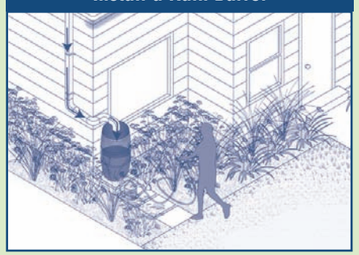
How you can help manage stormwater

The first step to managing stormwater at home is disconnecting your downspout from the sewer system if conditions are right. The goal is to reduce the amount and speed of stormwater leaving your property. You can simply direct the downspout water with a splashblock or extension to an existing area in your yard that needs water . . .

Disconnect Your Downspout

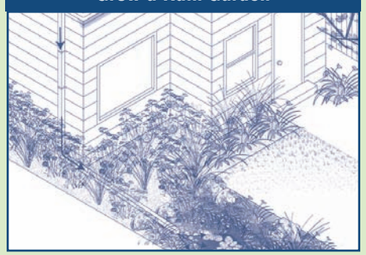
Then put the stormwater that comes from your downspout to work in your yard:

Install a Rain Barrel



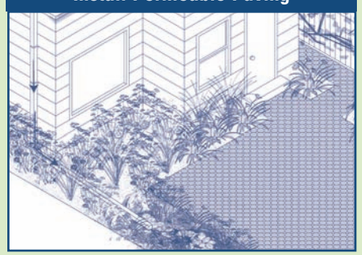
Save the water in a rain barrel for later use.

Grow a Rain Garden



Direct the water to landscaping with deep roots such as a rain garden, tree or native plants, to soak up even more stormwater than a typical lawn.

Install Permeable Paving



Install permeable paving on your patio or driveway to let the water soak in below while still providing the hard surface you need.

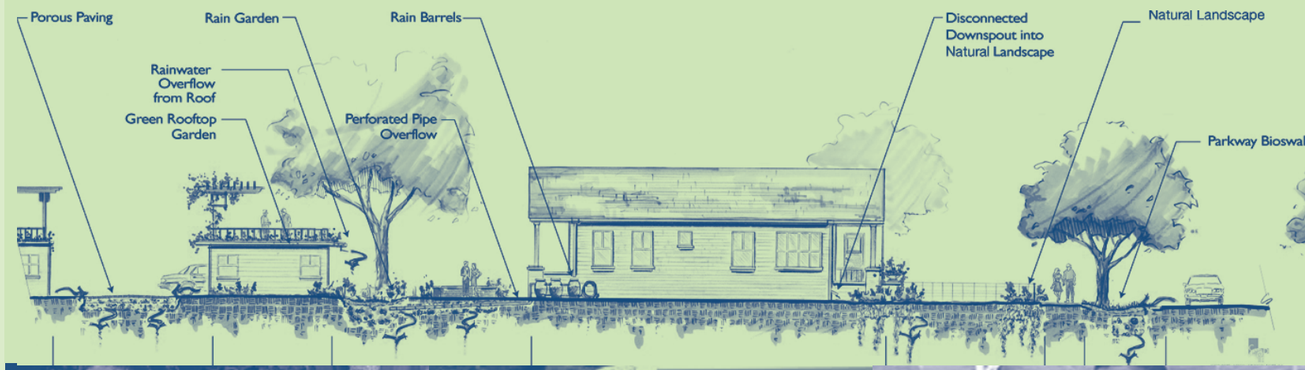
Or a combination of the above

This brochure is a guide on how to make these options a reality in your home.

Contact: 312-743-9283 or rainbarrel@cityofchicago.org

Printed on recycled paper with soy-based ink.

Managing Stormwater at Home



A How-to Guide for Chicago Residents

Department of Water Management

City of Chicago
Richard M. Daley
Mayor

Chicago Department of Environment

Stormwater Management: The Issue

After stormwater falls on your roof and travels down your downspouts, it combines with wastewater from your house, and flows to the city's sewer.

I. Basement Flooding

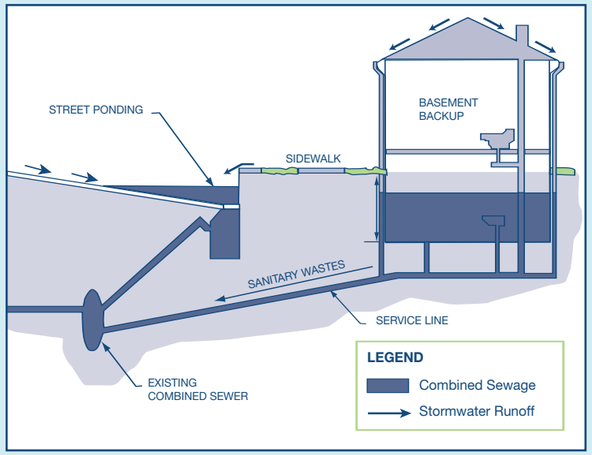


Diagram I: During heavy rains, the sewer system can become too full, causing untreated combined sewage to both back up into basements and the street and flow into the river system (this is called a combined sewer overflow, or CSO).

