

Volunteer

Professional

Volunteer + Professional



8 Mile Rain Garden

Image Source: Pat Dumas, "Ruby Throated Hummer in Bee Balm 1." 04 July 2010 via Flickr, CC BY-NC-SA 2.0.



HELLO

MY NAME IS

8 Mile Rain Garden

The 8 Mile Rain Garden design is a six inch bowl that captures stormwater and slowly releases it into the soil, keeping it from entering Detroit’s overtaxed sewerage system.

The 8 Mile Rain Garden is ideal for a homeowner looking to create a productive landscape by using their disconnected downspout to water this small garden.

This lot design includes a vibrant mixture of native and non-native plants and provides multiple planting options that have been selected to brighten property and provide habitat.

For more information refer to [DFC-lots.com](https://dfc-lots.com)

What is the lot design likely to cost?

The estimated cost of the 8 Mile Rain Garden is low (\$50 – \$1,000) and based on utilizing volunteer labor and potted plants. The cost assumes that residents or volunteers have access to basic safety gear and garden tools.

How much upkeep will this lot design require?

This lot design requires a medium level of maintenance to thrive. Maintenance will include weeding and watering the newly planted rain garden, particularly during the first two growing seasons while the plants establish themselves.

Will the installation of this lot design require a professional?

The installation of this lot design should not require professional assistance if you, with the help and support of friends, family or neighbors, would like to construct this lot design. Please refer to the Step-By-Step section for guidance. If you do not have required support or feel unable to tackle this lot design, please seek professional assistance.

How long will it take to install this lot design?

While people tackle projects in different ways and at different speeds, the Field Guide estimates the completion time of this lot design to be one full weekend with the help of at least three healthy adults or youth. The Field Guide assumes the lot is ‘construction ready,’ and all equipment and materials required for the lot design have been acquired and are ready to use.

Cost	\$50 - 1,000	\$1,000 - 2,500	\$2,500 - 5,500	\$5,500 +
People	Volunteer	Professional	Volunteer + Professional	
Experience	Beginner	Intermediate	Advanced	
Upkeep	Low	Medium	High	
Stormwater	Good	Better	Best	
Location	Residential Lot in Full Sun to Shade			

