

Expected Pollutant Removal Rates for Bio-retention and Tree Filter Systems*

Total Suspended Solids	>83%
Total Nitrogen	>50%
Total Phosphorus	>60%
Total Select Metals	>35% to 95%
Total Zinc	>85%
Oil and Grease	>80%
Bacteria	>85%

** Based upon published 3rd party testing by University of New Hampshire Stormwater Center; University of Massachusetts Stormwater Technologies Clearinghouse; University of Virginia Stormwater Center.*

For more information on Tree Filters

- www.ConserveCT.org/Eastern
- www.ct.gov/deep
- www.epa.gov/oaintrnt/stormwater/best_practices.htm
- www.eltownhall.com/hole-in-the-wall
- www.greenstreetsystems.com

This brochure was funded in part by the Connecticut Department of Energy and Environmental Protection through the US EPA Clean Water Act Section 319 Non-point Source grant program.



Who We Are

The Eastern Connecticut Conservation District, Inc. (ECCD) is a private, not-for-profit natural resource conservation organization. ECCD offers technical and educational services to the towns of eastern Connecticut. ECCD assists citizens and towns in making sound natural resource decisions, and we promote sustainable use of natural resources. We develop programs that solve natural resource problems and we provide educational opportunities to the public about the interrelationship between human activities and the natural environment.

Where We Are



Contact Us

Norwich: 238 West Town Street
Norwich, CT 06360
860-887-4163, ext. 400
kate.johnson.eccd@comcast.net

Brooklyn: 139 Wolf Den Rd
Brooklyn, CT 06234
860-774-9600, ext. 13
Judy.rondeau@comcast.net

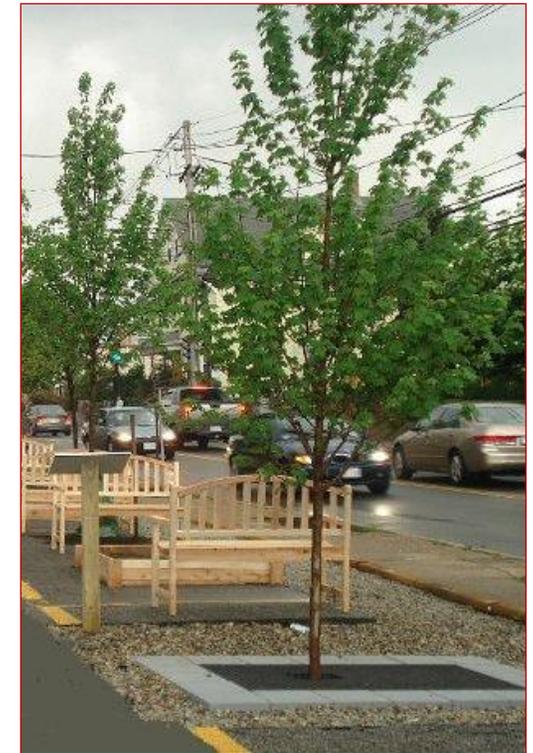


Photo Courtesy of Green Street Systems, LLC. www.greenstreetsystems.com

STORMWATER TREE FILTERS

A Low Impact Development Solution to Stormwater Management



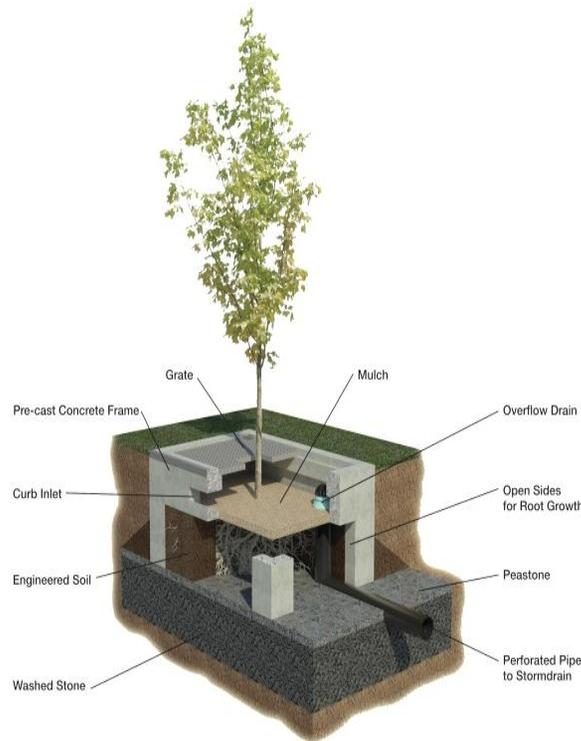
**EASTERN CONNECTICUT
CONSERVATION DISTRICT**

What is a Tree Filter?

A Tree Filter unit is a mini-water treatment system that helps clean stormwater runoff. Stormwater is filtered through a special soil mix which removes pollutants. The Tree Filter is designed to capture at least the first inch of rainfall, or “first flush,”. The first flush is known to contain the highest amount of contaminants from the surrounding area. Tree Filter units are typically designed to treat stormwater from areas approximately ¼ to ½ acre in size.

What is Nonpoint Source Pollution?

Nonpoint source pollution (NPS) is pollution that cannot be traced back to a discernible “point” such as a factory discharge or sewer pipe. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, depositing them into lakes, rivers, wetlands, coastal waters and ground waters. These pollutants can harm fish and wildlife populations, kill native vegetation, foul drinking water, and make recreational waters unsafe and unpleasant.



Pollutants from runoff can include:

- Sediment
- Oil, grease and toxic chemicals from motor vehicles
- Pesticides and fertilizers from lawns and gardens
- Viruses, bacteria and nutrients from pet waste and failing septic systems
- Road salts
- Heavy metals from roof shingles, motor vehicles and other sources
- Thermal pollution from dark impervious surfaces such as streets and rooftops

How Do Tree Filters Work?

Tree Filters work in tandem with existing storm drain systems. Stormwater flows down the side of the road into the Tree Filter, where the water percolates through a special engineered soil that removes many of the pollutants. This treated water then either infiltrates into the surrounding “native” soil, or collects in a perforated pipe that is connected to the nearby storm drain.

Tree Filters harness the power of nature to do their work. Microbes in the soil capture and break down pollutants, even oils and gasoline. The tree in this unit also works, absorbing nutrients to help it grow, and neutralizing some pollutants by absorbing them into its tissue. Additionally, because the engineered soil does not freeze, Tree Filters work year ‘round, cleaning stormwater even in the winter.

“Tree filters are designed to capture and treat the first flush – the first inch of rainfall, which carries the majority of stormwater contaminants.”

