

PLANNING, PLANTING & MAINTAINING RESIDENTIAL RAIN GARDENS

Updated July 2011

Prepared by

Healthy Lawns and Gardens Program
Southeastern Oakland County Water Authority (SOCWA)

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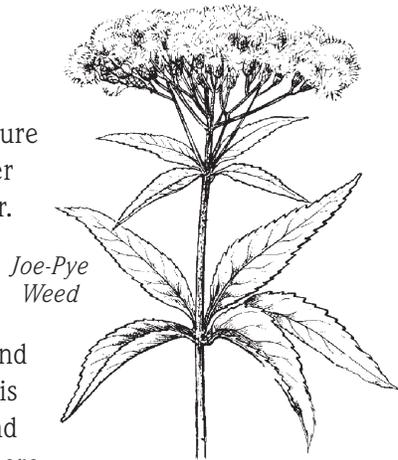


A. PLANNING THE RAIN GARDEN

1. A RAIN GARDEN IS MORE THAN A GARDEN

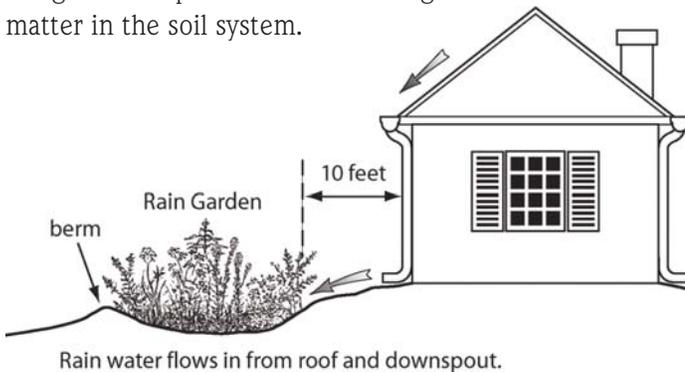
Rain gardens are depressions in the landscape, designed and planted to trap, absorb, and filter storm water runoff and improve water quality. The rain garden creates a “bioretention area” which collects water runoff, filters out pollutants, and slowly absorbs water. Rain gardens are designed to be “dry gardens” within 48 hours after a major rainfall.

Rain gardens recreate a natural system of water recycling, similar to a mature forest with its spongy layer of leaves and organic litter. In a forest, rainwater slowly percolates into and through the soil, where it replenishes ground water – and where water is taken up by plant roots and recycled into the atmosphere.



Rain gardens in sandy soils can be designed to encourage infiltration through the garden soil. In contrast, rain gardens in clay soil sites are often designed to absorb and recycle all of the water within the garden itself. Specific soil mix recommendations are available from SOCWA, based on the research conducted in 2006-2007 by Dr. Don Carpenter, Lawrence Technological University.

The rain garden bed is usually excavated to a depth of 2 to 3 feet. A mixture of compost and sharp sand is then added to create a fertile planting mix. Compost holds 130 percent of its weight in water, helps break down and filter pollutants, and provides a source of slow-release nutrients for plants. The layer of natural mulch on top of the garden helps to maintain the organic matter in the soil system.



In Southeast Oakland County, environmentally-minded gardeners are planting rain gardens for the following reasons:

- To provide an attractive, natural garden for neighbors and children to enjoy (butterflies love the native wildflowers!)
- To enhance biodiversity and provide habitats for butterflies and beneficial insects.
- To contribute to Rouge River water quality by keeping storm water out of storm drains.
- To dry up wet areas where rainwater ponds on-site.
- To provide a site for neighborhood education about storm water runoff. Every home near a storm drain is waterfront property!
- To encourage neighborhood identity and pride.
- To enhance property values.

In order to meet these objectives, rain gardens need to be carefully planned, planted and maintained. The tips provided in this paper reflect the experience of about thirty SOCWA volunteers as well as rain garden owners.

This is a supplement to the 4 page bulletin, “Rain Gardens for the Rouge River”, available from the SOCWA office (248-288-5150) or on the website www.socwa.org. Comments and suggestions for updating these printed materials are welcome at any time.

2. RAIN GARDEN SITE LOCATION

Residential rain gardens are usually sited to collect water from roofs...or to collect water from road and sidewalk runoff (see diagram).