8 Mile Rain Garden

Examples of Rain Gardens



1 - Planting Perennials

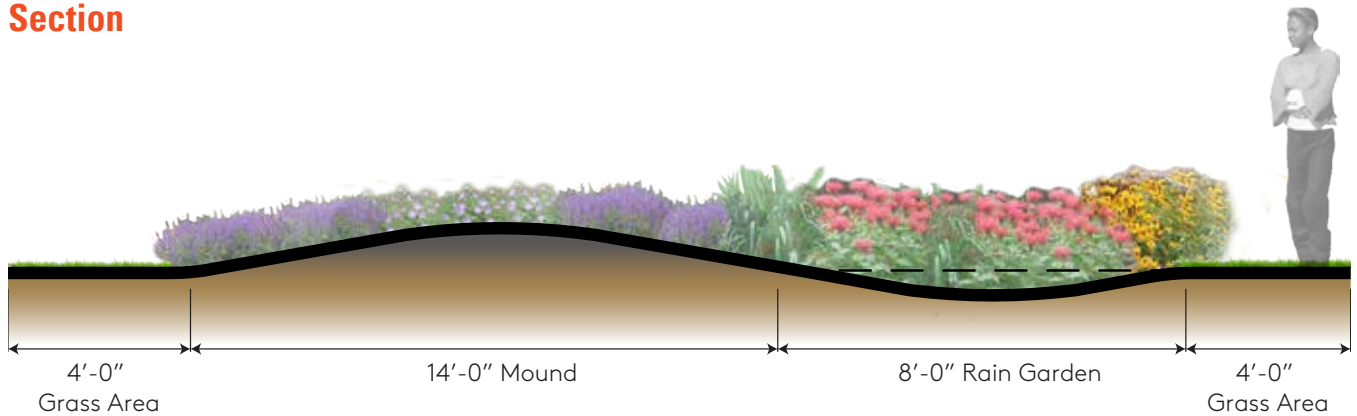


2 - Monarch Butterfly

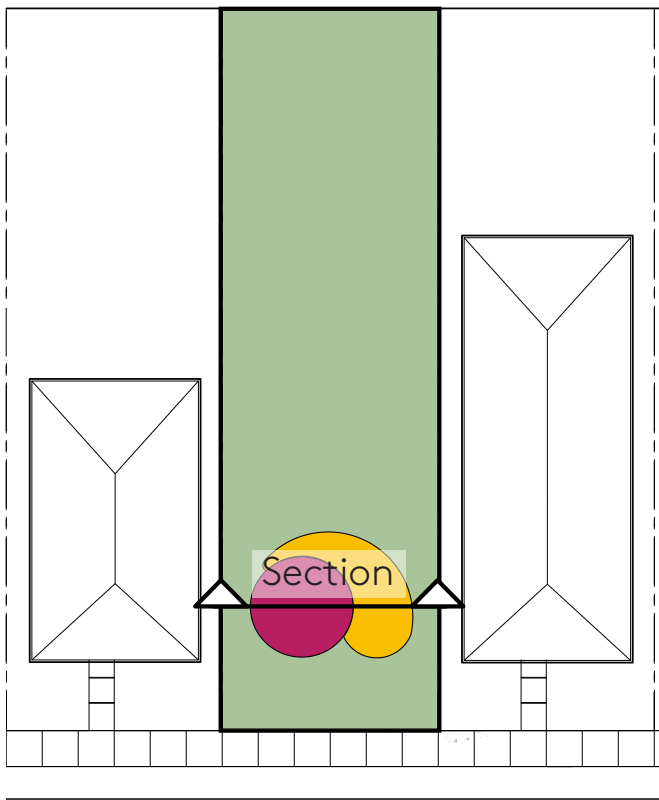


3 - Rain Garden Plantings




Section



Where Do I Grow?



The 8 Mile Rain Garden is best for single lots. Position the design close to houses, garages, or other rain water catchment areas so the rain garden can collect stormwater runoff from hard surfaces. **The 8 Mile Rain Garden is small and can be installed on several locations on your lot.** The mound is created from the soil excavated to create the rain garden.

-  Mound
-  Rain Garden
-  Grass or Optional Groundcover

Before You Start

'Construction Ready'

This lot design assumes that you have prepared the lot to a 'construction ready' state.

'Construction Ready' refers to a lot that is clean and clear of trash, hazardous objects, unwanted trees, brush and vegetation, fences, and other unwanted structures.

It may be necessary to remove grass in preparation for your lot design. Refer to the Remove Your Grass box located on the right hand side of this page for more information.

Is there an available water source near your lot? Consider how and where you will access water during and after construction to ensure that your plants can establish.

If your lot is not ready for construction, refer to the [Clean + Green](#) lot design.

You can find the lot design at DFC-lots.com.

Call Before You Dig

Locate underground utilities before beginning your lot design. MISS DIG provides a free service to Michigan residents by locating and marking utilities on requested properties. Call (800) 482-7171 or 811 at least three days before you plan to start digging on your lot.

Test Your Soil

Harmful pollutants have made their way into many urban soils. To proceed with awareness, consider having your soil tested before construction. Two great options are available:

Soil testing is free to members of Keep Growing Detroit's Garden Resource Program. Call (313) 757-2635 for more information or visit detroitagriculture.net.

If you are not yet a member, you can work directly with Michigan State University's (MSU) Extension Program. They have a Home Lawn and Garden Soil Test Mailer for \$25. For more information call (888) 678-3464 or visit msusoiltest.com.

If you are concerned about the presence of lead or other contaminants in your soil, call the Michigan Department of Health and Human Services at (866) 691-5323 or (800) 424-LEAD.

Remove Your Grass

Need to remove grass in areas where you are constructing your lot design?

There are many ways to remove unwanted grass. The first is to remove the grass and its root system by digging up the grass. Another option is to cover your lot with cardboard or a plastic tarp to smother your grass in darkness. It will take several weeks, but after being covered, the dead grass will be easier to remove.

Till Safely

Before you till, inspect your lot for signs of buried concrete or rubble that was not removed during the cleanup stage. Large debris can ruin tiller blades.

When tilling, wear appropriate safety gear, such as covered boots with socks, long pants, safety glasses, dust mask, and ear protection. Make sure you understand the safe operating procedures of your tiller. Refer to the user's manual.

What You Need: Shopping List

Shopping List

The shopping list provides a breakdown of potential materials, tools, and resources required to construct this lot design.

This shopping list is designed for a single lot (30 by 100 feet).

