

# GARDENING

LOW MAINTENANCE RAIN GARDEN

SEE INSIDE

Design Templates

Tips & Tricks

Healthy  
Garden  
Series



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# RAIN GARDENS

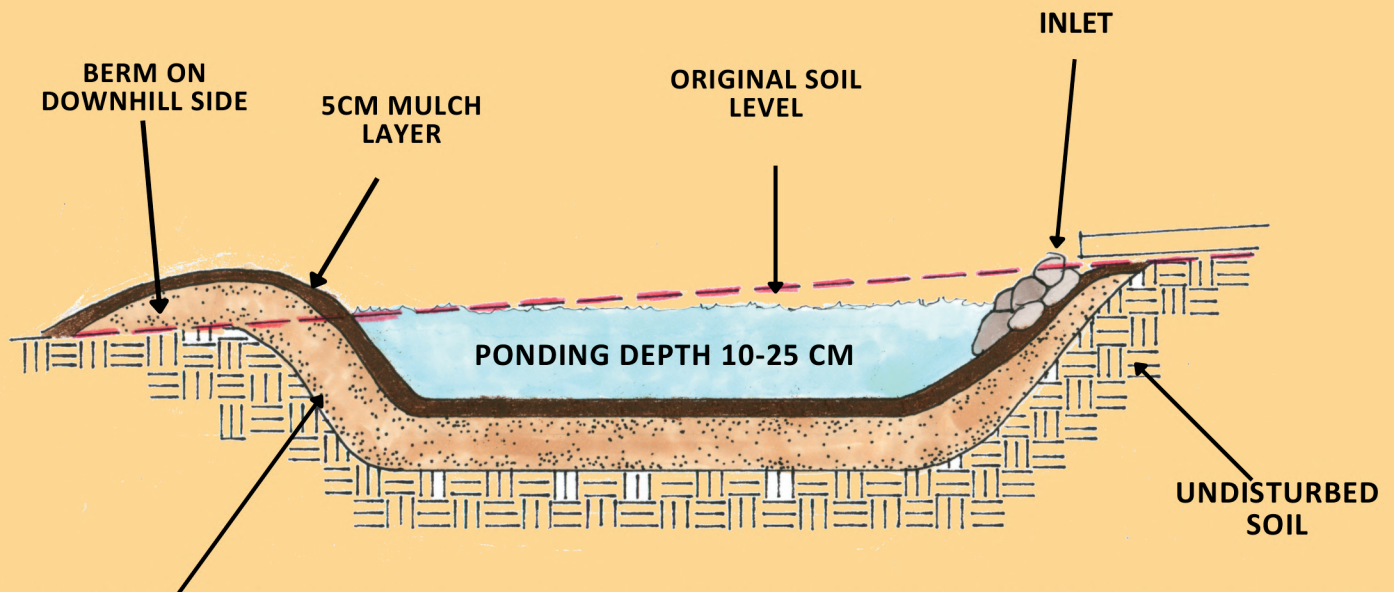
## PREFERRED CONDITIONS

- 4+ hours of sun per day.
- No overhanging trees.
- At least 3 metres away from any building foundation.
- Lower than your home (not uphill from it).
- Close to a runoff source that can be directed into the garden (a downspout).
- Soil that drains within 24 hours (does not fill up like a pond).

A rain garden is a bowl-shaped garden that absorbs excess runoff from hard surfaces like roofs. The bowl shape, along with the plants and well-draining soil inside of it, direct water away from buildings and into the ground. This process also diverts potentially polluted runoff away from local waterways.

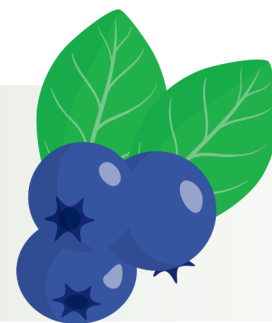


## RAIN GARDEN CROSS SECTION



**BIORETENTION LAYER:** The bioretention layer is a well-draining layer of soil that provides a good base for planting. If your soil drains very quickly or very slowly, you might wish to add compost to 1/4 of the bioretention layer. It will slow drainage and provide the plants with a richer soil for growth. See the [Additional Resources](#) section on page 8 for resources on how to test soil drainage.

