# **Rain Garden Plants**

## For the Brazos County Residential Landscape

rain garden (or bioretention area) is a shallow, landscaped depression, designed to capture, temporarily hold, and absorb rainwater that flows off impervious surfaces such as roofs, driveways, and sidewalks, before it can become runoff.



A rain garden with rain still in it.

Photo courtesy of <u>sustainableroguevalley.org</u>

A rain garden is not a pond, because it is only meant to hold water for 24-48 hours at a time. Therefore, designing a rain garden requires a special collection of plants which can tolerate standing in very wet conditions for the time it takes for the garden to drain. At other times, the plants

A bioswale is the stream version of a rain garden. It uses plantings and structure to slow the flow of moving rainwater. A bioswale can be used to guide rainwater from its impervious source into a rain garden that is further away, as well.



A bioswale in an old Houston neighborhood. Photo courtesy of the Houston Chronicle

may need to be able to tolerate fairly dry conditions. These are the superhero plants of stormwater management!

#### The Zones of a Rain Garden

There are 3 main areas in a rain garden: the base or center, inside slope or median, and buffer or margin.

The base is the deepest part of the rain garden, where plants will need to be the most tolerant of soggy conditions. The base can be at the center of a bowl-shaped rain garden, or may be at the back of a rain garden on a slope that employs a berm to contain the water. This will also affect plant selection, since taller plants generally look nicest at the back of a planting, or in the center of a planting that can be seen from multiple sides.

The inside slope of the rain garden is drier than the base. It can be planted with those species that do well in moist soil but can't be wet for as long. The margin or buffer plantings will need to be the most suited to drier conditions. Since the margin is an area that can experience erosion as water rushes into the rain garden, the margin plants may need to be suited to growing among erosion-proof materials like gravel or another type of heavy mulch. If your rain garden uses a berm, the berm will be the area of driest conditions and so should have plantings that tolerate less water availability.

One thing to keep in mind when selecting plants for the rain garden is that the purpose is to create a sponge-like environment that will hold and process water efficiently. Species with longer roots and more powerful root systems such as grasses and shrubs should be incorporated when possible.

## Plants for a Brazos County Rain Garden

This list is by no means exhaustive. To investigate additional possible plantings for your rain garden, go to the following website:

http://aggie-horticulture.tamu.edu/earthkind/EKSelector.html

| Botanical Name        | Common Name          | Category  | Native or<br>Naturalized | Wet<br>Zone       |
|-----------------------|----------------------|-----------|--------------------------|-------------------|
| Achillea millefolium  | Yarrow               | Perennial | no                       | margin            |
| Aquilegia hinckleyana | Hinckley's Columbine | perennial |                          | median,<br>margin |

| <b>Botanical Name</b>          | Common Name  | Category   | Native or<br>Naturalized | Wet<br>Zone |
|--------------------------------|--|------------|--------------------------|-------------|
| Asclepias tuberosa             | butterfly weed   | wildflower | yes                      | margin      |
| Aspidistra elatior             | tra elatior cast iron plant perennial                  |            | no                       | any         |
| Bignonia capreolata            | reolata crossvine vine                                 |            | yes                      | any         |
| Callicarpa americana           | American beautyberry                                   | shrub      | yes                      | any         |
| Canna spp.                     | Canna lily   | perennial  | no                       | any         |
| Chasmanthium latifolium        | inland sea oats  | grass      | yes                      | any         |
| Crinum spp.                    | Crinum   | perennial  | yes                      | any         |
| Cyperus alternifolius          | Umbrella Sedge   | perennial  | yes                      | center      |
| Delphinium virescens           | prairie larkspur                                       | wildflower | yes                      | any         |
| Echinacea purpurea             | purple coneflower                                      | wildflower | yes                      | margin      |
| Gaillardia spp.                | blanketflower  | wildflower | yes                      | margin      |
| Gelsemium sempervirens         | Carolina jessamine                                     | wildflower | yes                      | any         |
| Habranthus spp.                | rain lily  | wildflower | no                       | any         |
| Helianthus maximiliani         | Maximilian daisy                                       | wildflower | yes                      | center      |
| Hemerocallis spp.              | callis spp. daylilies perennial                        |            | yes                      | any         |
| Hibiscus coccineus             | red Texas star hibiscus shrub                          |            | yes                      | center      |
| Hibiscus coccineus 'Lone Star' | s coccineus 'Lone Star' white Texas star hibiscus shru |            | yes                      | center      |
| Hymenocallis liriosome         | spider lily  | wildflower | yes                      | center      |
| Ilex decidua                   | possumhaw holly  | tree       | yes                      | margin      |
| Ilex vomitoria                 | toria yaupon holly tree                                |            | yes                      | margin      |
| Iris brevicaulis               | uulis Louisiana iris wildfl                            |            | yes                      | center      |
| Iris fulva                     | red Louisiana iris                                     | wildflower | Yes                      | center      |
| Iris spp.                      | wild iris  | wildflower | Yes                      | center      |
| Iris versicolor                | blue flag iris   | wildflower | Yes                      | center      |
| Lantana horrida                | Texas lantana  | wildflower | Yes                      | margin      |

