



U.S. ENVIRONMENTAL PROTECTION AGENCY

National Pollutant Discharge Elimination System (NPDES)

[Recent Additions](#) | [Contact Us](#) | [Print Version](#) Search NPDES: [GO](#)
[EPA Home](#) > [OW Home](#) > [OWM Home](#) > [NPDES Home](#) > [Stormwater](#) > Menu of BMPs

Menu of BMPs Home

BMP Background

Public Education & Outreach on Stormwater Impacts

Public Involvement/ Participation

Illicit Discharge Detection & Elimination

Construction Site Stormwater Runoff Control

Post-Construction Stormwater Management in New Development & Redevelopment

Pollution Prevention/Good Housekeeping for Municipal Operations

Measurable Goals

Stormwater Home

Search BMPs

All of the words

Filter by Minimum Measure

All

Browse Search
GO Fact Sheets Help

Storm Drain System Cleaning

[Click here to comment on this fact sheet](#)
Minimum Measure: Pollution Prevention/Good Housekeeping for Municipal Operations

Subcategory: Municipal Activities

Description

Storm drain systems need to be cleaned regularly. Routine cleaning reduces the amount of pollutants, trash, and debris both in the storm drain system and in receiving waters. Clogged drains and storm drain inlets can cause the drains to overflow, leading to increased erosion (Livingston et al., 1997). Cleaning increases dissolved oxygen, reduces levels of bacteria, and supports in-stream habitat. Areas with relatively flat grades or low flows should be given special attention because they rarely achieve high enough flows to flush themselves (Ferguson et al., 1997).

Some common pollutants found in storm drains include:

- trash and debris
- sediments
- oil and grease
- antifreeze
- paints
- cleaners and solvents
- pesticides
- fertilizers
- animal waste
- detergents

Applicability

This measure applies to all storm drain systems. The same principles can be applied to material and waste handling areas, paved and vegetated areas, waterways, and new development projects (Ferguson et al., 1997).

Limitations

While cleaning is necessary for all storm drain systems, there are limitations (adapted from Ferguson et al., 1997):



Municipalities can hire professional plumbing services to remove trapped sediment and debris from storm drains with periodical flushing (Source: Drain Patrol, no date)

- Cleaning storm drains by flushing is more successful for pipes smaller than 36 inches in diameter.
- A water source is necessary for cleaning.
- Wastewater must be collected and treated once flushed through the system.
- Depending on the condition of the wastewater, it may or may not be disposed to sanitary sewer systems.
- The efficiency of storm system flushing decreases when the length of sewer line being cleaned exceeds 700 feet.

Maintenance

Ferguson et al. (1997) report removal of 55 to 65 percent for non-organic materials and grits, and 65 to 75 percent for organics.

Cost Considerations

The cost of a vactor truck can range from \$175,000 to \$200,000, and labor rates range from \$125 to \$175 per hour (Ferguson et al., 1997). Ferguson et al. (1997) also cited costs of \$1.00 to \$2.00 per foot for storm drain system cleaning.

References

Drain Patrol. No date. *Services*. [www.a-aadrainpatrol.com/services.nxg] [\[EXIT Disclaimer\]](#). Accessed November 10, 2005.

Ferguson, T., R. Gignac, M. Stoffan, A. Ibrahim, and H. Aldrich. 1997. *Rouge River National Wet Weather Demonstration Project Cost Estimating Guidelines: Best Management Practices and Engineered Controls*. Rouge River National Wet Weather Demonstration Project, Wayne County, MI.

Livingston, E., E. Shaver, and J.J. Skupien. 1997. *Operation, Maintenance, & Management of Stormwater Management Systems*. Watershed Management Institute, Inc. Ingleside, MD.

[Click here to comment on this fact sheet](#)

[Office of Water](#) | [Office of Wastewater Management](#) | [Disclaimer](#) | [Search EPA](#)

[EPA Home](#) | [Privacy and Security Notice](#) | [Contact Us](#)

Last updated on February 11, 2009

URL:<http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm>