

Garden Depth

A typical rain garden is between four and eight inches deep. A rain garden less than four inches deep will need too much surface area to provide enough water storage to infiltrate larger storms. Storm water runoff should spread evenly across the entire rain garden, to increase the opportunity for infiltration.

Soil Amendments

To prepare for a rain garden, remove soil to create a depression area. Blend in soil, sand, and compost mixture to enhance infiltration by creating deep, loose soil to absorb water and pollutants. Special consideration may be needed for clay soil. The most common cause of rain garden failure is soil compaction.

Plant Selection

While rain gardens are a highly functional way to help protect water quality, they can also be an attractive part of your yard and neighborhood. Choose native plants based on site considerations for light, moisture, and soil. Vary plant structure, height, and flower color for seasonal appeal and butterfly habitat. Mowed grass borders are recommended around the garden.

Young plants, or plugs, are best for rain gardens because they are easier to establish and maintain. When laying plants out, randomly clump individual species in groups of 3 to 5 plants to provide bolder color. Be sure to repeat these individual groupings to create repetition and cohesion in a planting. It is a good idea to place plant labels next to each individual grouping. This will help identify the young native plants from weeds as you maintain the garden.

It is important to water rain gardens regularly throughout the first season. Once established, they may require additional watering during drought or extended dry periods, especially in the eastern part of Montana. A shredded wood mulch is an important part of a rain garden. Mulch helps retain moisture and discourages weed seeds from germinating.

Low Impact Development (LID)

A rain garden is an example of the low impact development (LID) approach to storm water management. Traditionally, storm water management has involved the rapid conveyance of water via storm sewers to surface waters. Low impact development is a different approach that retains and infiltrates rainfall on-site. The LID approach emphasizes site design and planning techniques that mimic the natural infiltration-based, groundwater-driven hydrology of our historic landscape.



Native landscaping adds color, structure, and diversity to the landscape and provides habitat for butterflies.

More Information About Rain Gardens

Find additional information about rain gardens by visiting the following websites:

- www.raingardens.org
- www.mninter.net/~stack/rain/
- www.lowimpactdevelopment.org
- www.cwp.org
- www.stormwatercenter.net
- www.mass.gov/envir/lid/pdf/raingarden.pdf
- www.raintorecreation.org/Raingardens.html
- www.umt.edu/mnps
- www.harvestH2O.com
- www.plantingmontana.com
- www.mt.nrcs.usda.gov/technical/ecs/plants/technotes/pmtechnoteMT57.html
- www.mt.nrcs.usda.gov/plants.html
- www.plants.usda.gov
- www.extn.msu.montana.edu/yard.asp

More information on this topic is also available from your local NRCS or county conservation district office.

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Rain Gardens

... absorb water, reduce runoff, prevent flooding

What are Rain Gardens?

Rain gardens are depression areas landscaped with perennial flowers and native vegetation that soak up rainwater. They are strategically located to capture runoff from impervious surfaces, such as roofs and streets. Rain gardens fill with a few inches of water after a storm and then water filters into the ground, rather than running off to a storm drain.

Why are Rain Gardens Important?

As cities and suburbs grow, increased storm water runoff from impervious surfaces becomes a problem. Storm water runoff from developed areas increases flooding potential and carries pollutants from streets, parking lots, and lawns into local streams and lakes. As more impervious surfaces are added to

our communities, it is more important than ever to help rainwater infiltrate the ground locally. This protects water quality and reduces storm water runoff.

Rain gardens can absorb most rainfall events from small site developments, such as single-family housing.

Designing and Planting

Designing and planting a rain garden is very similar to creating other perennial gardens, with a few of the following exceptions:

Location

Rain gardens must be located to intercept runoff from impervious areas. They can be placed anywhere good soils with adequate drainage rates exist. It is best to keep rain gardens away from building foundations, utilities, water wells, and septic systems where applicable.

Size

Rain gardens sited for single-family homes are typically 5 to 10 percent the size of the impervious surface generating the runoff entering the garden. Measure the square footage of the impervious area (length x width); then multiply this by 0.07 (7 percent).

Determine a length and width of the rain garden that best fits the site. For example, a 2,000-square-foot roof, when multiplied by 7 percent, would call for a rain garden 140 square feet in size, or 14 feet long by 10 feet wide.

United States Department of Agriculture

Natural Resources Conservation Service

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Photo courtesy of Fred Rozumalski

This rain garden is strategically placed to capture runoff from the lawn and street. Rain gardens can also be designed to capture roof and sidewalk runoff.

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Rain Garden in a Neighborhood Setting



Adapted from original illustration by Doug Adamson

Rainwater “harvesting” can also be accomplished with the aid of rain barrels, above- or below-ground cisterns, or tanks to store excess rainwater until needed. This can be especially useful in areas where groundwater is unsuitable for irrigation, or where space for a rain garden is limited.



Rain barrel.



Cistern.

Plant Choices

Choose native plants based on need for light, moisture, and soil. Vary plant structure, height, and flower color for seasonal appeal and butterfly habitat.

Size

A rain garden is typically 5 to 10 percent the size of the impervious surface that generates runoff.

Depth

A typical rain garden is between four and eight inches deep. This depth, proportionate to surface area, helps assure water will infiltrate quickly and not pond.

Location

Rain gardens are often located at the end of a roof gutter or drain spout, as a buffer between the lawn and the street.

Soil Amendments

A good soil mix for rain gardens is 60 percent sand, 15 percent topsoil, and 25 percent compost.