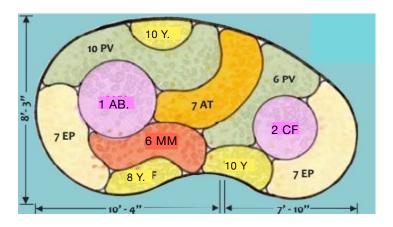
| Botanical Name              | ame Common Name Category                      |                   | Native or<br>Naturalized | Wet<br>Zone       |
|-----------------------------|---|-------------------|--------------------------|-------------------|
| Liatris spicata             | gayfeather (blazing star)                     | wildflower        | Yes                      | any               |
| Lobelia cardinalis          | cardinal flower                               | wildflower        | yes                      | center            |
| Malvaviscus arboreus        | giant turk's cap                              | shrub             |                          | any               |
| Malvaviscus drummondii      | turk's cap                                    | shrub             | yes                      | median,<br>margin |
| Monarda didyma              | bee balm                                      | wildflower        | yes                      | any               |
| Myrica cerifera             | southern wax myrtle                           | tree              | yes                      | median,<br>margin |
| Oenothera speciosa          | pink evening primrose                         | wildflower        | yes                      | median            |
| Oxalis crassipes            | wood sorrel                                   | groundcover       | yes                      | margin            |
| Panicum virgatum            | switchgrass                                   | grass             | yes                      | center            |
| Passiflora incarnata        | passionflower                                 | vine              | yes                      | any               |
| Plumbago auriculata         | blue plumbago                                 | shrub             | no                       | margin            |
| Rudbeckia maxima            | giant coneflower                              | wildflower        | yes                      | any               |
| Ruellia brittoniana 'Katie' | iana 'Katie' dwarf Mexican petunia wildflower |                   | yes                      | any               |
| Ruellia spp.                | Mexican petunia wildflower                    |                   | yes                      | any               |
| Sabal minor                 | dwarf palmetto                                | shrub             | yes                      | any               |
| Salvia greggii              | cherry sage wildflower                        |                   | yes                      | margin            |
| Sambucus canadensis         | anadensis American elderberry shrub           |                   | yes                      | any               |
| Setcreasea pallida          | purple heart                                  | heart groundcover |                          | median,<br>margin |
| Solidago spp.               | goldenrods                                    | wildflower        | yes                      | any               |
| Tagetes lucida              | Mexican mint marigold                         | perennial         |                          | margin            |
| Taxodium distichum          | distichum bald cypress tree                   |                   | yes                      | Any               |
| Zephyranthes spp.           | Rain Lily                                     | perennial         | yes                      | Center            |

## Sample Plans for Brazos County Rain Gardens

Some common designs for rain gardens are kidney bean-shaped or bowl-shaped, but the shape will ultimately be determined by the space available and personal taste.