Downspout rain gardens which collect roof water: Set the rain garden edge AWAY from the foundation of the house by at least 10 feet. The drainage direction should be AWAY from the house.

Roadside rain gardens which collect stormwater from the road: Several small rain gardens along the



A. PLANNING THE RAIN GARDEN (CONTINUED)

front of the property may be more effective than a single rain garden. This type of rain garden works well if the crown of the road is designed to sheet flow rainwater runoff from a small area of the road.

Sometimes front yard swales and ditches in the public right-of-way (easement) function as a drainage system. Rain gardens do not typically have the capacity to collect and handle rain water from an entire block of homes, although there are exceptions. If the drainageway has a gentle slope and the elevation is flat, a rain garden may be feasible.

Several months of advance planning and observation are needed to site the rain garden. After major rain storms, observe the flow of water. Mark the location of water collection with spray paint or a hose.

Rain gardens in low-lying areas are the best. The collection point can then be enhanced with removal of soil and backfilling with a compost and sharp sand mixture.

Rain gardens are usually no larger than 10 feet by 20 feet in size. This size, when dug out to a depth of 2 - 3 feet, can handle moderate rainwater runoff. Rain gardens are not very useful, however, for major flooding of front or back yards. In such situations, an engineered drainage system with underground pipes may be needed.

Observe how long it takes the water to infiltrate (seep) into the ground. An additional drainage test is often useful to determine the texture and drainage characteristics of the underlying soil. If there is some infiltration within two days, the depth of the rain garden may be reduced.

Professional assistance with siting and sizing rain gardens is recommended. For additional information, contact SOCWA at 248-288-5150 (LFDean@aol.com) or check with your local government engineering department.

3. DRY STREAM BEDS AND GRASS SWALES

In addition to the design of the rain garden, the connection of the rain garden to the source of water should be considered. Dry stream beds and grass swales may be used to guide the flow of rainwater from the source to the rain garden.

Dry stream beds are drainageways lined with rocks or gravel to direct the rainwater runoff. Grass swales have gentle slopes and are planted with regular turfgrass.

It is always best to place the rain garden close to the source of the rainwater runoff: either the roof downspout (set back 10 feet from the foundation), or near the collection point for road and sideway runoff. The dry stream bed and/or grass swale can function as an extension of the rain garden as well as an “overflow” system during very heavy rain storms.

Keeping weeds out of rocks in dry stream beds is a continuing challenge. Gravel with newspaper underneath may be useful.

Landscape fabric often creates more problems than it solves, since soil may collect in the rock and foster weed growth. Weed roots may penetrate the landscape fabric.

Grass swales are ideal for guiding stormwater runoff the rain garden with easy-care lawn maintenance.

When designing dry stream beds and grass swales, try to avoid a “point source” connection of the drainageway to the rain garden. Whenever possible, spread the flow of rainwater over the entire surface of the rain garden rather than creating a channel connection.

4. TAKE TIME TO PLAN

Planning and selecting rain garden plants should be a deliberate process. Here are some practical tips from SOCWA gardeners:

- Prepare a site map of your home landscape. Observe where water flows during major storms. Put “standing water” locations on the map. Observe how long it takes the water to infiltrate into the garden. (Note: Rain gardens should be dry within 48 hours.)
- With graph paper in hand, lay out the garden design.
- Learn about native plants and their growth patterns; maintain a journal.
- Visit other rain gardens. Discuss maintenance with other gardeners. Volunteer to help others in their rain garden.

A. PLANNING THE RAIN GARDEN (CONTINUED)

5. MUNICIPAL APPROVALS AND SERVICES

If you are considering a rain garden, contact your municipal department of engineering before finalizing your site design. Approval of rain gardens in the easement (between the sidewalk and the street) will be needed.

Services which may be available include:

- Assistance in sizing the rain garden

- Assistance in digging the rain garden, if located in a public easement or right-of-way
- Contacts with Miss Dig – to assure that there are no utility lines or sewer lines in or near your rain garden location; (call 1-800-482-7171)
- Free compost

Many municipalities in the Rouge River watershed encourage home rain gardens — a beautiful solution to water pollution!



B. NATIVE PLANTS FOR RAIN GARDENS

1. STYLE OF THE RAIN GARDEN

What is the optimal “style” for a rain garden? The answer depends on the location of the rain garden and the owner’s goals.