Tools + Resources

Suggested Tools

- Marking Paint, Spirit Level, Tape Measure, String and Stake
- **Safety Gear:** Gloves, heavy work boots, tall socks, pants, long sleeve shirts, dust masks, protective eye wear, ear plugs, and hard hats (if using heavy machinery)
- **Garden Tools:** Spades, shovels, rakes, trash bags, and wheelbarrows
- Hacksaw and Screwdriver

Potential Water Sources

- Garden Hose with potential extension hose
- Sprinkler
- Rain Barrel in addition to other water source
- Downspout Disconnect (shown in lot design)

Field Guide Resources

Resources are available on the Field Guide's web site.

- Clean + Green
- Perennials + Grasses Planting Detail
- Bulb Planting Detail

Materials List

Materials

- **Rain Garden Planting Soil**, 1.5 cubic yards (50% sand, 25% topsoil, and 25% compost or leaf litter)
- **Mulch or Wood Chips**, 1.5 cubic yards
- **Downspout Disconnect:** Standpipe cap, downspout elbow, downspout connection pipe, rubber cap, and hose clamp

Planting Option 1: Sun

- Black-Eyed Susan, 10 pots
- Purple Cornflower, 9 pots
- Blue Flag Iris, 3 pots
- Bee Balm, 3 pots
- Switch Grass, 3 pots
- May Night Salvia, 30 pots
- Cranesbill Geranium, 31 pots
- Mixed Tulips, 50 bulbs or more

Planting Option 2: Shade

- Variegated Sweet Flag, 19 pots
- Blue Flag Iris, 5 pots
- Blue Cardinal Flower, 6 pots
- Virginia Waterleaf, 6 pots
- Variegated Bugloss, 13 pots
- Jack Frost Bugloss, 12 pots
- Variegated Siberian Bugloss, 12 pots

Remaining Lot (Optional)

Groundcover

- **Low-Maintenance Fescue Mix**, 10 to 12 pounds of seed
- **Germination Blanket**, 3 rolls (8 by 112.5 feet)

8 Mile Rain Garden Step-By-Step

Let's Start

Want to create the 8 Mile Rain Garden but don't want to hire a professional? Here are a few guiding principles to help you construct your lot design.

Check off tasks as you go along.

Lot Design Steps

Volunteer Opportunities:

- Prepare Your Lot
- Dig Your Rain Garden
- Disconnect Your Downspout
- Plant Perennials
- Maintain Your Lot Design
- Sow Remaining Lot

Make a Circle

Place a stake at the desired location for the center of the circle. Tie a string 10 feet long to the stake. Walk in a circle using the string to create an even-radius circle in the landscape. As you walk in the circle, mark your path on the ground. You can use these markings to help locate the edge of your rain garden.

Prepare Your Lot

Select the best location for your rain garden. The rain garden should be ten feet from any house foundation and at least five feet from the sidewalk.

A rain garden only works if water is directed into it. **The Field Guide recommends constructing your rain garden near downspouts from roofs of houses or garages or near other hard surfaces such as driveways or patios.** Ensure water flows from these surfaces into your rain garden.

Once you find the area you wish to direct into your rain garden, calculate the minimum size of your rain garden. **Your rain garden should be one square foot for every ten square feet of hardscape or stormwater area directed into your rain garden.**

The 8 Mile Rain Garden has been pre-designed for a standard single family house size in Detroit (920 to 1,350 square feet).

If your rain garden will be collecting stormwater from areas larger than 1,350 square feet, you will need to adjust the size of the rain garden or consider implementing another lot design with a larger rain garden, such as the [Friendly Fence](#). The Friendly Fence lot design can accommodate or collect stormwater runoff for roof areas up to 4,200 square feet.

After the rain garden size has been determined, use marking paint and a tape measure to map out the size, shape, and dimensions of your design.

The Field Guide recommends an approximately 22 by 17 foot area (310 square feet) for a standard single family home in Detroit. The rain garden is 155 square feet and the mound is 155 square feet.

8 Mile Rain Garden Step-By-Step

○ Dig Your Rain Garden

Once the area is ready for construction, dig one foot deep within the rain garden area and use removed soil to create a mound or other desired shape next to the rain garden area.

After removing the soil, check that the bottom of the rain garden is level. An easy way to check this is with a string level or a spirit level attached to a two-by-four board. A level bottom is important to maximize infiltration and minimize the chance of standing water in the rain garden.