# GETTING STARTED



## STONE INLETS

Place rocks at the base of your downspout to slow the flow of water and reduce erosion. You can place rocks at the outlet to prevent mulch from washing away. The plants will also prevent erosion.

### Step 1: Placement

Where will you place your garden? Will it be downslope from your home? Measure soil drainage with an infiltration test. See the **Additional Resources** section on page 8 for information on how to conduct this test.

### Step 2: Catchment Area

How large is the roof area that will be draining to your rain garden? How many downspouts does your home have? Which one will you direct to your garden? You can use online mapping tools to measure the area of your roof (catchment area) that drains to that downspout.

### Step 3: Space

How big is your space? How big is your catchment area? Use the **Planting Plans** on pages 4 and 5 to choose which rain garden size is best for your space.

### Step 4: Connecting Your Garden

The easiest way to direct runoff to your garden is by extending your downspout so that it reaches the garden directly. See the **Additional Resources** on page 8 for other alternatives and how to install them.

### Step 5: Supplies

What supplies do you have? What supplies do you need? Use the **Materials** table on page 6 to make a list.

### Step 6: Prepare Your Space

Mark out the planting space using flags, string, or even a long garden hose. Next, get rid of your grass! Sheet mulching is a quick and easy way to do this. Alternatively, you can remove grass by hand using a spade or sod skimmer.



## WATER TEST

Before planting, fill your garden with water to check if it drains as desired. Take your time, and continue making adjustments to the shape and berms as needed.

### Step 7: Ready to Dig

Dig out your garden to the desired **ponding depth**, and add an additional 15cm depth. Using the dug out material, create gentle **berms** or mounds on the low sides of the garden (not too steep or they will erode). Return around 10 - 15cm worth of material to the base and sides of the garden to create the **bioretention layer**.

### Step 8: Create an Inlet and Outlet

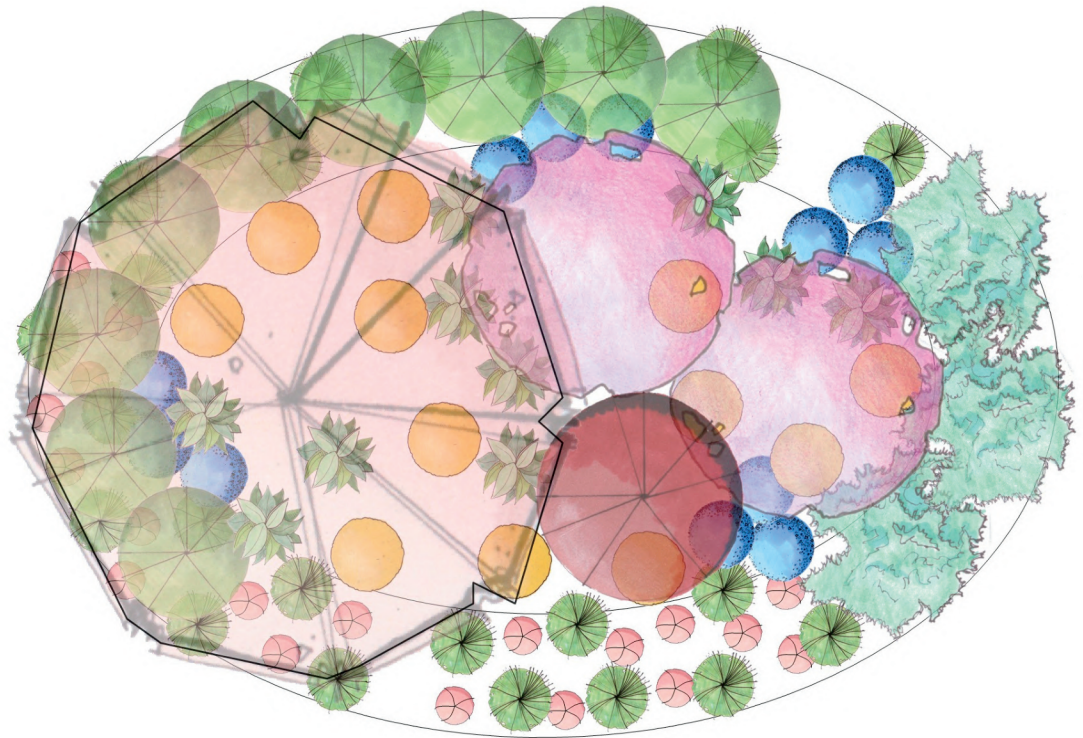
The inlet is where water will enter your garden. Connect your downspout to the inlet. The outlet allows water to exit the garden. To create it, dig a notch approximately 45cm wide somewhere along the low side berm. The outlet should be higher than the ponding depth, but lower than the inlet. Use a level to double check if desired.