#### Bird, Bee, & Butterfly Meadow- Sun

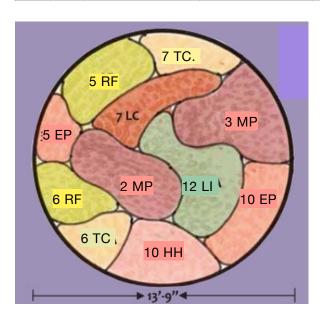
| Abr | Qty | <b>Botanical Name</b>   | Common Name              | Height | Spread | Spacing | Install.<br>Size | Moisture<br>Tolerance |
|-----|-----|-------------------------|--------------------------|--------|--------|---------|------------------|-----------------------|
| AT  | 7   | Asclepias<br>tuberosa   | Butterfly Plant          | 1-2.5' | 1-1.5' | 15-22"  | 1 gallon         | Dry                   |
| MM  | 6   | Tagetes lucida          | Mexican Mint<br>Marigold | 1-2'   | 1-3'   | 22"     | 1 gallon         | Wet/Dry               |
| EP  | 14  | Echinacea purpurea      | Purple<br>Coneflower     | 30"    | 1-2'   | 15-22"  | 1 gallon         | Wet/Dry               |
| Y   | 28  | Achillea<br>millefolium | Yarrow                   | 1'     | 1'     | 15"     | 1 gallon         | Dry                   |
| PV  | 16  | Panicum<br>virgatum     | Switchgrass              | 3-4'   | 2-3'   | 22-30"  | 1-2 gallon       | Wet/Dry               |
| AB  | 1   | Callicarpa<br>Americana | American<br>Beautyberry  | 4-6'   | 5-8'   | N/A     | 1-2 gallon       | Wet/Dry               |
| CF  | 2   | Lobelia cardinals       | Cardinal flower          | 2-4'   | 2'     | 22-30"  | 4" pot           | Wet                   |



Designed for 150 ft² rain garden in full sun. Template (before modification) courtesy of <u>University of Vermont seagrant publications</u>

### Native Woods & Wildlife Garden- Part shade

| Abr | Qty | <b>Botanical Name</b>                      | Common Name              | Height    | Spread | Spacing | Install.<br>Size | Moisture<br>Tolerance |
|-----|-----|--|--------------------------|-----------|--------|---------|------------------|-----------------------|
| LI  | 12  | Iris brevicaulis<br>LA species             | Louisiana Iris           | Up to 40" | 6"     | 15"     | 1 gallon         | Wet                   |
| EP  | 15  | Oenothera speciosa                         | Pink Evening<br>Primrose | 6-12"     | 12-15" | 15"     | 1 gallon         | Wet/Dry               |
| TC  | 13  | Malvaviscus<br>arboreus var.<br>drummondii | Turk's cap               | 2-3'      | 1'     | 15-22"  | 1 gallon         | Wet/Dry               |
| RF  | 11  | Theylypterus kunthii                       | River Fern               | 3'        | 3'     | 22-30"  | 1 gallon         | Wet/Dry               |
| НН  | 10  | Calyptocarpus vials                        | Horseherb                | 4"        | 18"    | 15-22"  | 4" pots          | Wet/Dry               |
| MP  | 5   | Ruellia spp.                               | Mexican Petunia          | 3'        | 3'     | 22-30"  | 1 gallon         | Wet/Dry               |
| CF  | 7   | Lobelia cardinalis                         | Cardinal flower          | 2-4'      | 2'     | 22-30"  | 4" pot           | Wet                   |



Designed for 150 ft<sup>2</sup> rain garden in full sun. Template (before modification) courtesy of <u>University of Vermont seagrant publications</u>

#### Sources:

- Andreoletti, J. *The Vermont Rain Garden Manual: Gardening to Absorb the Storm.* UVMEX publication. University of Vermont Extension Service, Lake Champlain Sea Grant, and Winooski Natural Resources Conservation District.
- Chandler, A. *Rain Gardens*. Texas A& M Agrilife Extension Service- Harris County Office Gardening Fact Sheet. 2008.
- Danko, L. Rain Gardens- the Basics. Penn State Extension Service. 2020.
- Jaber, F. and Woodson, D. Stormwater Management: Rain Gardens. Texas A&M Agrilife Extension Publication B-6247. Texas A&M Agrilife Extension Service. 2012
- Franti, T.G and Rodie, S.N. *Stormwater Management- Rain Garden Design for Homeowners*. UNLEX publication G1758. University of Nebraska-Lincoln Extension Service. 2007.
- Franti, T.G and Rodie, S.N. Stormwater Management- Installing Rain Gardens in Your Yard. UNLEX publication G1760. University of Nebraska-Lincoln Extension Service. 2007.
- Woodson, D. and LeRoy, T. *Texas Rain Garden Plant List (draft)*. AgriLife Extension Rainwater Harvesting publication. Texas A& M System.
- Natural Resources Conservation Service. Bioswales. NRCS Bulletin. 2005.
- Brazos County Master Gardeners, Horticulturalists, & AgriLife Extension Specialists. Suggested Landscape Plants for Brazos County. TAMUEX publication. 2018.
- www.npsot.org/houston
- WaterSmart.tamu.edu
- texaswater.tamu.edu
- http://www.water.rutgers.edu/Recent Presentations/ Rain Gardens FriendsVillage 09092019.pdf