

Store the Storm

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623 gallons of water runs off of a 1,000 ft² roof during a 1" rainstorm. The average monthly rainfall from April to October is approximately 3" inches in the Finger Lakes region. If those 1,869 gallons of rainwater were used to water a garden, clean a sidewalk, or wash a car, you could **save up to \$100* per year on their water bill.**

* 2012 \$4.28/1,000 gallon water rate in Geneva, NY

How to Build a



Rain Barrel

Installing a rain barrel is an easy way to protect our environment and save money. A rain barrel collects and stores rainwater from your roof that would otherwise be lost to runoff and diverted to storm drains or streams. Rain barrels reduce the flow of untreated storm runoff into bodies of water, like the Finger Lakes. Installing a rain barrel will minimize runoff pollutants into our waterways, conserve treated drinking water, and reduce demand on the wastewater treatment system. Using a rain barrel not only helps protect the environment, it saves money and energy.

According to the U.S. Environmental Protection Agency, of the 26 billion gallons of water consumed daily in the United States, approximately 7.8 billion gallons, or 30 percent, is devoted to outdoor uses. The water from your barrel can be used for watering gardens and lawns, topping off swimming pools, washing cars and pets, cleaning sidewalks, and cleaning outdoor furniture and decks.

Store the Storm

Supply List

Supplies used to build Store the Storm rain barrels are available at local hardware stores. Store the Storm barrels are furnished with all required hardware, except the customizable overflow valve attachment.

The hardware for the overflow valve will depend on the placement of your barrel and if you want a multiple barrel collection system. Options for overflow valve construction are listed in Step 4.

* 2012 Price list from F.A. Church Hardware, Lowes, and Tractor Supply

Re-used 55 Gallon Barrel \$15.00

The Outlet:

Duct Tape \$3.00

Yard Stick \$2.00

$\frac{3}{4}$ " Tank Bung \$8.00

$\frac{3}{4}$ " Threaded Nipple \$4.00

$\frac{3}{4}$ " Threaded Ball Valve \$13.00

$\frac{3}{4}$ " Brass Hose Adapter \$5.00

The Inlet:

3"-4" PVC Reducer \$3.00

6"x6" Mesh Screen \$2.00

3"-5" Hose Clamp \$2.00

The Overflow Valve:

1 $\frac{1}{2}$ " Trap Adapter \$2.00

1 $\frac{1}{2}$ " Rubber Washer \$2.00

The **Downspout** drains rainwater from the roof to the barrel. Your downspout will be altered to accommodate the height of the barrel.

The **Inlet** is a 4" hole at the top of the barrel. The water from the downspout will enter the barrel here.

The **Overflow Valve** is needed in large rain events. Water must be diverted away from the foundation of your home. OR your barrel can be connected to another barrel at this point.

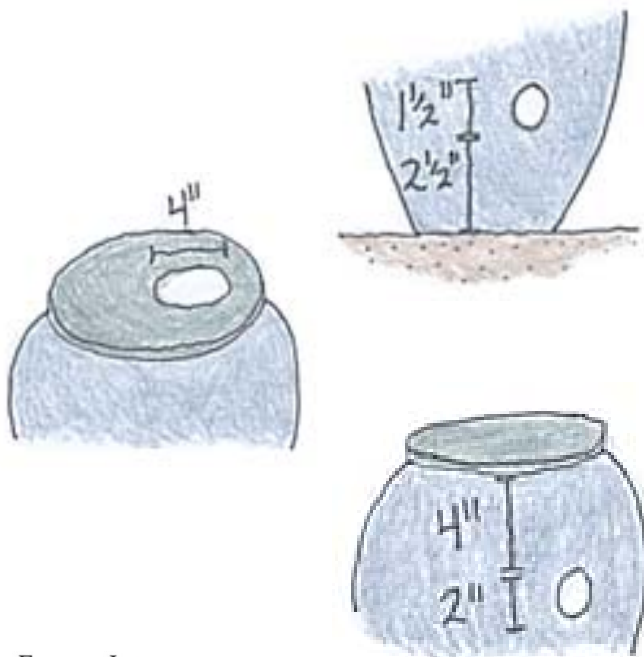
The **Outlet** is a spigot that can fit to a hose so you can use your collected water!