Some rain gardens, especially near downspouts, are “prairie gardens” with dense, intermingled tall plants. Some visitors may complain that a prairie rain garden is “too weedy”, while others will appreciate and enjoy the diverse colors, stems, and beneficial insects.

Other rain gardens will have the appearance of a maintained, perennial garden bed – but with native wildflowers and perhaps some shrubs. Different wildflowers (perennials) emerge and bloom at different times of the year. Cultivars of native wildflowers and shrubs are useful in this type of garden, since their size tends to be more compact with predictable growth.

Finally, some rain gardens attempt to combine both styles together.

2. NATIVE PLANTS AND NATIVE PLANT CULTIVARS

A “native” plant is one that would have been found here before Europeans settled in Michigan in the 1700s. In contrast, a “naturalized” plant is one that was introduced or alien, and is capable of becoming established without our care.

Native plants offer advantages to the home gardener. First, they are suited to our climate and site conditions and will thrive, if planted in suitable conditions. Native plants tend to be hardy and pest free. They attract butterflies and other beneficial insects. Most importantly, native plants help restore local ecological character and community identify.

Water quality benefits of native plants are important. Long roots of prairie plants help loosen soil and encourage infiltration of storm water. Native plants (and non-native plants) soak up rain water, use it, and recycle it into the atmosphere.

A native plant “cultivar” is a “cultivated variety.” Although the growth habit and other characteristics of the cultivar may be altered, it is still considered a native plant. Many of the native plants in local garden centers are cultivars of native plants, grown in a plant nursery and selected for particular traits (in effect, a “clone”). Rain gardeners may find native plant cultivars a useful way to achieve plant diversity with shorter or more predictable heights and plant form.

The advantage of “true” native plants (not cultivars) is in the characteristics of the plant – the root growth, the stems, leaves, flowers, etc. In the process of creating a cultivar with particular characteristics, some of the original characteristics may be lost.

B. NATIVE PLANTS FOR RAIN GARDENS (CONTINUED)

True natives may be somewhat more attractive to beneficial insects (butterflies, bees, etc.). For example, the fragrance of the native plant, the shape of the flowers and leaves, etc. may be perfectly suited to native beneficial insects.

3. RAIN GARDEN PLANT SELECTION

An essential first step is to assess your rain garden site conditions:

- **Soil texture**— sandy, clay, loam
- **Light conditions**— sun, vs. partial shade, vs. shade
- **Sight lines and visibility**

With site condition information in hand, you can then visit garden centers and native plant nurseries and learn about plant availability.

Plants which thrive in moist, organic-rich soils are ideal for rain gardens. Plants that thrive in well-drained soil will sometimes work in rain gardens, since rain gardens should be dry within 48 hours. In contrast, wetland plants (such as Marsh Marigold) may not do well in a typical home rain garden since they need water-laden soils for an extended period of time in the Spring.

When selecting plants, consider plant height with care. Many native wildflowers grow 6 feet tall – or more. Tall plants create a different design feature and may create visibility problems along streets and driveways. Wildflowers which are planted in the sun, planted in compost, and watered will grow taller than the same plant in the partial shade or dry soil.

It usually takes three years for a bed of standard perennial flowers to reach their maximum height and width. The same growth time applies to native wildflowers.

If you are planning a rain garden near the street or driveway, you will want to avoid very tall plants such as New England Aster (*Aster novae-angliae*), Boneset (*Eupatorium perfoliatum*), and Ironweed (*Vernonia missurica*). Some native wildflowers, however, can be cut back (“pinched

back”) by one-third in June – before the buds are set. These flowers will still bloom...but they will be shorter with a more compact form.

Many native wildflowers will tolerate a range of soil moisture and light conditions. Some wetland wildflowers, for example, will grow in dry site conditions, although they may not be as vigorous.

4. COMMON ERRORS WITH NATIVE PLANTS

Errors made by home gardeners when planting their rain gardens are primarily related to lack of understanding the growth patterns of native plants. Even persons familiar with native plants may not be able to predict how the native wildflowers will respond to the compost-rich rain garden soil mixture.

