formecology
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Sustainable outdoor living

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-History

A nine year history with new ownership as of 2006

-Experience

Combined experience of over twenty years in the landscaping field- most of that focusing on native plants

-Services

We are a full service design, build and care firm focusing on environmentally beneficial & regionally inspired landscapes for residential & commercial settings

Formecology is born from the idea of combining art and nature – bringing natural elements together with cultural art forms to create landscapes that are appropriate both to the built and natural environment.

How-to manual for homeowners

Website:

clean-water.uwex.edu/pubs/raingarden

To order a hardcopy:

UW-Extension offices, Cooperative Extension Publications

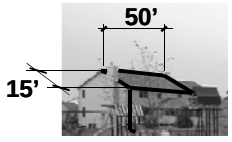
Phone: 1-877-947-7827

How to design and build a Rain Garden?

Example

Recall

50' x 15' = 750 sq ft



750 sq ft * 0.25 (6-7 in deep well drained soils) = 187.5 sq ft rain garden required
•Round up!
•We need a 200 sq ft rain garden.

Note: For residential rain garden areas over 300 sq ft it is recommended to split into several smaller rain gardens

How to design and build a Rain Garden?

•Determine the size of your rain garden based on soil type

Experiment:

Dig one or more holes 1'x1' wide and 18" deep. Fill with water and monitor. Determine how much water has soaked into the ground.

Infiltration rate = ½" of water/ hour

Well drained soils = 1/2" - 2"/hr
Clay soils = Less than 1/4"/hr

Experiment:

Conduct a ribbon test to determine soil texture

Well drained soils = 1/2" or less
Clay soils = 1/2" or more

How to design and build a Rain Garden?

Surface area for Rain Gardens less than 30 feet from the down spout

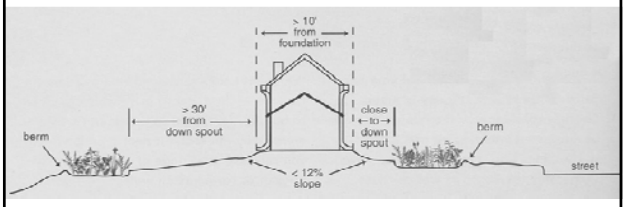
Type of Soil	3-5 in. deep	6-7 in. deep	8 in. deep
Sandy	0.19	0.15	0.08
Silt Loam	0.34	0.25	0.16
Clayey	0.43	0.32	0.20

Assumptions: 2 year/24 hour storm equal to 3";
5" average depth

How to design and build a Rain Garden?

•Choose a site that's at least 10 feet away from your building - a sunny location is best!

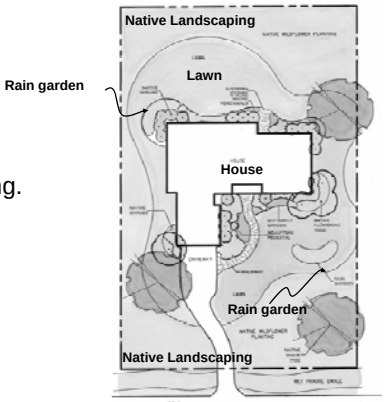
•Align it with your lot's basic drainage pattern so overflow will drain away from house



Source: Rain Gardens–How To Manual for Homeowners, WDNR, 2003

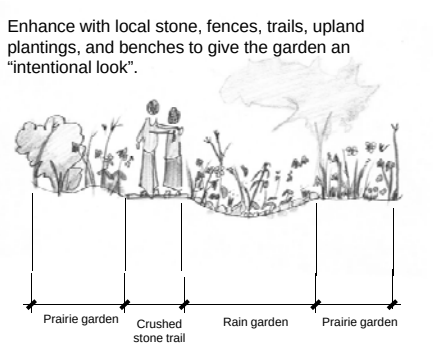
How to design and build a Rain Garden?

•Design to integrate with existing or future vegetation and landscaping.



How to design and build a Rain Garden?

Enhance with local stone, fences, trails, upland plantings, and benches to give the garden an "intentional look".



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Enhance with local stone, fences, trails, upland plantings, and benches to give the garden an "intentional look".

