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in the garden *by Stephen and Kristin Pategas*

## Rainwater Capture

Before development, our now-urban areas were water absorbing natural areas with a wide diversity of native flora and fauna.

Lakes and rivers were clean and clear. Then, growth caused large swaths of aquifer recharge areas to be paved over and polluted stormwater was directed into storm drains that lead to water bodies. The pressure on the environment remains, as infill continues and structures consume larger footprints on sites leaving less green space.

Little water-absorbing pervious area remains after subtracting impervious roof area, swimming pools, pavement used for roads, driveways, walkways, and patios. Without intervention, these impervious areas usually direct water onto pavement where pollutants (oils, chemicals, fertilizer, and organic matter such as grass clippings and leaves) are carried to the storm drains and into our lakes and rivers. Over time, the water works its way into the aquifer which supplies drinking water.

At first, municipalities required only large developments to provide onsite retention. Now, they also have ordinances that require single family home sites with new construction or substantial remodeling to hold a certain amount of stormwater (first inch is typical) onsite, where it can percolate into the ground. Stormwater is required to be held onsite and not run off onto neighboring property. Creating these water catchment areas and setting grades to minimize runoff is an important part of the landscape design and installation process.

The design of these stormwater retention areas takes into consideration the slopes and where water flows from impervious surfaces. Rain water from roofs can usually be directed to retention areas by use of gutters, downspouts and underground piping. In many cases the retention areas can be relatively shallow so they temporarily hold only an inch or two of water. When they are this subtle they may be distributed throughout the landscape. These depressions can collect water from surfaces sloped towards them and downspouts that are



Above: Storm water retention areas can be landscaped. At left: A slightly recessed retention area.



pipel underground directly into them.

A side benefit is that before the water retained onsite travels down into the aquifer, some of it is used by trees and nearby plants in the landscape. If an area that captures water is always moist it can be planted with plants that thrive in those conditions. These areas are called "rain gardens."

Capture and use the water on your property to reduce potential problems with neighbors, collect rainwater for plantings, benefit the water bodies within your watershed – and never dump anything into the storm drains.

At right: An NDS Pop-up can distribute water from the end of a piped downspout.



Photos by Stephen G. Pategas/Hortus Oasis