“Surprises” from native plant gardens include:

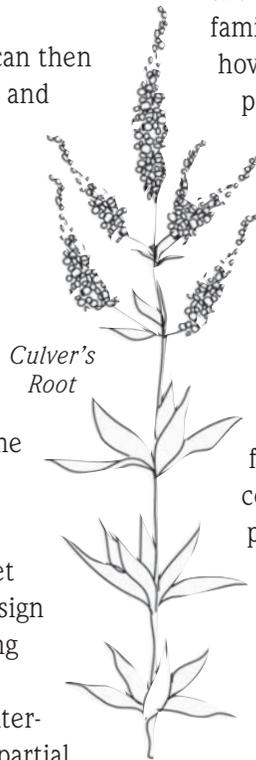
- Vertical height and horizontal span of native wildflowers.
- Aggressive growth of some species.
- The rapid growth rate, especially when planted in a compost-rich soil mixture.

There is a tendency to “over plant” native wildflower gardens. The fast-growing plants may become tall and dense and look “weedy.” This growth pattern leads to the need to thin out and tame the so-called “wild” garden.

It is sometimes believed that a thick, dense stand of native wildflowers is a low-maintenance garden. This is not the case. Most rain garden owners want to have a diverse collection of wildflowers, grasses, and/or shrubs. Without management, even a small rain garden can become overrun with one or two aggressive species.

To avoid the “surprises” from planting, it is wise to spend time viewing actual rain gardens (and other native plant gardens). Gardeners are excellent teachers and often very knowledgeable about species and growth patterns.

The examination of actual native plant rain gardens also leads to the recognition that many native wildflowers are adapted to varying site conditions. For example, wildflowers that grow best in moist soils with full sun may



B. NATIVE PLANTS FOR RAIN GARDENS (CONTINUED)

also grow very well in dry soils and partial shade. Native wildflowers are “tough” plants that have survived many varying conditions.

To learn more, persons interested in rain gardens are encouraged to visit the SOCWA Native Landscape Education Site at 3910 W. Webster, Royal Oak (between Coolidge and Greenfield Highways). Many examples of native wildflowers and shrubs suitable for rain gardens are exhibited in the garden. Drive-by locations of other community and home rain gardens are available on request. The website www.socwa.org includes a “Residential Rain Garden Registry” with photos and descriptions from Southeast Oakland County rain gardens.

5. AGGRESSIVE NATIVE PLANTS TO AVOID

Some native plants spread very quickly and push out some of desirable, diverse species.

Native wildflowers and groundcovers that create maintenance headaches for home gardeners include:

- **Canada Anemone** – *Anemone Canadensis* (roots spread quickly and are difficult to remove. Roots entangle themselves with other wildflowers.)
- **Common Milkweed** – *Asclepias syriaca* (seeds spread rapidly) (Swamp Milkweed – *Asclepias tuberosa* – is a better choice for the home garden)

- **Spreading Dogbane** – *Apocynum androsaemifolium* (underground rhizomes are persistent and difficult to remove)
- **Canada Goldenrod** – *Solidago Canadensis* (spreads quickly, creating dense patches)

A list of recommended native wildflowers for Southeast Oakland communities is available from SOCWA. See page 4 of the bulletin titled, “Rain Gardens for the Rouge River”.

6. MICHIGAN NATIVE PLANT NURSERIES

The Michigan Native Plant Producers Association is a member-based network that provides certification. Contact information is available on the website www.mnppa.org.

Member nurseries assure their customers that only Michigan native plants and seeds are sold.

Some nurseries specialize in seed while other nurseries focus on wildflowers, wetland plants, and/or shrubs. Design and consulting services are sometimes available.

A telephone or e-mail to the company often leads to a contact with the owner – a very knowledgeable specialist. The owners welcome inquiries, and will help you select native plants that can tolerate the conditions of the rain garden environment.

C. PLANTING, MULCHING, AND EDGING THE RAIN GARDEN



1. NATIVE PLANT GARDEN DESIGN

It is important to know the maximum height and spread of rain garden plants BEFORE they are planted. Wildflowers may be planted individually or clustered, depending on the landscape design goal of the owner. Fall or Spring planting is recommended for healthy plant establishment because cool weather reduces transplant stress.

Some rain gardens may have two planting zones – one

with more “wet soil tolerant” plants. Plants such as Blue Flag Iris (*Iris versicolor*) and Swamp Milkweed (*Asclepias incarnata*) are ideal for the wetter areas. However, these same plants do well in dryer portions of the rain garden, so the two-zone system may not be necessary if these are the desired plants.

