Bowling Green, Kentucky
Stormwater Best Management Practices (BMPs)
Good Housekeeping Practices (GHPs)

GHP-19

Activity: System Flushing (SF)

PLANNING CONSIDERATIONS:

Training:
Minimal

Inspection Frequency:
Monthly

Implementation Cost:
Low

Monthly Maintenance:
Moderate

Target Pollutants

Significant ♦	Partial ◈	Low or Unknown ◇

Sediment ♦ Heavy Metals ◈ Nutrients ◇ Oxygen Demanding Substances ◇ Toxic Materials ◈
Oil& Grease ◇ Bacteria & Viruses ◇ Floatable Materials ◈ Construction Waste ◇

Description

Storm drain pipes with grades to flat to be self cleansing require routine flushing. This helps to maintain flow as well as removes pollutants from the storm drain system. The suspension and removal of deposited materials are "flushed" out of storm drains.

Approach

- Locate reaches of storm drain with deposit problems and develop a flushing schedule that keeps the pipe clear of excessive buildup.
- Whenever possible, flushed effluent should be collected and pumped to a sediment trap, or basin, or a detention pond.
- Storm drain flushing usually takes place along segments of pipe with grades that are too flat to maintain adequate velocity to keep particles in suspension. An upstream manhole is selected to place an inflatable device that temporarily plugs the pipe. Further upstream, water is pumped into the line to create a flushing wave. When the upstream reach of pipe is sufficiently full to cause a flushing wave, the inflated device is rapidly deflated with the assistance of a vacuum pump, releasing the backed up water and resulting in the cleaning of the storm drain segment.
- If the flushed water does not drain to a stormwater treatment device (e.g., detention pond or swale), then a second inflatable device, placed well downstream, may be used to re-collect the water after the force of the flushing wave has dissipated. A pump may then be used to transfer the water and accumulated material to a stormwater treatment practice. In some cases, an interceptor structure may be more practical or required to re-collect the flushed waters.

Approach (cont'd)

Regulations

- Kentucky Division of Waste Management (KDWM) regulations prohibit the discharge of soil, debris, refuse, hazardous waste, and other pollutants that may hinder the designed conveyance capacity or damage stormwater quality or habitat in the storm drain system. This includes flushing a system to "Waters of the State". Do not execute this practice until the KDWM has been consulted.

Equipment

- Water source (water tank truck, fire hydrant).
- Sediment collector (educator/vacuum truck, dredge).
- Inflatable devices to block flow.
- Sediment/turbidity containment/treatment equipment required if flushing to an open channel.

Inspection Checklist

- ❑ BMP is properly applied to an appurtenance 36" in diameter or smaller.
- ❑ Contractor is using the nearest available water source.
- ❑ Flushed effluent is captured and treated downstream prior to being released into a waterway.
- ❑ Requires liquid/sediment disposal.