After leveling the bottom, the soil should be prepared by scarifying, raking, or tilling the soil four to six inches deep to loosen any compaction. If tilling the rain garden, be aware of what is underneath the soil, such as cement, debris, or large rocks.

○ Disconnect Your Downspout

One of the easiest ways to collect stormwater is by disconnecting your downspout and directing it into your rain garden.

Before you start, remember that disconnected downspouts should extend at least six feet from any house foundation and five feet from adjacent property or public sidewalk. Avoid disconnecting downspouts where they might discharge water across walkways, patios, or driveways or where they might be a tripping hazard. Do not disconnect directly over a septic system.

Follow these steps to help you redirect your roof water into your rain garden.

- Measure the existing downspout, and mark it approximately nine inches above sewer connection or standpipe.
- Cut with a hacksaw and remove cut piece.
- Plug or cap the sewer standpipe with a rubber cap secured by a hose clamp. Use screwdriver to tighten and secure cap.

- Attach elbow joint over the downspout.
- Add downspout extension to elbow joint. Extension should be length needed to carry water away from house and towards rain garden.
- Secure pieces with sheet metal screws at each joint.
- Use plastic or concrete splashblocks, rocks, flagstone, or boulders at the end of the downspout to control erosion of soil and plants in the rain garden from stormwater.

For more information, refer to the [DWSD's How to Disconnect a Downspout](#) document.

○ Plant Perennials

This lot design provides two planting options for your rain garden, depending on whether your lot is in sun or shade.

Place plants in the desired location, then remove plastic pots, loosen roots, and plant.

The Field Guide recommends adding three inches of rain garden planting soil to your rain garden (1.5 cubic yards) and top with three inches of wood chips or mulch (1.5 cubic yards). Adding wood chips or mulch will help suppress weeds.

Rain garden planting soil should consist of approximately 50% sand, 25% topsoil, and 25% compost or leaf litter. Mix together and place in rain garden.

Repair grass areas damaged during construction. Scarify any soil that may have been compacted, then sprinkle grass seed over damaged lawn areas. Be sure not to sprinkle the seed mix into your rain garden.

For more guidance on planting perennials refer to the [Perennials + Grasses Planting Detail](#).

8 Mile Rain Garden Step-By-Step

○ Maintain Your Lot Design

A rain garden requires care and maintenance to thrive. The 8 Mile Rain Garden is a manageable size; however, watering and weeding plants regularly is still required, especially during the first two years. Be careful not to let your rain garden dry out or to be overrun by weeds. All gardens require time and commitment to flourish. The mulch or wood chips areas should be replenished or top-dressed annually.

Gardens are a work in progress. Bulbs and perennials may need to be replaced to keep gardens dynamic and playful. Be creative and make it your own!



Visit the Resources page on the Field Guide's web site (DFC-lots.com) to discover other vendors and places to purchase plants.

Average Height of Plants



Grasses, Perennials, and Bulbs

○ Sow Remaining Lot

If you are seeking a lower maintenance alternative to a traditional lawn, the Field Guide recommends a fescue seed mix. **If you follow the 8 Mile Rain Garden lot design you will need approximately 10 to 12 pounds of fescue seed mix for the remaining lot (2,690 square feet) and three 8 by 112.5 foot rolls of single net germination blankets.**

This family of floppy grasses is drought-resistant and requires one cutting (in August or September) per year. Fescue can be established in full sun to shade and should be seeded in spring (mid-March to mid-May) or fall (August to September).

Soil should be prepared for seeding by scarifying, raking, or tilling the soil four to six inches deep to loosen any compaction, allowing for easier seed germination and better water infiltration. Apply seed mix to a damp lot.

Sow seed across the remaining lot by using a seed spreader or by hand. A seed rate of five pounds per 1,000 square feet is recommended. Gently water seedlings daily until they are four to six inches in height. Placing a thin layer of straw or a germination blanket over seeded areas will help ensure that your seed establishes by keeping seeds from blowing away and protecting them from birds. Germination blankets or straw can be purchased at most nurseries and garden stores.