How to design and build a Rain Garden?

•Lay out the garden with spray paint, flagging, or by placing hose on the ground to define the perimeter

How to design and build a Rain Garden?

•Always, always call Diggers Hotline (1-800-242-8511) before you start excavating.

•Start by digging a shallow, flat, depression with gradually sloping sides.

•The bottom of the raingarden should have an average depth of 4"-8" (unless you want standing water).

•Have a spot located in your landscape for excavated materials (Build a berm around your raingarden!)

How to design and build a Rain Garden?

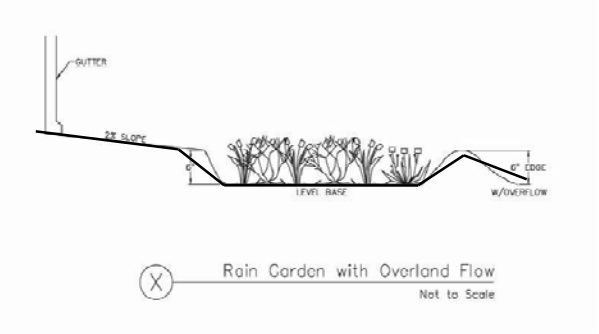


Image courtesy of Applied Ecological Services

How to design and build a Rain Garden?

•Channel water using a natural drainage way, constructed swale, or dig a trench & install a 4" PVC drain pipe, then connect to down spouts.

(make sure to have ¼" slope every 12").

How to design and build a Rain Garden?

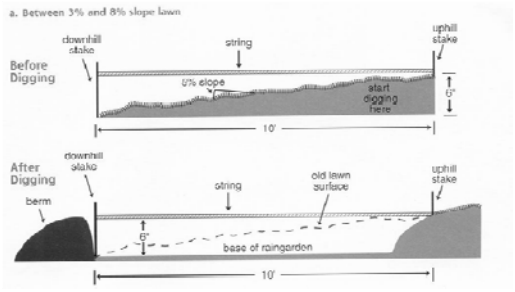


Image courtesy of WI DNR

How to design and build a Rain Garden?

Plant Structure - Growth form of the plant material

Compositionally its the most important component in determining the success of a planting!

www.rook.org/.../nature/aquatics/irisver.html

•Selecting plants with distinctive form over a long season (i.e. bold foliage, strong vertical element, durable seedheads)

www.ker.umn.edu/.../eupatorium-perfoliatum.html

Plant Structure

How to design and build a Rain Garden?

Plant Structure

Dominant structural plants – determine the overall feel of the planting, plants with distinct growth habits

(i.e. Big bluestem, Joe-Pye Flower, False Indigo, etc)

How to design and build a Rain Garden?

Plant Structure

Filler plants – Can dominate the planting visually & help define its average height, are more amorphous & less structure through seasons

www.robsplants.com/plants/ZiziaAurea.php

How to design and build a Rain Garden?

Aesthetic Criteria

Filler plants – May also be shorter and not have colorful blooms

Plant Structure

How to design and build a Rain Garden?

Plant Structure – Seek harmonious balance between varieties of structural elements (Designer Piet Oudolf uses a ratio of 70% structural plants to 30% filler plants)

•Combination of dominant & filler plants

Photo courtesy of Jack Broughton

Aesthetic Criteria

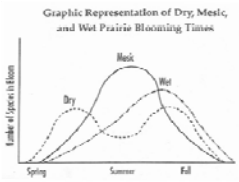
Texture - Incorporate course & fine and bold & subtle species

Photo taken by Jack Broughton

Designing Combinations – Contrast

Aesthetic Criteria

Color - Consider bloom time & length



Source: Neil Diboll,Prairie Nursery

Designing Combinations – Contrast

Aesthetic Criteria

Color - Incorporate a mixture of sedges, rushes, & grasses with your flowering species

Photo taken of Sue Pech Residence

Image courtesy of Applied Ecological Services

Designing Combinations – Contrast

Aesthetic Criteria

Height - Tall vs. short species (think about scale of the garden, site & building)

Designing Combinations – Contrast