Small plant plugs are particularly economical, especially for large plantings. Many native plant nurseries use plug containers that allow the roots to grow 3 or 4 inches. The

C. PLANTING, MULCHING AND EDGING THE RAIN GARDEN (CONTINUED)

longer roots aid rapid establishment of the native wildflowers. To obtain blooms within the first season following a spring planting, however, larger quart size containers are recommended.

Space native wildflowers 18 inches or more apart. Within 2 or 3 years, the small plants will expand and fill the space. By the third year, dividing or removing plants usually will be needed.

2. A WELL-TENDED NATIVE GARDEN

Native wildflower gardens can take on a “weedy” look, even if not intended by the owner. Native wildflowers grow quickly, especially in compost-rich soils, and many species grow tall.

Tips for “taming” the wildflower garden and making it blend in with manicured neighborhoods include the following (outlined in *Landscaping with Native Plants of Michigan* by Lynn Steiner):

- Maintain at least a small area of turf grass.
- Cut back some plants in the Fall.
- Avoid planting excessively tall plants.
- Plant natives in a more traditional way, with spacing between plants.
- Plant in clumps or “drifts”, as is more typical of nonnative landscapes.

Regular maintenance is also essential for an attractive garden that is an asset to a neighborhood.

3. MAINTAINING A GRASS BUFFER AROUND THE RAIN GARDEN

The grass buffer around the rain garden is functional as well as aesthetic in purpose. The grass slows the flow of water and may encourage some infiltration into the grass. The grass buffer reduces potential “scouring” of the rain garden, caused by rapid flows.

Healthy lawn practices should be used on lawns surrounding rain gardens. A healthy lawn is cut high (3 inches or more) with clippings left on the lawn in most cases. A healthy lawn does not have weed-and-feed applied as a blanket. Weeds are dug by hand or spot treated. The healthy lawn approach also helps to keep pesticides out of the rain garden. (To receive a healthy lawn information package, contact SOCWA at 248-288-5150 or www.socwa.org).

4. RAIN GARDEN MULCHES

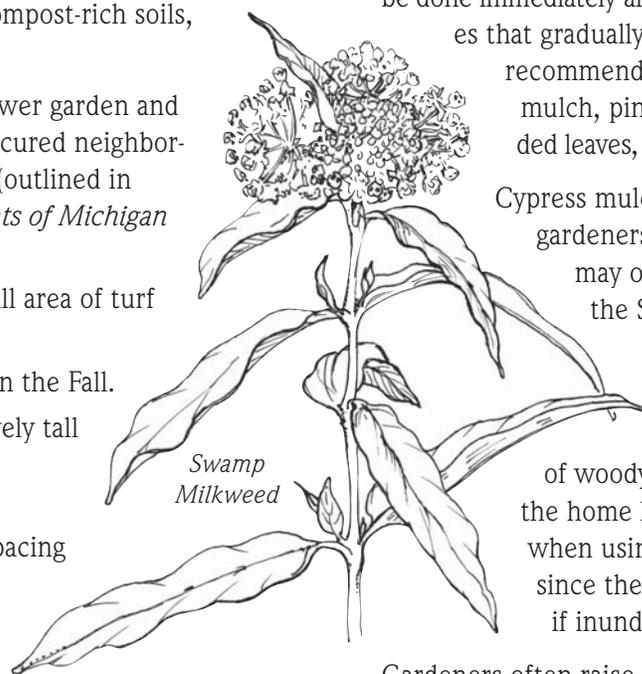
The placement of mulch around rain garden plants should be done immediately after planting. Natural organic mulches that gradually decompose in the garden are recommended. Choices include hardwood mulch, pine bark mulch, cedar mulch, shredded leaves, and aged wood chips.

Cypress mulch is not recommended by SOCWA gardeners because of the concern that it may originate from cypress swamps in the South. Fresh wood chips and pallet also not recommended – primarily because of appearance.

Mulch nuggets are large chunks of woody material and have application to the home landscape. Care must be taken when using large nuggets in a rain garden, since they tend to float and/or move around if inundated with water.

Gardeners often raise the question of nutrient uptake by mulches as they decompose. It is true, that a small amount of nitrogen from the soil will be taken up by decomposing mulch. The amount of uptake, however, is not enough to harm the plant roots. Over time, the mulch decomposes and becomes compost (also called humus) – which actually contributes nitrogen and other nutrients back to the soil system (telephone conference with Dr. Daryl Warnke, Crop and Soil Science Department, Michigan State University.)

