and improve water quality!

Rain gardens capture & hold stormwater while it slowly infiltrates into the ground, reducing runoff, replenishing ground water supplies and reducing nonpoint source pollution, which provides clean water to local rivers, streams, wetlands, and lakes



A rain garden during construction in Wood River, Illinois (William Freeman)



An example of a rain garden in cross-section (AHBL Engineering)

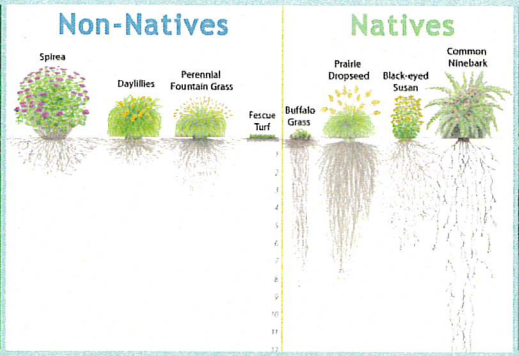
A completed, vegetated rain garden (www.shawnature.org)

Rain gardens utilize naturally low areas on a property, and are made up of layers of infiltration material (such as gravel) and planted with native plants

Why native plants? Because they have deep root systems (helping stormwater to get into the ground - deep-rooted trees may even be used), can survive both drought and flooding conditions, and will not become invasive, taking over your yard

Infiltration is key! Rain gardens must be designed and constructed to infiltrate stormwater quickly to limit the time plants are in standing water

A roadside rain garden (www.carolstream.org)



The importance of native plants (Mid-America Regional Council)

A small rain garden during a storm (www.nativeplantsunlimited.org)

Typical Design Considerations of A Rain Garden:

INFILTRATION is the key to a rain garden's success. **SOIL** is the key to infiltration. Rain gardens can be planted in almost any type of soil, although some amending may be necessary. The soil in a rain garden **MUST** drain water at a rate of **0.25 inches per hour** or greater, or it needs to be amended (adding organic material, sand or gravel to increase permeability).

SIZE - rain gardens are typically 100-300 square feet in size, depending on the size of the building footprint (impervious surface), which provides the water for the rain garden, and soil type (please see **www.ianrpubs.unl.edu** for more specific details on choosing the right size).

Rain Garden Design **DO's**:

DO plant a rain garden 10 feet from the foundation of the building
DO contact JULIE to locate the rain garden away from service lines
DO plant a rain garden in the flattest part of the yard (with a <12% slope)
DO plant a rain garden 25 feet from a well head
DO plant a rain garden where the water table is at least 2 feet below the soil
DO design the rain garden with a length to width ratio of 2:1 (with the longest side perpendicular to where the water enters)

Rain Garden Design **DON'T's**:

DON'T plant a rain garden under trees
DON'T plant a rain garden over a septic tank
DON'T plant a rain garden where water naturally pools

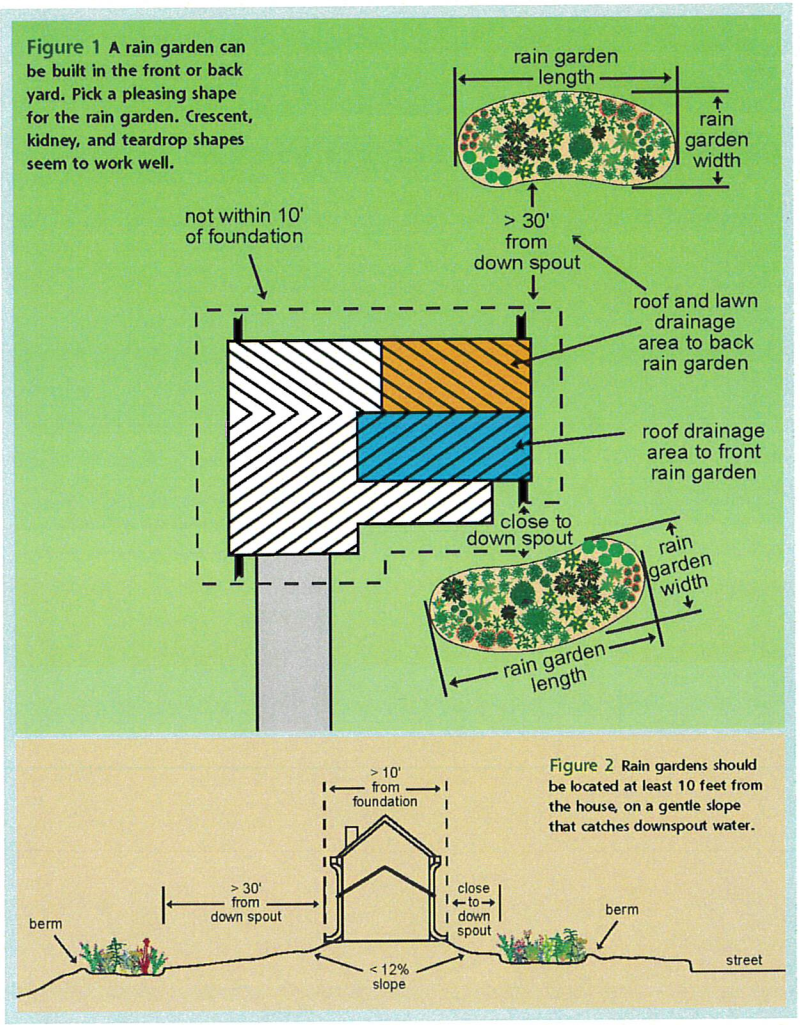


Figure 1 A rain garden can be built in the front or back yard. Pick a pleasing shape for the rain garden. Crescent, kidney, and teardrop shapes seem to work well.

Figure 2 Rain gardens should be located at least 10 feet from the house, on a gentle slope that catches downspout water.

Both aerial and side views of rain garden layout and design guidelines (www.dnr.state.wi.us)

Resources & References:

- Stormwater Management - Rain Garden Design for Homeowners, University of Nebraska - Lincoln (www.ianrpubs.unl.edu)
- Rain Gardens: A how-to manual for homeowners. University of Wisconsin Extension. UWEX Publication GWQ037
- Low Impact Development Center - Rain Garden Design Templates (www.lowimpactdevelopmentcenter.org/raingarden_design)
- Applied Ecological Services (www.appliedeco.com/Marketing/RainGardendesign.pdf)
- Shaw Nature Reserve - Native Landscaping Manual (www.shawnature.org/nativeland/NativeLandscapingManual/ChapterTwo)
- Rain Gardens: A How-to Manual for Homeowners (www.tappwater.org)
- Center For Neighborhood Technology (www.cnt.org/about)

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For more information, please contact the Southwestern Illinois Resource Conservation & Development, 406 East Main Street, Mascoutah, Illinois 62258, (618) 566-4451, www.swircd.org