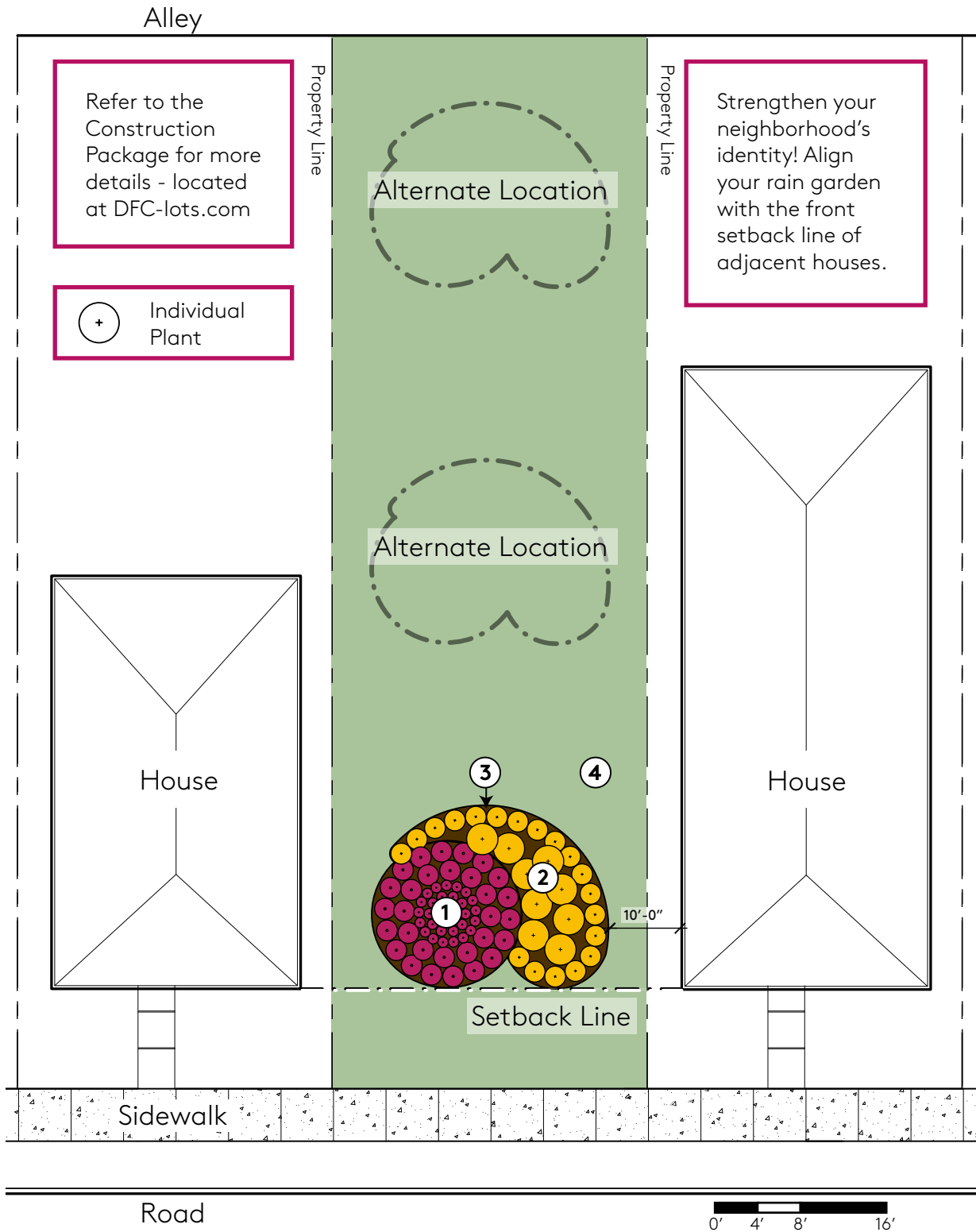
Once established, grass will not require supplemental watering except during unusually dry periods. Eco-Turf Low Maintenance Fescue Mix is one recommended seed mix and can be purchased through the Michigan Wildflower Farm.

Other Field Guide lot designs can be used as groundcovers. Check out the web site for additional options and ideas.

Next Level: If you would like to bring additional color to your grass, you can plant bluebells, crocuses and/or daffodils to create a decorative show in spring. Bulbs should be planted in the fall.