Mulch should be spread 1 to 3 inches deep throughout the rain garden. Re-application twice a year is usually necessary.



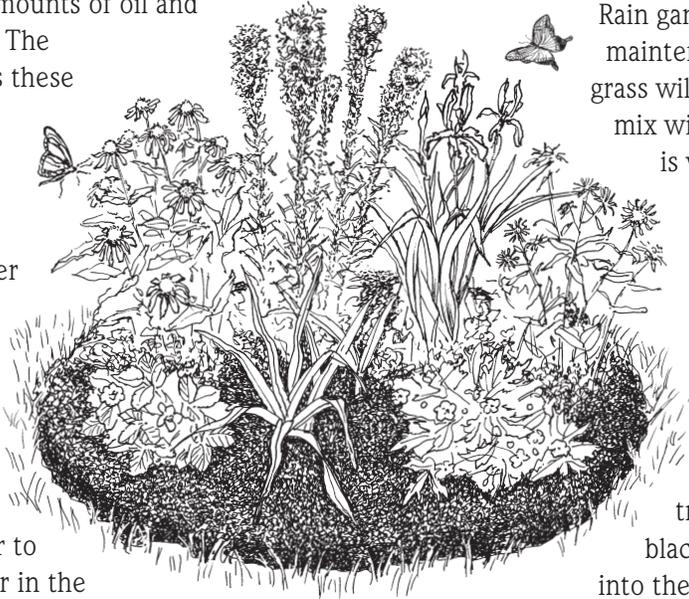
C. PLANTING, MULCHING AND EDGING THE RAIN GARDEN (CONTINUED)

Mulch provides many helpful benefits to the gardener, including weed reduction and moisture retention. The critical contribution to the rain garden, however, is the buffering of runoff and the contribution of organic matter:

- Some rain gardens receive runoff from the road that may include small amounts of oil and other organic pollutants. The mulch catches and filters these pollutants as part of the rain garden system.
- Decomposed mulch becomes compost which adds to the organic matter in the garden. The new organic matter helps maintain an active biological system and helps absorb water.

In effect, the natural organic mulch (woody mulch) is similar to leaves falling on the forest floor in the Fall. A woodland ecological system, with biological activity near the surface of the garden, is the desired goal.

Landscape fabric is not recommended, even when designed for weed control. Roots of plants and weeds often become tangled in the landscape fabric. Most importantly, the fabric blocks the flow of nutrients and microor-



ganisms from the surface of the garden to the roots. For large scale commercial plantings, however, biodegradable woven nets may be a useful tool for weed management.

5. EDGING THE RAIN GARDEN

Rain garden edges are the key to low maintenance. Without an edge, the grass will grow into the garden and mix with the plant roots. Turf grass is very aggressive in a compost-rich garden and will, in time, turn the garden into a lawn!

The choice of type of edging rests with the gardener.

Two popular choices in Southeast Oakland County are: (1) V-notch edge or trench (hand dug); and (2) black plastic edging, anchored into the ground.

The V-notch edge creates a separation between the lawn and the garden edge. The trench prevents the grass from growing into the rain garden bed, as long as the gap is kept clear. It should be 4 inches deep or more, and “checked” every several months. During rain storms, water may accumulate in the edge... and later flow into the garden bed.



D. RAIN GARDEN MAINTENANCE

1. WEEDING, WATERING, CUTTING, THINNING AND REPLANTING

When basic perennial garden maintenance is followed, a rain garden can be an attractive feature of the neighborhood.

But, maintenance must be continually carried out. If maintenance is ignored for 3 or 4 weeks (or more), major work and a “rescue” operation are often necessary.

Tips for weeding, watering, cutting, thinning, and replanting are outlined below.

- Weeding** – do it regularly. If necessary, mark native plants.
- Watering** – as needed, especially during plant establishment. After first year, deep-rooted wildflowers may be self-sufficient. Whenever possible, water by hand at the base of the plant. Soak the soil below the mulch (pull back the mulch to check).