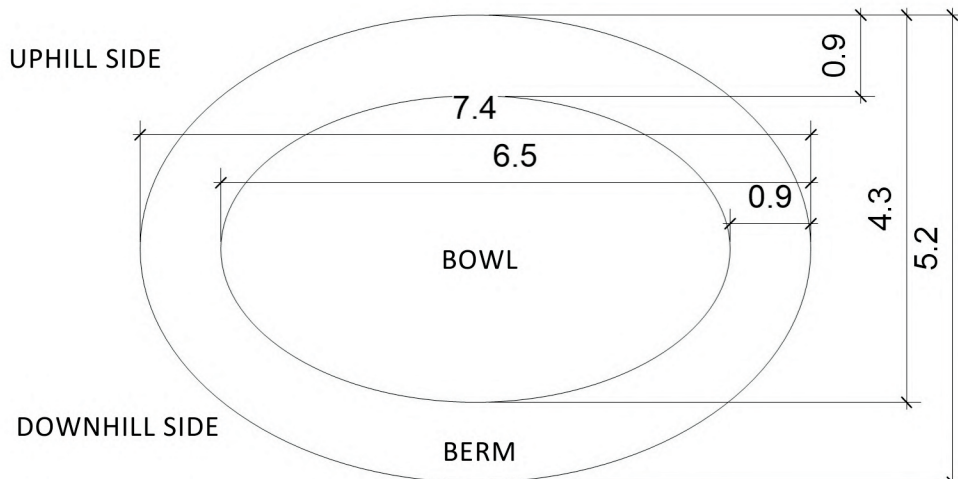


# GARDEN PLAN LARGE (5m x 7.5m)

-  **Canada Serviceberry**  
*Amelanchier canadensis*
-  **Chokeberry**  
*Aronia melanocarpa*
-  **Lady Fern**  
*Athyrium filix-femina*
-  **Oak Sedge**  
*Carex pensylvanica*
-  **Low Bush Honeysuckle**  
*Diervilla lonicera*
-  **Prairie Smoke**  
*Geum triflorum*
-  **Creeping Juniper**  
*Juniperus horizontalis*
-  **Virginia Bluebells**  
*Mertensia virginica*
-  **Golden Ragwort**  
*Packera aurea*
-  **Purple Flowering Raspberry**  
*Rubus odoratus*



**Note:** You can adjust the inlet and outlet placement to suit your particular space. Just shift the plants around on the sides and berms as needed.



Approximate measurements in metres.

