



Zero Waste Project Report

COME RAIN, WE SHINE.™



With assistance from the Zero Waste Alliance (ZWA) and support from the Portland Development Commission, Stormwater Management, Inc. is continuing to 'close the loop' by using leaf compost to clean storm water runoff. This successful collaboration resulted in the continued sales of a high quality product, further technical understanding of compost media, and continued advances in environmental protection.

Scope of Project

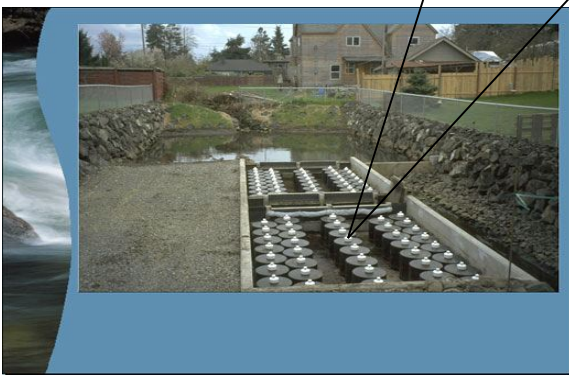
- ◆ Stormwater Management, Inc. (SMI) of Portland, Oregon develops filtration systems for treating storm water runoff. SMI uses a leaf compost-based material in some products as an effective filtration medium. The all-natural, 100% recycled Compost Storm Filter (CSF®) leaf media is an excellent example of how resources traditionally regarded as waste, can be used to achieve environmental benefits.
- ◆ CSF® media is a highly organic material. Using current commercial analytical testing methods, it is difficult to distinguish between biogenic hydrocarbons found in leaf compost and petrogenic hydrocarbons found in refined petroleum products. Because the use of compost for storm water filtration is a relatively new application for compost and the testing methods were designed for soils, there are problems with applying commercial analytical methods to measuring TPH in compost. As such, it appeared as if this all-natural water filtration media had elevated levels of TPH that would increase disposal costs, and thus impact the ability to sell the media.
- ◆ SMI is committed to providing affordable and effective systems for storm water management, but was in jeopardy of losing a significant market for their product. The Zero Waste Alliance (ZWA) was called to research and to serve as an informed arbiter in the process of overcoming this unforeseen issue.

- ◆ ZWA approached the problem with a variety of strategies including:
 - ◆ Comparing results of TPH measured in CSF® by different commercial analytical labs and methods;
 - ◆ Evaluating results from measuring TPH before and after exhaustive silica gel treatment to better distinguish between biogenic and petrogenic TPH;
 - ◆ Coordinating expert forensics analysis to identify the relative source compositions for measured hydrocarbons;
 - ◆ Benchmarking against other composts;
 - ◆ Reviewing other U.S. and international regulatory limits for TPH in compost; and
 - ◆ Reviewing relevant literature.

BENEFITS

"On an immediate basis ZWA's help saved us about \$25,000 of the accounts receivable that were being withheld. If you look at the potential benefit relative to future sales it could be measured in hundreds of thousands of dollars in revenues." - James H. Lenhart, V.P. Research and Development, Stormwater Management, Inc.

Stormwater Treatment Facility Using CSF® Leaf Media (right).



Results

- ◆ Led by Dr. Lauren Heine, Director of Green Chemistry and Engineering, ZWA assembled enough evidence to alleviate concerns about apparent TPH levels in CSF® leaf media. As a result, it will continue to be used for storm water filtration.
- ◆ ZWA helped advance understanding of the chemical composition of CSF® media and the methods used for testing TPH in compost-based materials.
- ◆ ZWA helped secure a place in a growing market for a company that is using zero waste principles to help keep our rivers, lakes, estuaries, and oceans clean.

Portland Development Commission's Business Outreach Program provided matching funds to support this project. If you would like to know more about this program, please contact the Zero Waste Alliance, One World Trade Center, 121 SW Salmon, Suite 210, Portland, Oregon USA 97204 Tel. 503-279-9383, Fax. 503-279-9381, email: info@zerowaste.org, and www.zerowaste.org.

The Zero Waste Alliance is a program of the International Sustainable Development Foundation – a 501 (c) 3 not-for-profit corporation.