

What happens to rain after it falls?

Rainwater, or snow melt, either soaks into the ground to become groundwater, evaporates, or flows over the surface of the land. The water that flows over the ground is called stormwater or runoff. Areas with buildings, roads, parking lots, or other hard surfaces tend to have more stormwater than undeveloped areas.

Where does stormwater go?

Because excess stormwater can increase the potential for flooding and property damage, it is collected into a drainage system. Storm sewer systems collect stormwater runoff and carry it away from roads and buildings to a discharge point, often into a stream or river. Pollution, such as oil from cars, road salt, eroded soil, and trash picked up by the stormwater is then deposited into our waterways affecting aquatic life and increasing the risk of flooding.

Many older communities have combined sewer systems, which carry sewage and stormwater runoff in the same pipes. When it rains, the extra stormwater causes the combined sewers to fill to capacity and some of the stormwater and raw sewage mixture directly overflows into our rivers. These events are called combined sewer overflows (CSOs). They pollute our waters and can be hazardous to human health and safety.

What can I do if I cannot disconnect my downspout?

Consider planting a tree to offset the impacts from stormwater. A single mature oak tree can consume 40,000 gallons of water per year! If you live in a CSO community, try to avoid adding more water into the sewer system during a rain storm. Wait to wash clothes or dishes until after it rains.

Where can I get more information?

Rain Gardens: www.raingardenalliance.org

Rain Barrels: www.ninemilerun.org

Tree Selection: www.patrees.org

Green Projects:
<http://www.alleghenycounty.us/alleghegreen/>

Pennsylvania's Stormwater Best Management Practices Manual (see "Appendix C—Site Evaluation and Soil Testing"): <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8305>.

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This factsheet has been funded by the League of Women Voters of Pennsylvania Citizen Education Fund through a Section 319 federal Clean Water Act grant from the Pennsylvania Department of Environmental Protection, administered by the US Environmental Protection Agency.



Keep the rain out of the Drain!

*A Guide to Disconnecting
Your Downspout*

This sounds like a big problem—what can I do?

Every home creates additional stormwater when rain flows off the roof. By disconnecting the downspouts, you break the link between your roof and the storm or combined sewer system—keeping the rain out of the drain! Less water flowing into the system means less pollution and reduced risks of flooding.

Homeowners have several options for dealing with the water flowing from the roof.



Rain barrels or cisterns collect and store water for later use in landscape irrigation. They can be purchased from a variety of outlets or they can be homemade. It is important that they are made of sturdy materials, have a cover that is difficult to remove and include an overflow system.

Dry wells or infiltration trenches collect the water underground, allowing it to slowly drain into the surrounding soil. They can be made of aggregate or prefabricated plastic containers and should be able to drain in 72 hours. An overflow mechanism must be in place in the event of an intense storm.

Rain gardens

rely on plants to soak up the water. They provide an attractive landscape feature and can be integrated into most yards. However, it is important that your rain garden drain properly within 48 hours (the time frame in which mosquitoes may breed). To improve drainage, soil amendments may be necessary in areas where the soil has high clay content.



Am I allowed to disconnect my downspout?

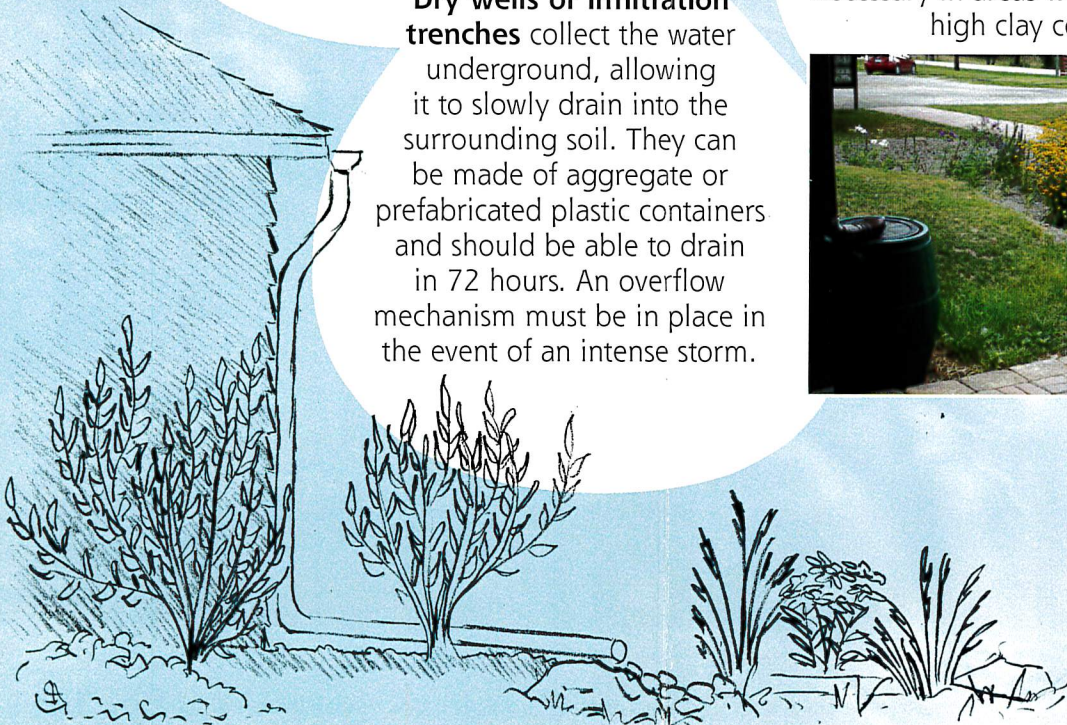
Check with your local municipality to see if it is permitted in your area.