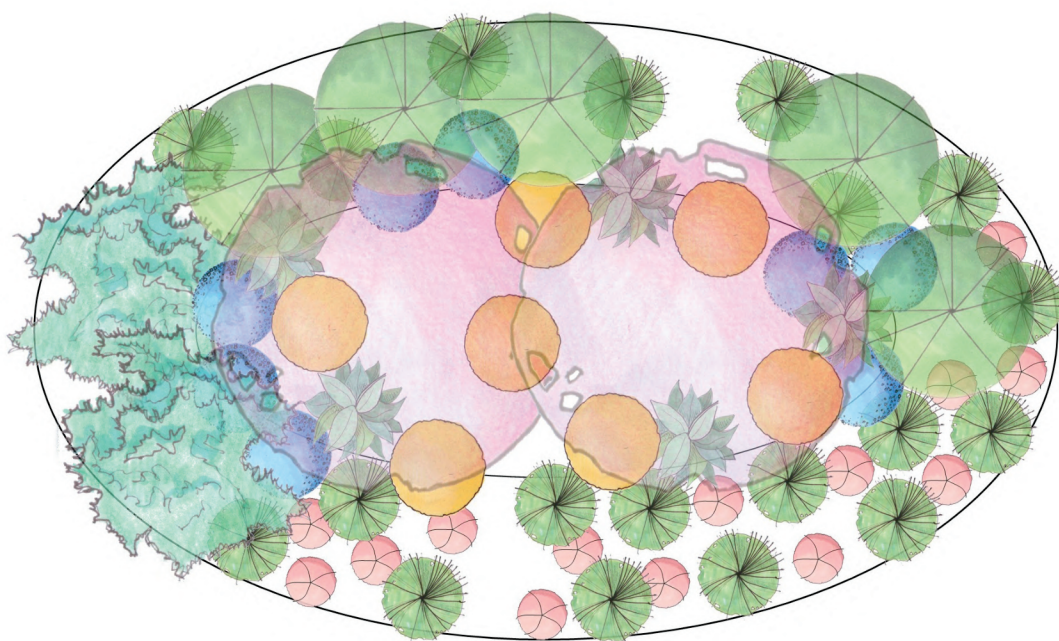










## SIZING

The large rain garden is best for catchment areas between 85m<sup>2</sup> and 115m<sup>2</sup>, with a soil drainage rate of at least 15mm/hr and a ponding depth of 15cm. If your catchment area is near the low end of this range, reduce the ponding depth to 10cm. If it is near the high end of the range, increase the ponding depth to 25cm.



# GARDEN PLAN SMALL (5.5m x 3.5m)



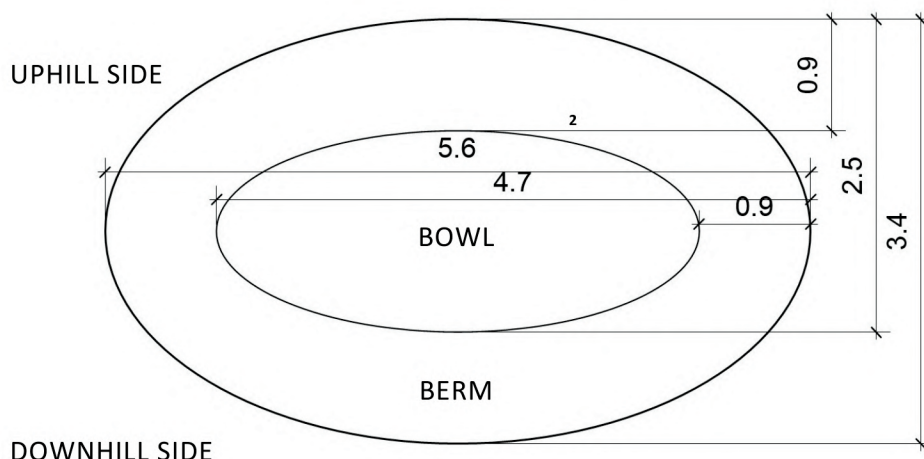
-  **Lady Fern**  
*Athyrium filix-femina*
-  **Oak Sedge**  
*Carex pensylvanica*
-  **Low Bush Honeysuckle**  
*Diervilla lonicera*
-  **Prairie Smoke**  
*Geum triflorum*
-  **Creeping Juniper**  
*Juniperus horizontalis*
-  **Virginia Bluebells**  
*Mertensia virginica*
-  **Golden Ragwort**  
*Packera aurea*
-  **Purple Flowering Raspberry**  
*Rubus odoratus*

**Note:** You can adjust the inlet and outlet placement to suit your particular space. Just shift the plants around on the sides and berms as needed.



