

WHY HARVEST RAINWATER OR HAVE A RAIN GARDEN?

- In many areas, nearly 40% of the domestic water use goes to residential irrigation. Harvesting rainwater for this purpose, as well as other purposes, can save drinking water, and lower your water bills.
- A rain garden provides infiltration and water storage for stormwater runoff, minimizing the volume and improving the quality of runoff entering conventional storm drains and nearby streams and/or washes, while increasing the recharge of water back into the ground.

BENEFITS OF WATER HAREVESTING & RAIN GARDENS.

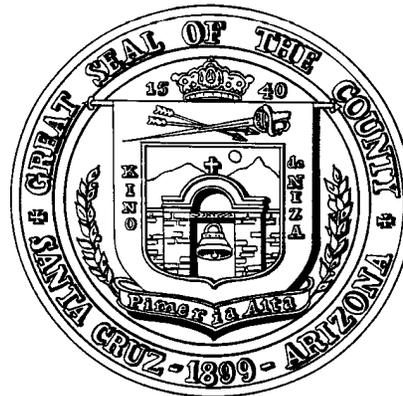
- Conserves groundwater and reduces your monthly water bill.
- Reduces local flooding and drainage problems.
- Prevents erosion by eliminating standing water and runoff.
- Reduces the accumulation of salts in the soil.
- Provides a source of clean, fresh, salt and mineral free water for evaporative cooling, washing, irrigation, and other household purposes.
- In the case of rain gardens, actually increase the amount of water being recharged into the aquifer.

For more information contact:

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SANTA CRUZ COUNTY
FLOODCONTROL DISTRICT
AND
FLOODPLAIN ADMINISTRATION
PUBLIC INFORMATION SERIES

Water Harvesting & Rain Gardens



WHAT IS WATER HARVESTING?

Simply put, water harvesting is the collection of rainwater that falls on your property for later use around your home or yard or for recharging back into the ground. Many Santa Cruz County homeowners already use rainwater to irrigate their lawns, trees, and other plants. A water harvesting system can be as simple as a sloped sidewalk/driveway with a small berm to catch the runoff, or planting under the drip line of your roof and creating a small berm to catch some of the water.

WHAT IS A RAIN GARDEN?

A Rain Garden refers to a constructed depressional area used as a landscape tool to improve water quality and reduce site runoff. A Rain Garden is equal in size to fifteen percent of the impervious area (building, paving, and concrete) constructed on the lot. If the impervious area is 10,000 square feet, the Rain Garden is to be a minimum of 1,500 square feet. The area is depressed six inches below surrounding grade, with runoff from the both the building, sidewalk, and driveway directed to the garden, and planted with a variety of plants, including trees, shrubs, and grasses. It is suggested that the plants be chosen from the Arizona Department of Water Resources *Low Water Use Drought Tolerant Plant List Santa Cruz Active Management Area* and/or the Pima County *Watercourse and Riparian Habitat Protection and Mitigation Requirements, Mitigation Standards and Implementation Guidelines*. In addition, add a minimum of

three inches of compost to the soil and till it to a depth of 12 inches

HOW TO HARVEST RAINWATER?

Depending on your budget and ambition, a water harvesting system can range from the simple to the complex. Water harvesting can easily be incorporated into you property whether you are building a new home on a single lot, designing a subdivision, or making a few improvements to your yard. It can be helpful to thin of a harvesting system as having four main components:

RAINWATER COLLECTION

Rainwater can be captured from any rooftop area, patio, driveway or other impermeable surface. Make sure any collected water is kept at least three feet away from the foundation you're your house. The amount of water collected will depend on the size of your collection area. To determine the volume of water you could collect, multiply the square footage of your collection area by the amount of rain received each year in feet (for Santa Cruz County, this number varies from 1.25 to 1.58 feet of rainfall a year). Next, multiply the result by 0.90 to account for evaporation and other losses. The result is the amount of water in cubic-feet you could collect per year. To convert this number into gallons, multiply it by 7.50. As an example, a 1,000 square foot rainfall

collection area will yield between 8,437.5 and 10,687.5 gallons of water per year.

STORAGE

Storage systems can be as simple or complex as you desire. An effective system can be a 55-gallon drum fed by rooftop gutters and down spouts. A more complex system might include cisterns buried below ground with collection and distribution plumbing and a timed sprinkler system. Debris, such as leaves, twigs, etc., should be filtered prior to storing the water by placing screens over the downspouts and gutters. Water kept in tanks or cisterns should be covered to minimize algae growth and eliminate the potential

DISTRIBUTION

Berms and swales or gutters and downspouts can be designed to catch rainwater and distribute it directly to tree wells or landscape plants. Rainwater can also be directed to perforated pipe, rock-lined trenches, and rain gardens and allowed to infiltrate into the soil. Many people store harvested rainwater and distribute it later through a drip irrigation system.

SYSTEM MAINTENANCE

System maintenance depends on the filtration and cover you provide. Screens should be cleared as often as needed, and storage tanks should be drained and cleaned when it is convenient to do so. The tanks should be cleaned and inspected at least every other, if not every, year.