D. RAIN GARDEN MAINTENANCE (CONTINUED)

- c. Cutting back stalks in the summer** – Tall wildflowers can be cut back by one-third in early June and/or early July. Stem cutting delays flowering by 3-4 weeks, which is usually fine. Cutting also encourages bushier, more compact growth.
- d. Thin, divide, and/or remove extra plants from time-to-time** – Try not to let all of the plants intermingle. Weeds “hide” between thick plants and changes in plant species become more difficult. Have a wildflower party and share extras with friends!
- e. Replace and replant** – Some loss of plants is inevitable in any garden. Check plant health and plan additions in the spring and fall. Top dress with more compost and/or woody mulch to maintain a 1 to 3 inch layer.

Fertilizer is not needed in a rain garden. The compost in the rain garden serves as a fertilizer, contributes organic matter for soil health, holds water and supports healthy plant growth. The compost in most rain garden soil

mixes exceeds the amount needed by the plants. In fact, the compost promotes lush growth in prairie plants that do not need the fertile woodland-type environment.

Pesticides (including insecticides, herbicides, fungicides, and rodenticides) should not be used in a rain garden. If a plant is suffering from mildew, black spot, or a perceived insect infestation, simply remove the plant.

2. MORE MULCH!

Mulch in a rain garden will decompose naturally. The mulch is an important source of organic matter, critical to the continued performance of the rain garden. Fresh mulch should be applied every 6 months or as needed.

Any type of natural mulch may be used and placed around established plants in a 3-inch layer.



ONE LAST REMINDER...

Remember to maintain records... a written journal, notes, sketches, and photographs. Your experiences and plans for native plant rain gardens may be very useful to others.

RAIN GARDEN MAINTENANCE GUIDE

Outline prepared by the
Southeastern Oakland County Water Authority (SOCWA)

A small amount of maintenance every several weeks makes a big difference in the appearance of a rain garden. Regular maintenance saves time and money and helps keep the garden looking its best.

The key elements of a well-maintained rain garden are as follows:

- 1. EDGING** – A clean break should be maintained between the edge of the rain garden and the surrounding grass. Without a clean edge, grass roots will grow into the rain garden, competing with desirable rain garden plants for water and nutrients.

Choices for the edge include:

- “V Notch” edge – made with a shovel to create a gap between the lawn and rain garden.
- Landscape hard edge, such as black plastic (install carefully so that it does not “pop out” in the freeze-thaw cycle of winter)

Edging should be checked twice a year – in the Spring and then again in the Fall.

- 2. WEEDING** – The rain garden is a fertile bed and weed seeds may blow in and grow. A small amount of weeding throughout the growing season will save time and effort – and keep the garden looking attractive.
- 3. CUTTING DOWN STALKS** – Some rain garden plants dry out and turn brown in the fall. If the brown plants seem unattractive to you, it is fine to cut them off at the base. (Stems and spent flowers can be chopped up and composted or put at the curb for yard waste pickup). Alternatively, you may wish to leave some stalks and seed heads to provide food for birds and winter interest. Stalks left standing in the fall can be cut down in the early spring as the new green growth emerges.
- 4. PLANTING, TRANSPLANTING, and/or THINNING** – Fall is an ideal time to move plants to different locations, to divide large plants in half, to remove overgrown plants, and/or to add new plants. After planting or transplanting, water well every other day for 2 weeks or more.

- 5. MULCH WITH A NATURAL ORGANIC MATERIAL** – Mulching is an essential step for rain garden maintenance. A natural organic mulch, such as pine bark, cedar shavings, or other natural material is recommended. Natural organic mulches decompose and add the organic matter back into the soil system. The organic matter in the soil helps absorb water and break down any pollutants which may wash into the rain garden.

A 2 to 3 inch layer of mulch is recommended. This amount of mulch reduces problems from weed seeds, helps hold in moisture, and moderates soil temperature. The mulch layer should be checked in the spring and again in the fall. Note: It is fine to “mix” various types of mulch together. In fact, mixing diversifies the natural organic material, helping to sustain a pest-free garden.



