

GARDENING

LOW MAINTENANCE RAIN GARDEN

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Healthy
Garden
Series



KAWARTHA
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RAIN GARDENS

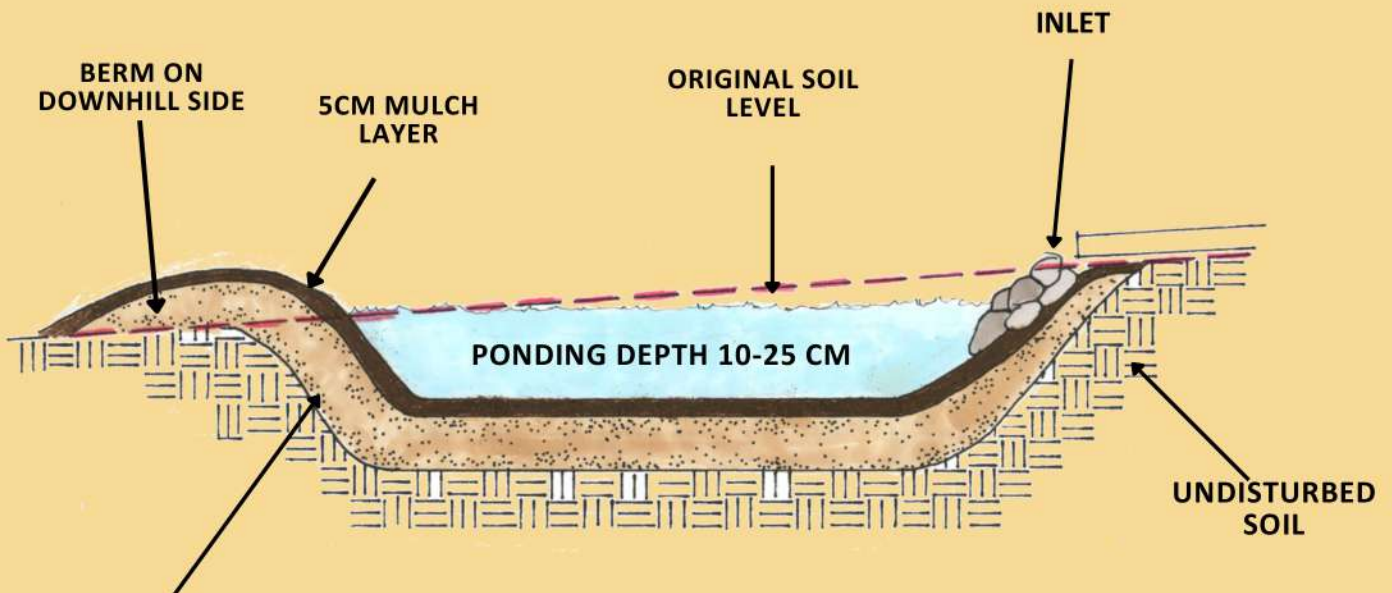
PREFERRED CONDITIONS

- 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.



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 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.

