

PROJECT-BASED LEARNING: DESIGN AND BUILD A RAIN

Part 3: Final Rain Garden Design and Planting Plan

Rain Garden Final Design Guidelines

Objective: To create a drawing that effectively communicates all of the site elements and design decisions that you have made to create your rain garden design. As you design, remember to think about how the garden will look and feel when people are in it and how it looks to people viewing it from other perspectives.

In order to create your final design and planting plan, you will use the layout you created in part 2 of this lesson and combine that layout with hardscaping and landscaping elements. The steps on this handout walk you through the final steps and considerations for creating your finished design.

Erosion Protection

How will you protect your rain garden from erosion? The water that moves through your garden will cause the soil to erode. To protect the waterways from erosion, you can armor them with a material that will slow the movement and resist the erosive forces of water. Examples of attractive armoring include

- rip-rap or stone rubble
- gravel
- bricks
- concrete pavers
- recycled concrete rubble

Hardscaping

What, if any hardscaping elements will you include? Hardscaping includes pathways, seating, walls, etc., that will be permanent parts of the garden.

Pathways

- Is your rain garden large enough to encourage people to walk through?
- What is the most appropriate location for people to enter and exit the garden?
- What are the nearby existing pedestrian traffic areas, sidewalks or building entrances and exits?
- Select a material for the walking path. Keep accessibility and comfort in mind; not all materials are easy for people with different abilities to travel on. A good rule of thumb is that the smoother and more uniform a surface, the easier it is for different people to cross it.

Some standard path materials include:

- pea or other gravel
- bricks
- stone pavers
- concrete or asphalt

Seating

- Is there an accessible place for a bench or other seating, for example, next to a path or walkway?
- Is there a view you want people to see when they sit in the garden, for example, a nice part of the garden or school grounds, a place to people-watch?
- Is there a view you do NOT want people to see when they sit in the garden, for example, a parking lot, a dumpster?
- Is there a shady spot for a seat?

Borders and Walls

- Will there be separate plant beds in the garden? Do you want to visually separate them with borders?
- What materials would you want to use for borders? Generally, garden beds are outlined with rock, wood, or metal borders.

Note: Make sure that people can always see into and out of the rain garden area so that everyone feels safe spending time there.

Plants

Use the plant list(s) your classmates have compiled or supplied by your teacher to help you decide what plants to put in the garden.

Criteria for plant selection:

- Light & shade - Identify the areas of your garden that receive full sun, partial sun and full shade. Most plants can only handle one of these conditions and that is a good first way to narrow down plant selections for a given area of the garden.
- Wetness - The bottom of the rain garden basin (zone 1) is going to be the wettest part of the garden, while the upper areas that are set back from the basin (zones 2 and 3) will dry out more quickly after a rain. When laying out your plants, be sure to read about their wet or dry soil preference and place them accordingly.
- Mature size - The size that plants are going to grow is very important to consider so that they don't crowd each other out and obscure views in the future. Place taller and larger plants in the rear of the garden and against building walls or fences where they will provide a nice background for viewers and passers-by. Similarly, place the lower plant material in the front of the garden and along pathways so that it is easy to see into the garden and display layers of plantings with the tallest in the back.

PLANT NAMES

While most plants have common names, such as milkweed or rose, landscape designers and architects refer to plants using their Latin binomial name, which indicates the genus and species you have selected; for example, the Latin name for butterfly milkweed is *Asclepias tuberosa*.

This avoids any confusion that might be caused by the plant having a variety of common names. The first name is always written with a capital first letter and represents the plant's genus. The second word is always in all lower-case and indicates the plant's species. You will usually see these in italics or underlined.

- Seasonal interest - Consider the seasonal variability of plants and when they offer their peak attributes (flowers, berries, leaf color). Different plants do different things at different times of year and it's nice to have something interesting happening in a garden during all seasons. When choosing your plant palette, try to stagger bloom times and other elements that spread the interest around through the seasons.

Some things to consider include:

- Bloom time & color
- Foliage interest and color
- Fall color change
- Attractive bark on trees and shrubs (especially important in winter)

Drafting the Final Garden Design

After you have considered the above elements, you are ready to begin your final design rendering. Use tracing paper over your base map to create a series of design iterations until you get the composition you want. Then transfer the design directly onto the base map. Use erasable pencil initially on the base map, then add color with markers or colored pencils.

- Draw light lines indicating the edges of areas that will receive different amounts of sun.
- Draw other elements in your garden like stones, paths, benches, etc. and render them lightly with appropriate colors indicating the materials they are composed of.
- Draw a line on your plan that reflects the walking path you think would be most interesting. Keep in mind that you do not want a path through the water areas.
- Use your circle template to properly space and size your plants. For each species, select a circle size that proportionally equals approximately the mature diameter of the plant when full grown. You can determine this by reading about the plant and then taking your architectural scale to measure the different circle sizes in your template until you find the right one.
- Draw your circles in different colors that each correspond to the same species so that you can quickly differentiate between plants you have selected in your design. Sometimes it can be helpful to write a two or three letter code in each plant circle that also helps to identify the plant species.
- Draw the outlines of your plants in patterns that reflect the general character of the foliage.
- Color your plants with markers or colored pencils that reflect some attractive aspect of that plant, most typically bloom color.
- Lightly color the wet areas and watercourses with a blue pencil or marker so that the wet areas and water features are clearly indicated.