II. Disconnected Downspouts and Rainblockers

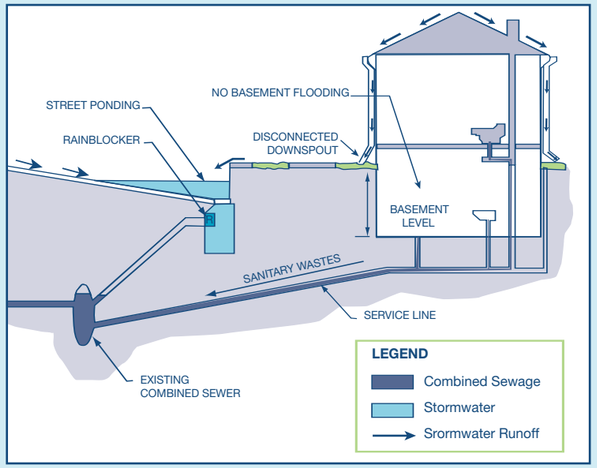


Diagram II: Keeping stormwater out of the sewers helps to prevent basement back-ups and combined sewer overflows (CSOs).

Disconnected downspouts, if directed to pervious surfaces, allow stormwater to soak into the ground. Rainblockers, placed in the catch basins by the City, also help by slowing the flow of stormwater entering the sewers, causing temporary street ponding of storm-water. As this brochure describes, additional features such as rain barrels, permeable paving, deep-rooted landscaping and green roofs also help to keep water out of the sewers.

Note: Disconnecting your downspout is not always appropriate.

Chicago residents can help prevent flooded basements, and protect the quality of Chicago's water resources! Read on . . .

Stormwater Management: The Benefits

What are the benefits to managing stormwater at home?

- improve water quality in the Chicago, Calumet, and Des Plaines Rivers by helping to prevent combined sewer overflows;
- keep water in the natural water cycle and increase groundwater supply by directing water to your yard instead of the sewer system;
- help to prevent flooding on your street and basement back-ups in your neighborhood;
- conserve Lake Michigan by using rainwater instead of tapwater to water your landscape;
- save money on your water bill if your home is metered;
- beautify your yard and attract birds and beneficial insects, if planting deep-rooted plants or trees is part of your project.

Why would I want a rain barrel in my yard?

Lawn and garden watering can make up 40 percent of your household water use during the hot summer months. You can significantly reduce the amount of water you use by installing a rain barrel to collect water.

Many gardeners find that their plants perform better with rainwater than tap water as it is chlorine-free. Showcasing a rain barrel in your yard promotes the importance of conserving our water resources.

How can I use the water collected in my rain barrel?

- water your garden
- wash your car or bike
- water potted plants
- water the lawn
- clean work boots and tools
- be creative!

A Message from the Mayor

Stormwater management is very important to our quality of life in Chicago. The City is doing its part to manage stormwater at our own municipal buildings and landscapes. The City's stormwater management ordinance requires regulated developments to control the rate and volume of stormwater leaving their site.

I look at stormwater as a resource, not a waste. I am encouraging all Chicagoans to take steps to put it to use in their yard. Stormwater management is important at home and provides homeowners with many benefits.

This Guide provides you with information and technical assistance to make use of stormwater and help prevent flooding in neighborhoods.

Thank you for your interest in helping make Chicago an even better place to live, work and raise a family.

Richard M Daley

Managing Stormwater at Home: A How-to Guide

Disconnect Your Downspout

Is it appropriate in my yard?

This is an example of a site where the downspout should not be disconnected. Water will make the path icy in winter.

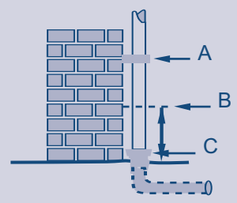
Before you begin, decide whether or not it is appropriate to disconnect your downspout(s).Your project should be a permanent solution which is beneficial to your grass, flowers, shrubs and trees. In a one-inch storm, a 1,000 square foot roof will accept 625 gallons of water. Consider where you are directing the stormwater.

- The area surrounding the downspout should have enough permeable surface to soak up stormwater without flooding.
- Your stormwater should not go onto your neighbor's property. If your downspout is located between houses, consider using an extension to redirect the water to your front or back yard.
- To avoid seepage into building foundation, land should slope away from the house.
- The downspout extension (or extension plus splashblock) should end at least five feet away from the building foundation.
- Stormwater should not flow over walkways since the water will freeze in cold weather and cause slippery conditions.

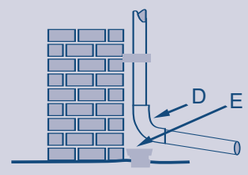
Step-by-step instructions

Tools: hacksaw, measuring tape, screw driver & pliers, sheet metal screws, a downspout elbow, quick dry mortar cement or a rubber cap.

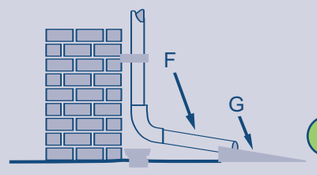
Step 1:



Step 2:



Step 3:



A Secure
Secure your downspout to the house with a bracket.

