



Imagine a garden that combines visual beauty and a thriving habitat with responsible water management. That's the perfect description of a Best Management Practices rain garden - an economical, enjoyable environmental oasis.

Are Rain Gardens Feasible at My Residence?

Rain gardens are appropriate where the following site characteristics are present:

- Rain gardens should be installed at least 10 feet from building foundations. Ground adjacent to the building should slope away at a 2% minimum. The rain garden area should receive full sunlight throughout most of the day. A downspout extension or bioswale can be used to convey rain from a roof directly into a rain garden. They are also appropriately sited downstream from a rain barrel overflow line.
- Rain gardens should be at least 3 feet from public sidewalks (or have an appropriate impermeable liner installed), 10 feet from property lines, and in an area where potential overflow will not run onto neighboring properties. Do not site rain gardens above septic systems.
- The site should have well-drained soil and be relatively flat. Soil amendments can improve infiltration in areas with poor drainage.
- A front or back yard can work well for a rain garden, especially in areas where the slope naturally takes the stormwater.

For sites within, immediately adjacent to, or discharging to an environmentally sensitive area, see the LID Manual for applicable criteria.

How Large Does My Rain Garden Need to Be?

Rain gardens should not exceed 300 square feet, and the contributing impervious area should not be more than 4,000 square feet. A general recommendation for a garden with a 6-inch ponding depth is to size the rain garden to approximately 6% of the contributing area. The infiltration rate of water into the soil will affect how the rain garden should be sized; rain gardens will need to be larger in areas with slower infiltration. The following table can be used as general guidance.

Contributing Area (sq. ft.)	Rain Garden Area (sq. ft.)
500 - 700	36
701 - 900	48
901 - 1100	60
1,101 - 1,300	72
1,301 - 1,500	84
1,501 - 2,000*	105



Design Criteria and Considerations

When installing a rain garden, the following criteria should be adhered to unless otherwise permitted by the City of Long Beach. The owner should check all boxes that will be complied with.

- Location is at least 10 feet from home foundation, 3 feet from public sidewalks, and 10 feet from private property lines, with a slope of approximately 2% away from the home.
- Rain Garden has been located to intercept and collect runoff via a downspout or adjacent impervious area. The rain garden is not located underneath the canopy of existing trees.
- Rain garden is appropriately sized to the soil type and drainage area.
- Rain garden is not located over septic systems or shallow utilities. Utilities have been located before digging by calling Dig Alert at (800) 227-2600.
- Rain garden is not located within 50 feet of steep slopes (>25%). The rain garden has been built on a relatively flat area.
- Permits are not required for typical residential landscaping projects. If you plan on making major landscaping modifications such as moving more than 50 cubic yards of soil or altering 1 acre or more, contact the Long Beach Development Services at (562) 570-5237 for further assistance.
- An overflow has been incorporated in the rain garden such that excess water will flow into another pervious area and away from the home's foundation or neighboring property.
- Detention and infiltration do not (knowingly) cause geotechnical hazards related to slope stability or triggering expansive (clayey) soil movement.
- Drought and flood resistant native plant species are used whenever possible. Invasive or pest species have been avoided. A listing of resources where information on native plant species can be found is in the reference section. A list of invasive species may be found at the California Invasive Plant Council, Southern California Region website (www.cal-ipc.org).

Owner Certification

"As the owner of the project property, I hereby certify that the above information is true, accurate, and complete, to the best of my knowledge."

Owner Signature: _____ Date: _____

Operations and Maintenance

Once a rain garden is installed, the following criteria should be adhered to. The owner should check all boxes that will be complied with.

- Rain gardens will be irrigated deeply once a week during dry months to encourage root growth and keep plants strong, especially while plants are being established. Plants will be inspected for health and weeds will be removed as often as necessary.
- Rain gardens will be monitored after storm events for signs of overflow. If overflow occurs significantly or often, the size and/or depth of the garden may need to be increased, or other actions to increase infiltration (e.g., soil amendments, underdrain installation) may be necessary.
- Signs of erosion will be repaired immediately. Further erosion can be prevented by reinforcing the surrounding area with groundcover or using energy dispersion techniques on downspouts.
- Infiltration effectiveness and excess sediment deposition will be monitored annually, preferably prior to the start of the rainy season.
- Standing water will not remain in a rain garden for more than 3 days. Extended periods of flooding will not only kill vegetation, but may result in the breeding of mosquitos or other vectors. If vector breeding occurs at a site as a result of contained stormwater or inadequately maintained BMPs, I understand that the City of Long Beach Department of Health and Human Services, Bureau of Environmental Health, has the ability to fine site owners for violating the California Health and Safety Code (Section 2060 – 2067).
- Rain gutters and downspouts will be inspected and cleaned at least twice annually.

* Projects adding roof or impervious areas in excess of 2,000 sq. ft. shall add 30 sq. ft. of rain garden surface area per every 500 sq. ft. of additional area.

For more information, contact
Long Beach Development Services at
(562) 570.5237 or www.lbds.info