Even if it is permitted, there are some locations where disconnection is not recommended. Avoid:

- Steep slopes
- Soils with poor drainage (high clay content)
- Septic systems, drain fields, underground oil tanks
- Public sidewalks
- Retaining walls
- Building foundations

If the downspout disconnection is done correctly, the water will not cause harm to any structure on your property or a neighbor's property.

Deciding what option to use depends upon your lot size, shape, and slope; soils; budget; and any other benefits you would like to see from the investment. For example, rain collected in a barrel can be used to water outdoor plants—saving you money on your water bill.



How do I determine if I can disconnect my downspout?

First, check with your local municipality about any special rules or regulations they have about installing stormwater management structures on your property.

Look where your downspouts flow. If they are not connected to a sewer system, then you may not need to disconnect them.

Examine your yard to see if you have enough space. Stormwater discharge points must be:

- 2 feet from a building without a basement
- 6 feet from a building with a basement (10 feet if you are installing a dry well)
- 5 feet from a neighbor's property
- 10 feet from a neighbor's building
- 10 feet from a retaining wall.

The slope of your property must be less than 10% and drain away from any structure. Visit www.raingardenalliance.org for step-by-step instructions to calculate the slope of your yard.

Avoid: public sidewalks, septic systems, drain fields, or underground storage tanks.

SAFETY CONSIDERATIONS

Decide how you are going to manage your stormwater and have all the materials ready for installation *before* you disconnect.

Use only durable, gutter grade materials.

Clean gutters twice per year and monitor downspouts and extensions for clogging.

Maintain your rain barrel, rain garden, or dry well as instructed.

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How do you disconnect your downspout?

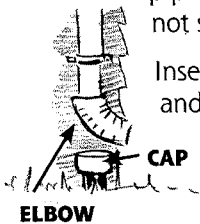
Tools needed: hacksaw, drill, needle-nose pliers or crimpers, tape measure, screwdriver, sheet metal screws, downspout elbow and extension, cap and clamps for sewer standpipe, splash block or rain barrel.



Using a hacksaw, cut your downspout approximately 9 inches above the sewer standpipe, or if installing a rainbarrel, make your cut above the barrel according to the manufacturer's instructions.

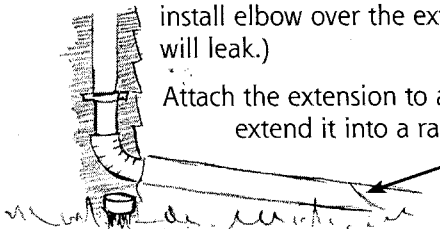
STANDPIPE

Plug or cap the standpipe using an over the pipe cap secured by a hose clamp. (Do not seal the standpipe with concrete!)



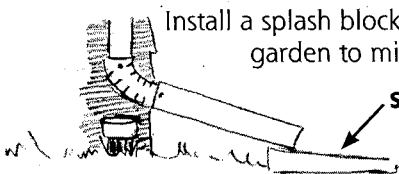
Insert downspout INTO the elbow and attach using sheet metal screws and predrilled holes. (Do not insert the elbow up inside the downspout or it will leak).

Insert the elbow into the extension and attach using sheet metal screws and pre-drilled holes. (Do not install elbow over the extension or it will leak.)



Attach the extension to a rain barrel or extend it into a rain garden.

EXTENSION



Install a splash block in your rain garden to minimize erosion.

SPLASH BLOCK

Why Downspout Disconnection Can Be Beneficial In Etna

You can help yourself, your neighbors, and the environment by using approved methods to remove your roof drains from the system (Where appropriate).

Etna is a permitted, combined sewer community, which means its stormwater and sanitary sewage are collected and carried to the sewage treatment plant in one system of piping. During heavy rains, the sewer system becomes overloaded with the extra rainwater. When overloading occurs in the combined system, the water and sewage overflow into the creeks and streams.

This same thing can occur in your basement when your roof runoff enters the same pipe that removes your sanitary sewage. During an intense rainfall, your connecting pipe can be overloaded, causing a backup into your basement through the floor drain. Removing the storm water connection to your service lateral can remedy flooding problems in many cases.

When stormwater makes its way to the sewage treatment plant, it is treated just like sewage, which increases the cost of sewage for all of us. Correctly removing roof drains from the sewer system by approved methods can potentially reduce the amount of rainwater that enters the sewer system.

Federal mandates for combined sewer systems require the Borough to reduce the frequency of overflows into the rivers and streams. Other state and federal regulations, including the MS4 (Municipal Separate Stormwater Sewer System) program, also require the Borough to help meet water quality standards. To do this, we need your help.

*Removal may not work for everyone
or in every case.*

The density of the buildings and the types of soils in our community means removing roof drains in homes located in some areas may not be appropriate. You also can look to minimize runoff from new or existing paved surfaces by installing porous pavements instead of traditional asphalt or concrete. Your local building supply store, contractors, and landscapers can assist you in identifying appropriate materials.

These are a few of the ways that you as a homeowner can aid in our goals to meet these regulations. Every little bit helps!

Please note that the Borough must sign off on the location and method of disconnection prior to any such work – a permit will be required.

If you are interested in discussing this further, please contact the Municipal Building, Public Works Director at 412-781-0569.