# Downspout Disconnect

Roof downspouts often direct runoff onto a driveway that drains to a storm sewer on the street, or are directly connected to the storm sewer via belowground pipes. Many do not realize that the storm sewer lines empty into the nearest stream, sending litter and untreated runoff into our waterways.

Redirecting your downspout to a vegetated area where runoff can soak into the ground is a simple, cost-effective method for protecting our streams from stormwater runoff. This method is known as downspout disconnect.

Figure 35 Disconnected downspout in a yard

## Advantages

- Inexpensive
- Helps recharge groundwater
- Requires limited space

## Disadvantages

- Works best in well-drained soils
- Impractical for steep slopes, unless connected to a berm and swale complex

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## DESIGN CONSIDERATIONS

- The slope of the ground should allow water to flow away from structures.
- Receiving area should be at least 10 feet long.
- If directing the flow onto an area without vegetation, stabilize bare soil with straw or mulch until plants become established.
- To avoid erosion, use a splash pad at the end of the pipe to dissipate the flow.
- Do not disconnect a downspout within 10 feet of a retaining wall.
- Do not direct flow onto areas with poor drainage without amending first to improve drainage.
- Do not direct flow onto a neighbor's property.

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## INSTRUCTIONS

### MATERIALS

- Fine-blade hacksaw
- short sheet-metal screws
- downspout elbow
- downspout extension
- rocks or splash block
- drill
- pliers
- tape measure

Note: If your downspout is not connected to a belowground pipe, you can skip Step 1.

1. Cut the existing downspout above where it enters the stormwater connection with a fine-blade hacksaw. The goal is to have room to connect an elbow and downspout extension. Some downspout extender kits come complete with the elbow.
2. Attach a downspout elbow. First, crimp the downspout with pliers to ensure a good fit. **Attach the elbow over the downspout.** Drills holes on either side and secure them together with short sheet-metal screws. **Do not insert the elbow inside the downspout or it will leak.**
3. Attach the downspout extension over the end of the elbow. Do not install the elbow over the extension or it will leak.
4. Direct the flow into a rock bed or onto a concrete or plastic splash diverter to help disperse the force of the water. If you use a rain barrel or cistern, the overflow should also be directed away from the house.
5. If the downspout was connected to a pipe of some sort (underground, corrugated, PVC, etc.), cap off the exposed end of the pipe.

**Adapted from North Carolina's Water Resources Research Institute & NC State University Department of Horticultural Science. go.ncsu.edu/rainscaping**