#### July 2012

# rain barrels & cisterns defined:

A **rain barrel** is designed to capture and store rainwater for future use. Rain barrels attach to the downspout of your stormwater gutter to capture the water that would normally disperse into your yard or down your driveway. When it comes to time to use your water, you simply turn on the spigot at the bottom of the barrel. Rain barrels often hold 40-70 gallons. A **cistern** is a rain barrel on a much larger scale so it stores more of your stormwater. Cisterns could be almost any size, from 100 to 1000 gallons or more. Cisterns are sometimes buried underground and can have a pump hooked up to them.



### uses for your captured stormwater:

Rainwater captured and stored in your rain barrel can be used for outdoor water needs, such as watering plants or washing your car. Rainwater has a higher nutrient content then tap water and therefore supplies more of your plants needs. Basically, anything you would use your garden hose for, except drinking. Cisterns can be used for flushing toilets or irrigation. Remember to locate your rain barrel or cistern where it can be easily accessed, and to work it into your existing landscape layout. It is important to use stored rainwater before the next storm or all of the additional water will overflow. You can direct this overflow into a rain garden or onto the lawn. Please see the factsheets on downspout disconnects and rain gardens for more information.

#### instructions:

- Most rain barrels come with instructions and you should follow those first. In general all rain barrels are installed the same way and you can use the instructions here. Position your barrel on level ground or level blocks, next to a downspout. Leave enough room under the spigot for a watering can. If you plan on using a hose, remember water runs downhill. The higher the rain barrel, the more water pressure you will have.
- 2. Cut the downspout with a hacksaw eight to 12 inches above the top of the barrel. Remove the lower section of downspout and set the barrel in place. Attach a downspout elbow and a short section of downspout to direct water onto the screened lid of your rain barrel.









rainwater for capture & re-use

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# Instructions (continued):

- 3. Attach a section of hose to the overflow fitting (commercially sold rain barrels often supply all necessary parts). If the hose that came with the rain barrel is short, you can use an old piece of garden hose. Make sure it flows away from the foundation of your house, preferably into a landscaped area or onto rocks or a splash block to your lawn. If your home is on a steep slope be sure to direct the rain barrel back into the existing drainage system or in such a way that it does not increase erosion.
- 4. Different types of downspout adapters are also available. These are installed along the downspout and have a hose leading to the rain barrel. When the rain barrel fills, the runoff will bypass the barrel and continue down the downspout as it did before the rain barrel was installed.
- 5. A rain barrel has a spigot usually set high enough to fill a watering can. You can also attach a hose to the drain valve at the bottom of your rain barrel.
- 6. You can connect two or more barrels together by linking the overflow ports at the top so one barrel flows into the next.

# want more than a rain barrel can hold?

An average sized 65 gallon rain barrel is not large enough to capture all the runoff from your roof. A 300 square foot roof section that drains to a downspout would produce approximately 162 gallons of water. If you use a 65 gallon rain barrel, 97 gallons of water will overflow from the barrel (hopefully into your rain garden.) If you would like to capture more rain than a rain barrel, see the NC Cooperative Extension publication *Rainwater Harvesting: Guidance for homeowners*. <u>http://www.ncsu.edu/WECO/documents/</u> <u>WaterHarvestHome2008.pdf</u>



A quick calculation for determining how many gallons of water runs off your roof from a 1 inch storm is  $V = A \times 0.6$ . Volume = gallons of

runoff, A= surface area of your roof, and 0.6 is a conversion factor for inches/feet/gallons. A general rule of thumb is 1" of rainfall that falls on a 1000 square foot roof will produce 600 gallons.

# where can I get one?

Hardware stores and even grocery stores now sell rain barrels. Check with your town or county to see if they are selling them - many contract with companies to sell them at a reduced rate. Various styles and sizes of cisterns and rain barrels can be found online at different rain barrel and rainscaping companies. You can also make your own rain barrel - many towns offer guidance on their web sites.

# DRAFT PUBLICATION FOR REVIEW