## SIZING

The small rain garden is best for catchment areas between 35m<sup>2</sup> and 62m<sup>2</sup>, with a soil drainage rate of at least 15mm/hr and a ponding depth of 20cm. If your catchment area is near the low end of this range, reduce the ponding depth to 15cm. If it is near the high end of the range, increase the ponding depth to 25cm.



Approximate measurements in metres.





# MATERIALS



photo by Carbon Wise

Here, Oak Sedge and Prairie Smoke knit together on the berms to form a lush and colourful carpet in the spring.



photo by Carbon Wise

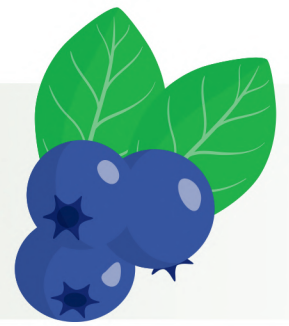
Here, a shallow swale has been lined with impermeable pond liner and then covered with river rock to help move water toward the rain garden. A decorative boulder adds height and visual structure.

Item	Unit	# / Base Unit	Notes
Plants		94 (lg) 62 (sm)	See <b>Garden Plans</b> on pages 4 - 5 for recommended species and sizes. Some species may only be found at native plant nurseries.
Soil	Cubic yards	4 (lg) 1.5 (sm)	Repurpose soil from the garden as much as possible. Moving large amounts of soil is hard work - you may wish to hire an excavator for support with the initial digging.
*Compost	Cubic yards	1 (lg) 0.4 (sm)	Not recommended unless soil drainage is more than 25mm/hour or less than 15mm/hour. Deduct from above soil order if required.
Mulch	Cubic Yards	2 (lg) 1 (sm)	Assumes 5 cm depth. Double shredded hardwood preferred, or undyed cedar/Ontario blend.
3" - 4" River Rock	Metric ton	0.25	For use at inlet and outlet. Additional rock can be used decoratively within the bowl as desired.
Downspout extenders, adapters, etc.	N/A	Varies	Type and amount required depends on distance of garden from runoff source and chosen method (downspout, catch basin with buried pipe, dry creek, overhead delivery).

\* Optional items

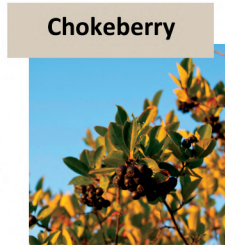


# PLANT SPECIES



**Qty:**  
1 (lg)  
1 (sm)

**Nursery size:** 2 gal pot  
**Mature size (h x w):** 5 x 6m  
**Bloom time:** Spring  
**Benefits:** Food for birds and pollinators  
**Alt:** Nannyberry, Witch Hazel, River Birch, or Eastern White Cedar



**Qty:**  
1 (lg)  
1 (sm)

**Nursery size:** 2 gal pot  
**Mature size (h x w):** 1 x 1.5m  
**Bloom time:** Spring  
**Benefits:** Food for birds and pollinators  
**Alt:** Snowberry



**Qty:**  
10 (lg)  
5 (sm)

**Nursery size:** 10cm pot  
**Mature size (h x w):** 30 x 30cm  
**Bloom time:** N/A  
**Benefits:** Prevents erosion and filters pollution, provides microhabitat  
**Alt:** Christmas Fern or Sensitive Fern



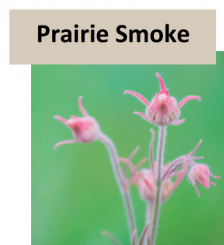
**Qty:**  
25 (lg)  
19 (sm)

**Nursery size:** 10 cm pot  
**Mature size (h x w):** 30 x 45cm  
**Bloom time:** Spring  
**Benefits:** Larval host for moths and butterflies  
**Alt:** Rosy Sedge, Wild Strawberry, or Blue Eyed Grass



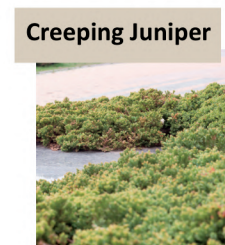
**Qty:**  
9 (lg)  
5 (sm)