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

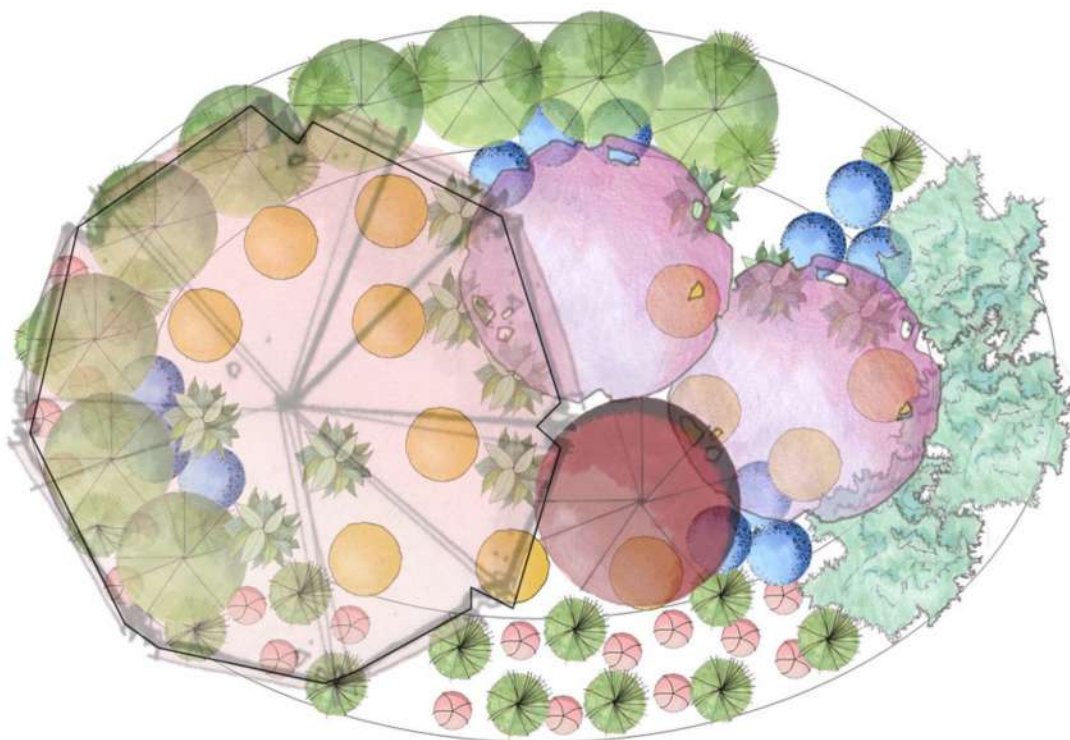
 **Prairie Smoke**
Geum triflorum

 **Creeping Juniper**
Juniperus horizontalis

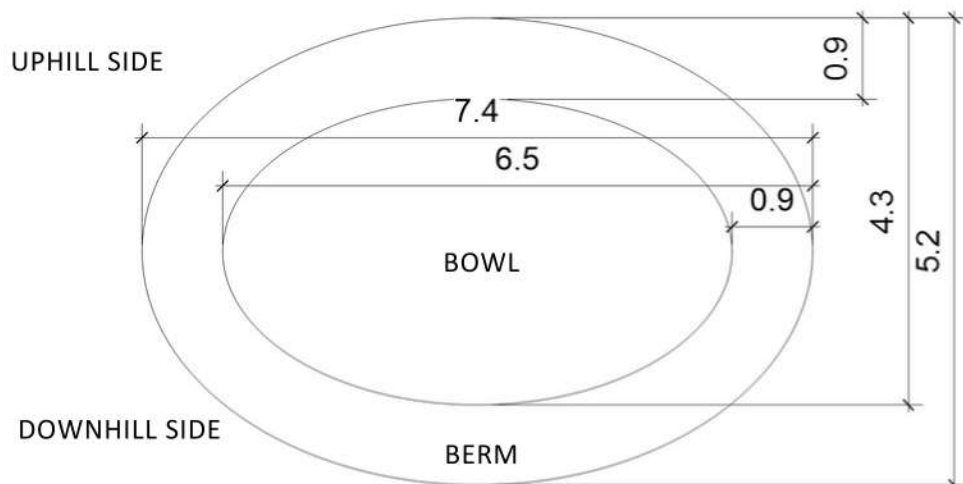
 **Virginia Bluebells**
Mertensia virginica