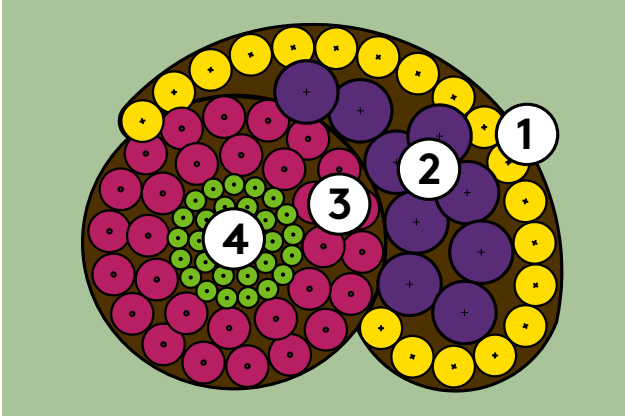
For more guidance on bulb planting refer to the [Bulb Planting Detail](#).

8 Mile Rain Garden Lot Design



- 1 Perennial on Mound
- 2 Perennial in Rain Garden
- 3 Mulch
- 4 Grass or Optional Groundcover

Planting Option 1: Full Sun To Part Sun



Black-Eyed Susan¹
Rudbeckia hirta^{*}
 24" Height x 24" Width
 Blooms June - October
 Attractive to Butterflies
Quantity: 10 pots



Purple Coneflower²
Echinacea purpurea
 24" Height x 12" Width
 Blooms July - August
 Attractive to Butterflies
Quantity: 9 pots

Key

- 1** **Black-Eyed Susan & Purple Cornflower** (Space approximately one foot apart and mix evenly.)
- 2** **Blue Flag Iris, Bee Balm & Switch Grass** (Space approximately one and one half feet apart and mix evenly.)
- 3** **May Night Salvia** (Space approximately one foot apart.)
- 4** **Cranesbill Geranium & Mixed Tulips** (Space Geraniums approximately one foot apart. Space Tulips evenly between Geraniums.)



Blue Flag Iris³
Iris virginica^{*}
 24" Height x 12" Width
 Blooms May - June
Quantity: 3 pots



Bee Balm⁴
Monarda fistulosa^{*}
 24" Height x 28" Width
 Blooms July - September
 Attractive to Butterflies
Quantity: 3 pots





Switch Grass⁵
Panicum virgatum^{*}
 48" Height x 36" Width
Quantity: 3 pots



May Night Salvia⁶
Salvia x sylvestris 'May Night'
 18" Height x 18" Width
 Blooms May - July
Quantity: 30 pots

Plant Sizes

-  **Pots:** Plants can be purchased in one to five gallon pots. Size of pots can change based on availability.
-  **Bulbs:** Bulbs are cheaper if purchased in bulk. You can find bulk bags at garden stores.



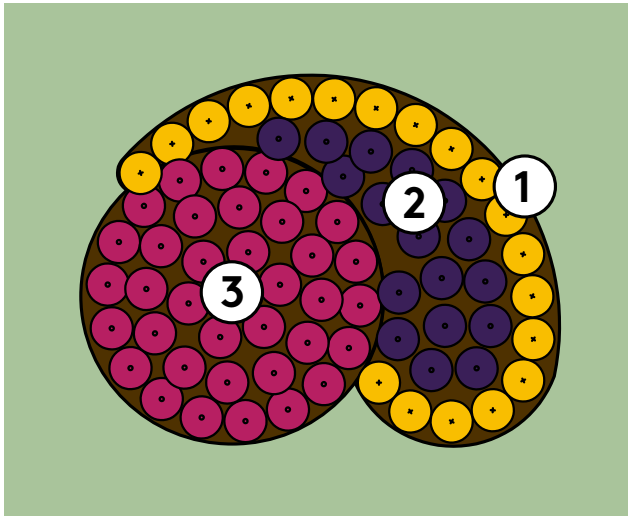
Cranesbill Geranium⁷
Geranium sanguineum
 'Alpenglow'
 18" Height x 18" Width
 Blooms May - July
Quantity: 31 pots



Mixed Tulips⁸
 14" Height x 8" Width
 Blooms April - May
Quantity: 50 bulbs or more

Image Source: 1) Parshotam Lal Tandon, "Rudbeckia hirta." 27 July 2013 via Flickr, CC BY-NC-SA 2.0; 2) Jordan Meeter, "Purple Coneflower (Echinacea purpurea)." 07 August 2008 via Flickr, CC BY 2.0; 3) Jenny Evans, "Blue Flag Iris." 28 December 2010 via Flickr, CC BY-NC 2.0; 4) Corey Seeman, "Bee Balm Flowers." 16 July 2013 via Flickr, CC BY-NC-SA 2.0; 5) tpmartins, "012." 11 July 2007 via Flickr, CC BY-NC-SA 2.0; 6) Kallerna, "Lostosalvia." 2010, Wikimedia, CC BY-NC-SA 3.0; 7) Tapio Kaisla, "Wood Cranesbill (Geranium Sylvaticum)." 18 June 2009 via Flickr, CC BY-NC-ND 2.0 UK; 8) Mookieluv, "Mixed rows of tulips." 18 April 2010 via Flickr, CC BY-NC-SA 2.0.