B Cut
Cut downspout approximately 10" above the ground using a hack or saber saw. IF INSTALLING A RAIN BARREL, cut downspout approximately 4" above the top of your rain barrel

C Remove
Remove the bottom downspout length from your cut to the sewer standpipe.

D Attach elbow
Insert the downspout INTO the elbow (if you put the elbow into the downspout, it will leak). Secure with sheet metal screws.

E Plug
Plug the sewer standpipe with a rubber cap or crumpled newspaper topped with 1" of mortar cement.

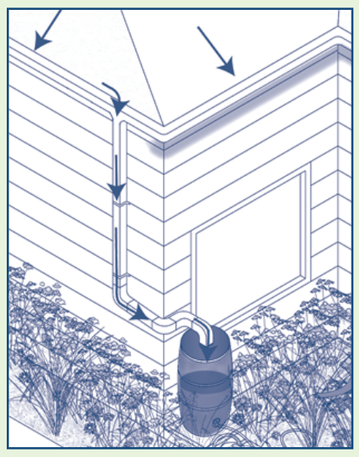
F Attach extension
Insert the elbow INTO a downspout extension and secure with sheet metal screws. The required length of your extension will depend on your situation, but if your house has a basement, your downspout must drain at least five feet from your basement wall into your front or back yard.

G Place splashblock (optional)
To disperse the stormwater over a wider area and prevent erosion, you can place a splashblock at the end of the downspout extension.

If you want to re-use your stormwater:

Install a Rain Barrel

Installation



Rain barrel connected to disconnected downspout.

- Choose a downspout on your house or garage that is close to the plants you water most.
- Follow downspout disconnection instructions through Step 2.
- Place your rain barrel under the downspout elbow, so the water from the downspout enters through the screen on top of the barrel.
- **Optional:** Attach a hose to the spigot and/or to the overflow hole on the topside of the barrel to direct rainwater to another area of your yard. A soaker hose is a great option.

You may want to place the rain barrel on concrete blocks if you are going to use a hose to direct the water to your garden or to fill up a watering can from the spigot. Gravity will help move the water and the height will make better access for your watering can.

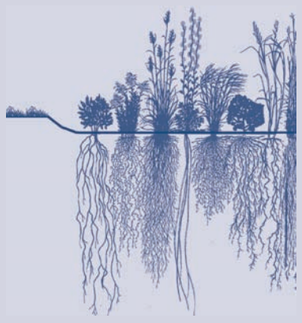
Maintenance

- DO NOT DRINK THE WATER.
- Empty your barrel frequently.
- Keep your rain barrel spigot closed when you are not using the water so that the rain barrel can collect water.
- Regularly check your gutters, downspouts, and rain barrel for leaks, obstructions or debris.
- In the winter, keep your rain barrel spigot open so that water does not accumulate in the rain barrel and freeze. Drain your rain barrel before temperatures drop below freezing.
- Mosquitoes should not be a problem if installation and maintenance instructions are followed to prevent standing water outside of the barrel. Check your mosquito screens periodically to keep mosquitos out.

A rain barrel on cement blocks that's connected to the downspout.

Other options for managing stormwater and enhancing your home:

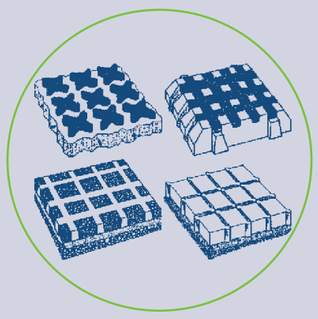
Install Landscaping, Permeable Paving, and/or a Green Roof



Deep-rooted native plants.

Follow downspout disconnection instructions through Step 3. Amend your soil with compost to improve drainage and allow soil to absorb moisture more effectively. Then install one or more of the following options:

- **Trees** are great stormwater managers as their roots absorb large quantities of water. In addition, they cool through shade and evapotranspiration, provide habitat for birds and beneficial insects, and create year-round beauty.
- **Deep-rooted plants** absorb more water than turfgrass. Native Midwestern plants have evolved to thrive in our natural conditions, and once established, require minimal maintenance. They also attract birds and beneficial insects and provide four-season interest.
- **A rain garden** is a garden with a slight depression planted with deep-rooted, water-loving plants. It is best planted in an existing damp area or placed in the path of the water from your disconnected downspout.
- **Permeable paving** has openings that allow water to pass through the surface and soak into the ground. Replace your driveway, walkway and patio cement with bricks or other pavers with spaces between them, permeable concrete or asphalt, or a combination of grass and gravel.
- **A green roof** is a layer of landscaping installed on the top of a building. The plants retain and filter rainwater, reduce heating and cooling costs, extend the life of the roof, and improve air quality. Depending on the location of your roof, the structural capacity of the building, your budget and maintenance capabilities, you may be able to install a shallow ("extensive") or deeper ("intensive") green roof on your house or garage.



Permeable pavement options.

For more information, check your local garden center or visit www.cityofchicago.org/Environment.

Questions? Contact the Chicago Department of Environment at rainbarrel@cityofchicago.org, 312-743-WATER (743-9283) or 311.