WEBSITES, BOOKS AND PAMPHLETS

NATIVE WILDFLOWERS & GARDEN MAINTENANCE

WEBSITES FOR NATIVE WILDFLOWER IDENTIFICATION

www.wildflower.org (Lady Bird Johnson Wildflower Center)

www.plants.usda.gov (U.S. Department of Agriculture site)

www.nps.gov/plants (National Park Service Site)

RAIN GARDEN WEBSITES

SOCWA Publications on rain gardens and native plants www.socwa.org/lawn_and_garden.htm

Lawrence Technological University www.ltu.edu/stormwater/bioretention.asp

Rain Gardens of Western Michigan www.raingardens.org

University of Wisconsin Extension <http://clean-water.uwex.edu> (Runoff Management Section)

BOOKS and PAMPHLETS

Native Wildflowers of Southeastern Michigan – pamphlet with plants and characteristics, published by Ann Arbor Parks and Recreation Department. Cost: \$1.00 each; 734-996-3266.

Landscaping with Native Plants of Michigan, by Lynn Steiner; Voyager Press, 2006 (paperback). Sections address natural ecosystems, landscaping and maintenance tips, and native plant profiles.

Wildflowers of Michigan – Field Guide, by Stan Tekiela, Adventure Publications, 2000 (paperback). Well-illustrated, compact field guide to the most common Michigan wildflowers. Text references growth habits and habitat preference. Flowers are organized by color.

Gardening with Prairie Plants, by Sally Wasowski; University of Minnesota Press, 2002 (paperback). Prairie ecosystems and prairie garden maintenance are highlighted. Plant profiles include maps showing the range of the prairie plant and growth patterns.

Peterson Field Guide - Wildflowers – Northeastern/North-central North America. The classic guide to field identification. Useful information on plant origin and range. (paperback).

Caring for Perennials – What To Do and When To Do It, by Janet Macunovich, Storey Publishing, 1996 (paperback). Guide to edging, weeding, dividing, mulching, and more.

Newcomb's Wildflower Guide, by Lawrence Newcomb, Little, Brown & Company, 1977. Easy-to-use field identification guide. Includes soil preference and geographic range.

Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens, by Douglas W. Tallamy, Timber Press, 2007. Ecological functions of native plants with examples.

The Rain Garden Planner, by Terry Wallace, Schiffer Publishing, 2009. (Hardcover with numerous photos.)

NATIVE RAIN GARDEN PLANT LIST

SAN ROSA & AVILLA BOULEVARD RAIN GARDEN PROJECT, LATHRUP VILLAGE

South of 12 Mile Road & West of Southfield Road

The native wildflowers below are easy-grow plants suitable for front yard rain gardens in the Rouge River watershed. These are attractive, colorful plants that work well together and bloom at different times. They have proven to be attractive and useful for new and experienced rain garden owners in Lathrup Village.

All of the plants are perennial wildflowers – and will “come back” each year. Stalks may be left up over the winter or cut down to the ground in the fall. In the spring, the sprouts will gradually appear. The height of Swamp Milkweed can be managed easily – simply cut the stems by 1/3 at the end of June.

Many of these plants are available from local garden centers in the form of “cultivars” (cultivated variety of the native plant). Or, ideally, native wildflowers (in plugs or small pots) can be purchased directly from one of the Michigan native plant nurseries.

COMMON NAME	SCIENTIFIC NAME	COLOR	BLOOM TIME
Columbine	<i>Aquilegia canadensis</i> <i>Plus Columbine cultivars</i>	Orange; pink; blue	May
Golden Alexanders	<i>Zizia aurea</i>	Yellow	May
Blue Flag Iris	<i>Iris versicolor</i>	Blue	May – June
Foxglove Beard-tongue	<i>Penstemon digitalis</i>	White	May – June
Sundrops	<i>Oenothera fruticosa</i>	Yellow	July
Swamp Milkweed	<i>Asclepias incarnata</i>	Pink	July – August
Purple Coneflower	<i>Echinacea (cultivar)</i>	Pink/purple	July
Great Blue Lobelia	<i>Lobelia siphilitica</i>	Blue	July – August
Black-eyed Susan	<i>Rudbeckia (cultivar)</i>	Yellow	August – September
New England Aster	<i>Aster novae-angliae</i>	Purple (yellow centers)	September – October
Asters (some for sunny sites – some for shade)			
Sky Blue Aster	<i>Aster oolentangiensis</i>	blue or white	September – October
Arrow-leaved Aster	<i>Aster sagittifolius</i>	blue or white	September – October
Heart-leaved Aster	<i>Aster cordifolius</i>	blue or white	September – October
Big-leaved Aster	<i>Aster macrophyllus</i>	blue or white	September – October

