



RAINWATER HARVESTING

Downspout Disconnect



Why Harvest Rainwater?

Ideally rainwater would infiltrate the ground where it lands, but in urban environments this is not always possible. By harvesting rainwater, you reduce the amount of storm water which will enter the municipal storm sewer and the combined sewer.

By retaining this water on-site, you benefit the City as a whole and yourself. Harvested rainwater can be used for any number of beneficial purposes, from watering your garden to flushing your toilets.

Isn't Rainwater *Dirty*?

Though rainwater is not potable, or fit for human consumption, it can be repurposed for a number of beneficial uses. Common rainwater harvesting systems may simply reroute the downspout into a planter or a rain garden, which allows the storm water to slowly infiltrate the ground and recharge groundwater.

Alternatively, the downspout can be connected to a rain barrel, and the stored water can be used for irrigation or other non-consumptive uses. More intensive systems may include large cisterns, where water is stored and then distributed for use. This rainwater can be used for irrigation, or even to run washing machines and toilets.

STORM WATER

STORMWATER IS MANAGED USING STORM SEWER AS WELL AS BEST MANAGEMENT PRACTICES, WHICH INCLUDE GREEN INFRASTRUCTURE AND LOW IMPACT DEVELOPMENT

References and Additional Resources

- <http://www.arcsa.org/>
- https://www.epa.gov/sites/production/files/2015-10/documents/climate_res_fs.pdf
- https://www.epa.gov/sites/production/files/2015-02/documents/gi_brochure_508_compliant.pdf
- <https://www.epa.gov/green-infrastructure/what-green-infrastructure#planterboxes>
- <http://www.dec.ny.gov/lands/58930.html#Porous>
- <http://www.dec.ny.gov/lands/70086.html>
- <http://www.dec.ny.gov/chemical/8468.html>
- <http://www.dec.ny.gov/chemical/68199.html>
- <http://ci.owatonna.mn.us/stormwater/post-development/disconnect-roof-drains>
- <http://www.binghamton-ny.gov/illegal-discharge-detection-and-elimination>
- <http://www.binghamton-ny.gov/departments/planning-housing-community-development/planning-housing-community-development>
- <http://www.binghamton-ny.gov/stormwater-management>

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Downspout Disconnection

By disconnecting your downspout, you significantly reduce the amount of storm water which would either be directly funneled into the storm sewer, or runoff into the streets and ultimately the sewer system.

The Math

1 square foot of catchment area

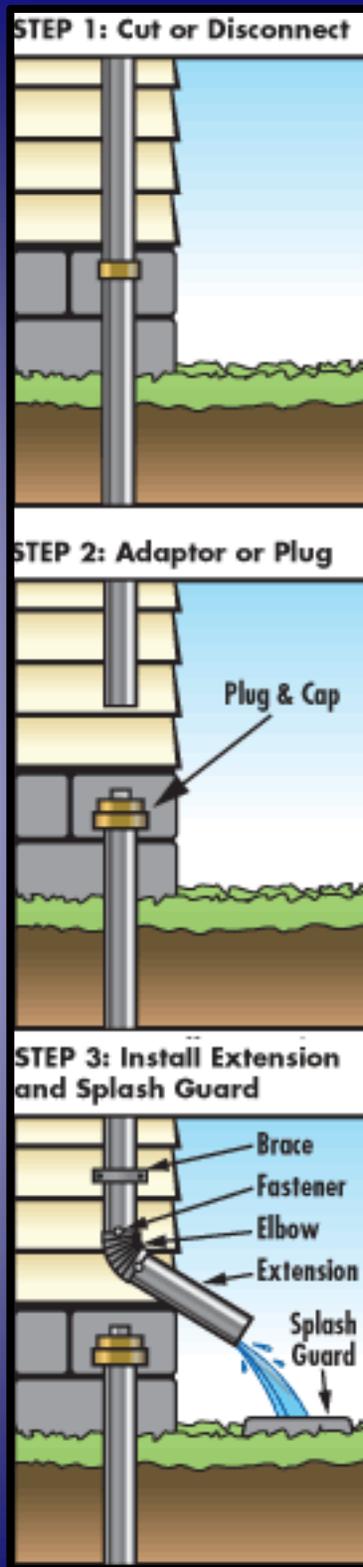
X 1 inch of rainfall

=0.6 gallons

However, the roof of an average single family home is over 1,000 ft² and even with this low estimate 6,000 gallons of water may be captured from one inch of rainfall.

Where Should the Downspout Go?

The newly unattached downspout can be rerouted so water flows into a planter or rain garden, or into a storage tank such as a rain barrel or cistern.



Rain Barrels

Rain barrels are adequate for home use. By connecting your downspout to a rain barrel, you can capture the rainwater from your roof which would otherwise runoff into the streets and eventually the sewers. Manufactured barrels cost an average of \$120, but can be made yourself for low as \$20.

Cisterns

These large storage tanks are for larger scale developments and can store thousands of gallons of water for use. Before use, water is treated with UV light or otherwise to eliminate contamination.