**Nursery size:** 1-2 gal pot  
**Mature size (h x w):** 90 x 90cm  
**Bloom time:** Summer  
**Benefits:** Provides nectar for hummingbirds, stabilizes soil  
**Alt:** Potentilla Shrub, which prefers more sun



**Qty:**  
19 (lg)  
14 (sm)

**Nursery size:** 10cm pot  
**Mature size (h x w):** 30 x 15cm  
**Bloom time:** Spring  
**Benefits:** Early pollinator friendly plant, drought tolerant  
**Alt:** Wild Strawberry (sunnier), or Wild Columbine (shadier)



**Qty:**  
3 (lg)  
2 (sm)

**Nursery size:** 1-2 gal pot  
**Mature size (h x w):** 0.45 x 2m  
**Bloom time:** Spring  
**Benefits:** Wildlife cover, drought tolerant, stabilizes soil  
**Alt:** 2 Low Bush Honeysuckle



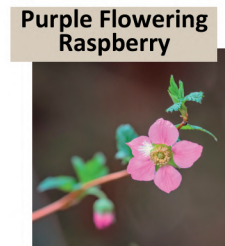
**Qty:**  
12 (lg)  
8 (sm)

**Nursery size:** 10cm pot  
**Mature size (h x w):** 75 x 60cm  
**Bloom time:** Spring  
**Benefits:** Early pollinator friendly plant  
**Alt:** Trout Lily, Virginia Spring Beauty, Trillium, Bloodroot



**Qty:**  
12 (lg)  
7 (sm)

**Nursery size:** 10cm pot  
**Mature size (h x w):** 60 x 45cm  
**Bloom time:** Spring  
**Benefits:** Native butterfly support, spreads naturally  
**Alt:** Wood Poppy in very fast soil drainage, Marsh Marigold if slower



**Qty:**  
2 (lg)  
2 (sm)

**Nursery size:** 1-2 gal pot  
**Mature size (h x w):** 2.5 x 2.5m  
**Bloom time:** Summer  
**Benefits:** Pollinator support, berries for wildlife, spreads naturally  
**Alt:** Red Osier Dogwood



# ADDITIONAL RESOURCES



This garden guide is one of three guides available through Kawartha Conservation's Healthy Gardens program. If your space does not meet the preferred conditions of the Low Maintenance Rain Garden guide, or you wish to plant multiple gardens, check out the other guides in the series.

**Native Plant Understory Garden**  
**Low Maintenance Rain Garden**  
**Native Plant Pollinator Garden**



View these additional resources to help you assess your site conditions and prepare your site for planting.

- How to Conduct an Infiltration or Soil Drainage Test (Reep Green Solutions): [bit.ly/SoilDrainage](https://bit.ly/SoilDrainage)
- Ribbon Test for Soil Texture (Grow It Build It): [bit.ly/RibbonTest](https://bit.ly/RibbonTest)
- Mason Jar Test for Soil Texture (Grow It Build It): [bit.ly/MasonTest](https://bit.ly/MasonTest)
- Measuring Slope (University of Wisconsin-Madison Arboretum): [bit.ly/MeasureSlope](https://bit.ly/MeasureSlope)
- Peterborough GreenUP Rain Garden Resource Page: [bit.ly/GreenUpRainGarden](https://bit.ly/GreenUpRainGarden)
- Ontario One Call (Call Before You Dig): [OntarioOneCall.ca](https://OntarioOneCall.ca)
- Measure Your Space with Digital Tools
  - Google Earth: [earth.google.com](https://earth.google.com)
  - Kawartha Lakes Mapping: [geohub-kawartha.hub.arcgis.com](https://geohub-kawartha.hub.arcgis.com)



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## Contact Us

**Phone:** 705-328-2271

**Email:** [GenInfo@KawarthaConservation.com](mailto:GenInfo@KawarthaConservation.com)

**Online:** [KawarthaConservation.com/Gardens](https://KawarthaConservation.com/Gardens)

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All renderings and planting plans are provided by Carbon Wise Landscape Design.