 **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.



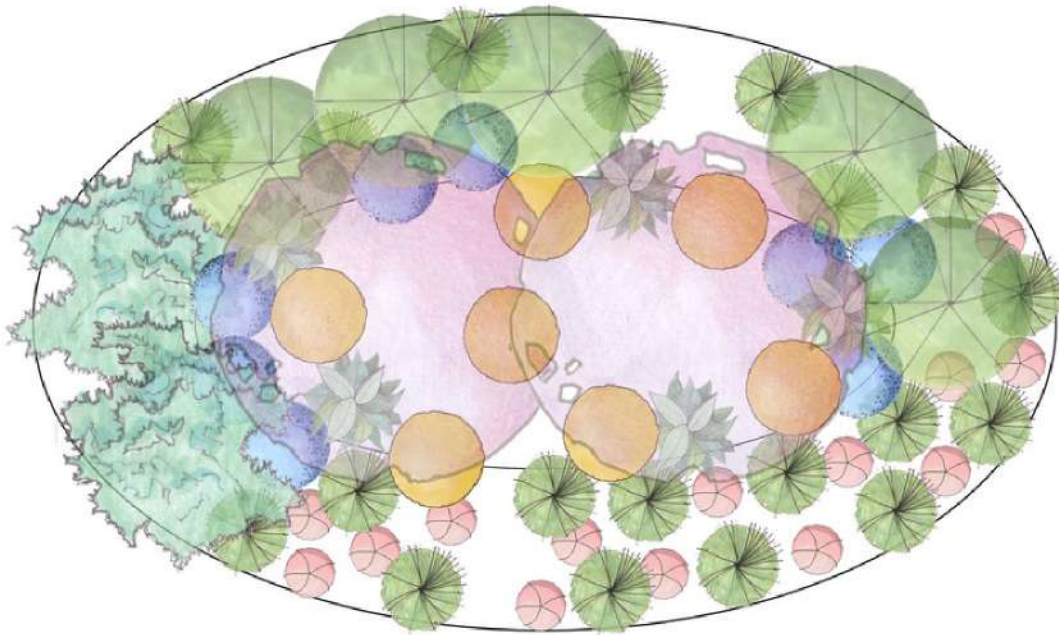
Approximate measurements in metres.



SIZING

The large rain garden is best for catchment areas between 85m² and 115m², 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)



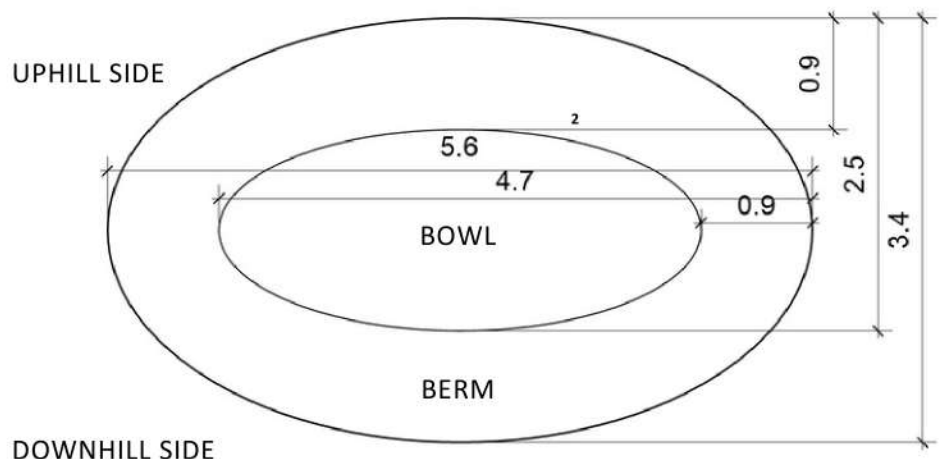
-  **Lady Fern**
Athyrium filix-femina
-  **Oak Sedge**
Carex pensylvanica
-  **Low Bush Honeysuckle**
Diervilla lonicera
-  **Prairie Smoke**
Geum triflorum
-  **Creeping Juniper**
Juniperus horizontalis
-  **Virginia Bluebells**
Mertensia virginica
-  **Golden Ragwort**
Packera aurea
-  **Purple Flowering 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 35m² and 62m², 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



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



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 Garden Plans 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



Canada Serviceberry



Qty:
1 (lg)

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

Chokeberry



Qty:
1 (lg)

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

Lady Fern



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

Oak Sedge



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

Low Bush Honeysuckle



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

Prairie Smoke



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)

Creeping Juniper



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

Virginia Bluebells



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

Golden Ragwort



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

Purple Flowering Raspberry



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



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Gardening Guide concept developed by Carbon Wise Landscape Design. Guide production and design by Kawartha Conservation.

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