Safety and Planning

- Choose a downspout that is close to where the water will be used
- Place the barrel on firm, secure ground
- To increase water pressure to your garden hose, place the barrel on cinder blocks to increase the barrel's height—the extra height should be determined before cutting the downspout
- The barrel must have a secure lid and filter at the inlet to prevent mosquitoes from breeding and other debris from accumulating
- Avoid placing your barrel in direct sunlight to limit algae growth
- Water from the barrel should be used within ten days to avoid potential mosquito breeding
- Direct water discharge away from the foundation of the house
- Never use the water in your barrel for drinking or cooking. Because your roof runoff could have traces of contaminants, water your edible garden with caution. If using for edibles, use drip irrigation and cease use near harvest time.

Step 1



Holes: Cut three holes in the barrel

using a hole saw:

1. 1 ½" diameter hole for the outlet and spigot at base of barrel, about 2 ½" from the base of the barrel
2. 4" diameter hole on top of barrel for downspout and filter (drill on opposite side from the outlet hole)
3. 2" diameter hole for overflow on side of barrel, about 4" from the top on either side of barrel

Step 2

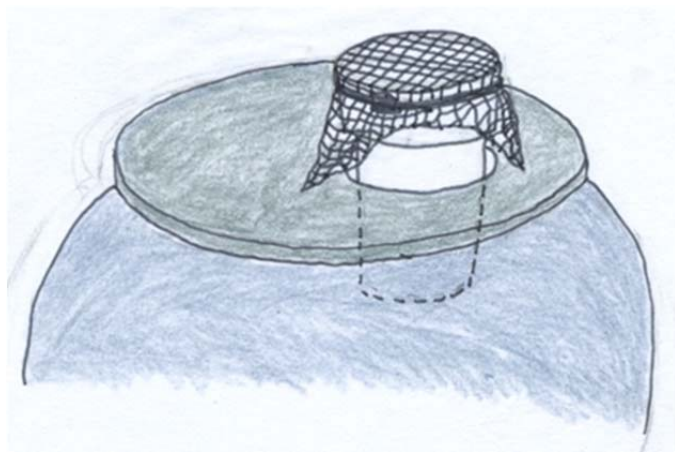
The Outlet: At the outlet hole (Step1, #1), a spigot connected to a garden hose will enable easy access your collected water.

Remove washer and nut of tank bung. Attach remaining tank bung to end of yard stick with duct tape. The yard stick acts as an extended arm to ease insertion into outlet hole at base of tank. Place tank bung through bottom hole in barrel, place rubber washer onto fitting, then tighten nut securely from outer side of barrel. Note: Tank bung nut screws to the left to tighten.

Screw threaded nipple onto the tank bung. Attach the threaded ball valve to the threaded nipple, and brass hose adapter into the ball valve. A crescent wrench may be necessary to achieve a tight fit.



Step 3



The Inlet: Rainwater will enter from the downspout into the top hole of the barrel. The inlet should always have a filter or screen to keep leaves, insects, and debris from entering your rain barrel.

Place fiberglass screen over PVC reducer and keep taut by tightening hose clamp; trim excess. Insert screen-covered PVC reducer into inlet hole at top of barrel.

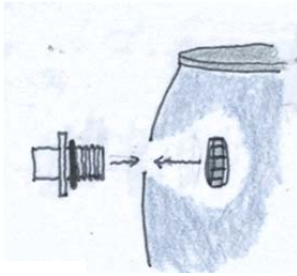
Step 4

The Overflow Valve: Wrap the rubber washer over the grooved portion of the trap adapter. From the outside, place this into the overflow hole on the upper side of the barrel. Use the nut of the trap adapter on the inside of the rain barrel to secure in place.

If your barrel is adjacent to your garden, attach a PVC elbow to the trap adapter and then 5' to 10' of PVC piping.

1 ½" PVC 90-degree Elbow	\$1.50
1 ½" 10' PVC Pipe	\$5.00

If you would like to divert overflow water to a different portion of your garden or yard, attach a bushing to the trap adapter from which you can screw in a hose.



Step 5

Install: The higher the barrel, the more water pressure it will have. Place cinder blocks (3) side by side to raise your barrel and create a level platform for it to sit upon. Using a screw driver, detach the downspout elbow from the downspout. To determine where to cut your downspout, measure the height of the barrel (including PVC filter) plus the height of the cinder blocks, and then add 7" for the height of the downspout elbow.

Note: A standard cinder block is 8" high, your rain barrel will be about 35" tall, plus 7" for the downspout elbow. Your cut will be about 50" from the ground level. (This is only an approximation, please measure accurately.)

Cut downspout with hacksaw or jigsaw. Reinsert the downspout elbow and adjust so it sits about ½" from the inlet of the barrel. Re-secure the elbow with screws if necessary.