Planting Option 2: Part Shade to Shade



Variegated Sweet Flag¹
Acorus gramineus 'Ogon'
 12" Height x 24" Width
Quantity: 19 pots



Blue Flag Iris²
Iris virginica^{*}
 24" Height x 12" Width
 Blooms May - June
Quantity: 5 pots



Blue Cardinal Flower³
Lobelia siphilitica^{*}
 24" Height x 8" Width
 Blooms August
Quantity: 6 pots



Virginia waterleaf⁴
Hydrophyllum virginianum^{*}
 24" Height x 24" Width
 Blooms July - September
Quantity: 6 pots

Key

- 1

Variegated Sweet Flag
 (Space approximately one foot apart.)
- 2

Blue Flag Iris, Blue Cardinal Flower & Virginia Waterleaf
 (Space approximately one foot apart and mix evenly.)
- 3

Variegated Bugloss, Jack Frost Bugloss & Variegated Siberian Bugloss
 (Space approximately one foot apart and mixed evenly.)



Variegated Bugloss⁷
Brunnera macrophylla
 18" Height x 18" Width
 Blooms May - June
Quantity: 13 pots



Jack Frost Bugloss⁶
Brunnera macrophylla 'Jack Frost'
 18" Height x 18" Width
 Blooms May - June
Quantity: 12 pots

Plant Sizes

Pots: Plants can be purchased in one to five gallon pots. The size of pots can change based on availability.



Variegated Siberian Bugloss⁵
Brunnera macrophylla 'variegated'
 18" Height x 18" Width
 Blooms May - June
Quantity: 12 pots

Image Source: 1) Daderot, "Botanical Specimen in the San Francisco Botanical Garden." 04 November 2013 via Wikimedia, Creative Commons CCO 1.0 Universal Public Domain Dedication; 2) David Heise, "Southern Blue Flag 01." 12 August 2007 via Flickr, CC BY-NC 2.0; 3) Fritzflohrreynolds, "Great Blue Lobelia." 23 September 2012 via Wikimedia, , CC-BY- SA 3.0; 4) Fritzflohrreynolds, "Virginia Waterleaf 2." 01 May 2013 via Wikimedia, CC-BY- SA 3.0; 5) Wouter Hagens, "Brunnera Macrophylla A." 19 May 2007 via Wikimedia, Public Domain; 6) A. Barra, "Brunnera Macrophylla, 'Jack Frost.'" May 2008 via Wikimedia, CC-BY- SA 3.0; 7) Vauban, "Brunnera macrophylla." 11 April 2006 via Wikimedia, Public Domain

Did You Know?

Professionals Can Help!

The [Field Guide to Working With Lots](#) provides a [Construction Package](#) for each lot design. The [Construction Package](#) includes information and details required for a professional to construct this design. On the [Field Guide web site](#), use the [Construction Package](#) link located near the top of this lot design page to download and print. Your selected professional will then be able to provide a cost estimate and schedule based on the condition of your lot and the design you select.

Want to Hire Locally?

[DFC-lots.com](#) has a growing list of Detroit-based professionals and suppliers of landscape materials and services.

Still unsure of where to start?

Call (313) 294-LOTS or email fieldguide@detroitfuturecity.com for assistance.

