

Put a LID on It! Home Projects for Stormwater Quality

The days are still warm, but cooler weather and rain is just around the corner. Don't worry, though, there is still time to get in those last minute home-and-garden projects. This is also a great opportunity to care for the health of your watershed by reducing stormwater runoff while improving the aesthetics of your home.

“Low Impact Development” (LID) is a term commonly used to refer to small-scale, on-site practices that minimize the impact of development on our watersheds. When rainwater washes across developed surfaces, such as roofs, parking lots, and driveways, it picks up sediment and pollutants and deposits them directly into local waterways. LID techniques reduce polluted runoff by retaining stormwater on-site for filtration into the ground. Reducing stormwater runoff improves water quality, reduces the number of catastrophic floods, and recharges our valuable groundwater supply. The following are various LID techniques that can help to improve stormwater quality.

Minimize impervious surfaces. If you're thinking about extending your driveway, adding a patio, or paving a sideyard, consider using permeable pavers or porous concrete instead of traditional concrete.

Disconnect your downspout. If your rain gutter downspout directs water straight to the street gutter, disconnect it then redirect the rainwater to a nearby vegetated area or other permeable surface like pavers. Rain barrels can also be used at the downspout to capture rainwater for irrigation.

Amend your soil. Soil amending is an important LID technique in areas of clay soil, which have a very slow infiltration rate. By adding compost or other organic material to your soil, you can restore the health of your soil and its ability to infiltrate rainwater.

Create a bioretention cell or “rain garden.” A rain garden is simply a strategically located, shallow depression that captures and soaks up stormwater runoff from your roof or other impervious areas around your home like driveways, walkways, and compacted lawn areas. Rain gardens are attractive and are a good alternative to traditional lawn landscapes. Once established, they also require less maintenance than lawns as they do not need to be mowed, fertilized, or watered.

When designing your rain garden, it is important to consider factors such as location, soil type, and plant species. The rain garden should be at least 10 feet from the house so infiltrating water does not seep into the foundation. Rain gardens should not be placed directly under a large tree as these gardens flourish in full or partial sun.

If there isn't an existing low area in your landscape, excavate an area about 6 inches deep. Amend the soil in the excavation with a blend of 20% organic matter such as compost, 50% percent sandy soil, and 30% percent topsoil. This mix will promote good drainage and help break down pollutants. Clay content should not exceed 10% of the soil mixture. The proper soil mixture will ensure standing water remains in your rain garden

for no more than a few hours or a few days at most, preventing mosquitoes from breeding.

In the depression, plant native and non-invasive species that are resistant to the stress of both brief periods of pooling as well as dry periods between rainfall events. For a list of plants, trees and shrubs suited to rain gardens in California, see http://www.bbg.org/gar2/topics/design/2004sp_raingardens.html. Also see <http://www.native-raingarden.com/californiatreesandshrubs.html>

Once the rain garden is established, maintenance generally includes occasional mulching, pruning and thinning, and plant replacement. Be sure to inspect your rain garden periodically during and/or immediately after rainfall events to be sure the rain garden is working as designed.

While your individual projects may seem like isolated efforts, collectively, these LID techniques can produce substantial water quality benefits. By utilizing these simple designs on your property, you can improve the health of your watershed while beautifying your property.

The Russian River Watershed Association (www.rrwatershed.org) is an association of nine cities, counties and special districts in the watershed that are working together on programs for clean water, fisheries restoration and watershed enhancement. This article was authored by Eydie Tacata, Engineering Division – Rohnert Park.