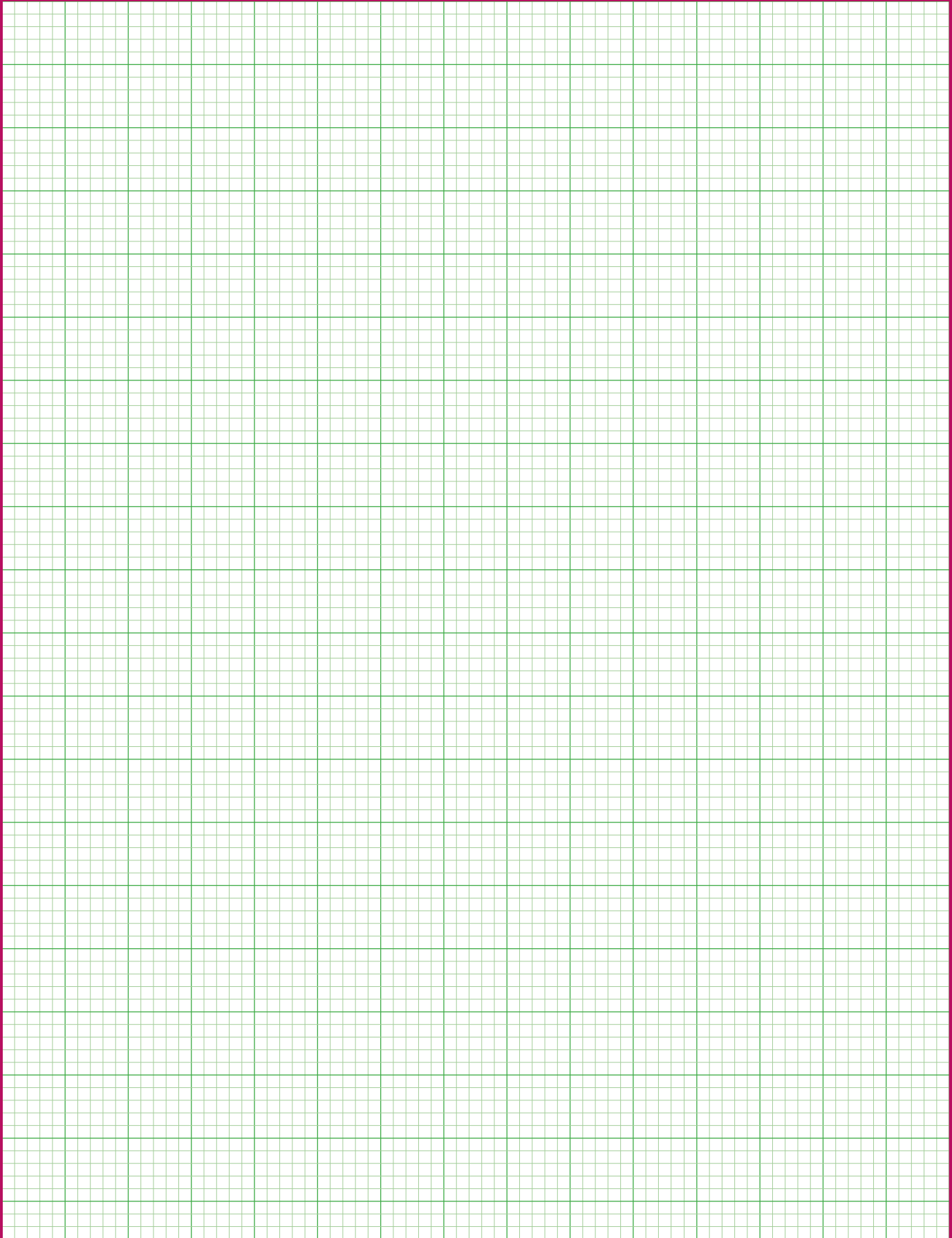
Helpful Facts

- Rain gardens are designed to decrease the amount of rainwater flowing off your roof and property into the City stormwater system.
- Rain gardens capture, hold, and release stormwater gradually back into the soil.
- The plants recommended for this lot design have been selected for their beauty, habitat creation, and local availability.
- This rain garden is designed to provide habitat and food for a variety of birds and pollinators.
- Looking for more information on rain gardens? The Sierra Club of Detroit has been running a rain garden program since 2012 and is happy to help.

Planting Tips

- Looking for a more cost efficient planting option? Consider a rain garden seed mix, such as ERNMIX-180 (Ernst Rain Garden Meadow Mix).
- Tulips should be planted on a mound. Do not plant in or near your rain garden as they do not do well in wet conditions.
- Water after planting and as needed. Do not allow soil to dry out.
- Weed weekly or as needed.
- To save money, ask a friend or family member if they have any plants or cuttings they are willing to donate to your rain garden.

Draw Your Lot





**DETROIT
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**working
with lots**
A FIELD GUIDE

**Visit DFC-lots.com
#DFClots**

Image Source: Center for Neighborhood Technology, "Rain Ready Home 1." 01 July 2014 via Flickr CC-BY-NC-SA 2.0.