



Underground Sand Filters

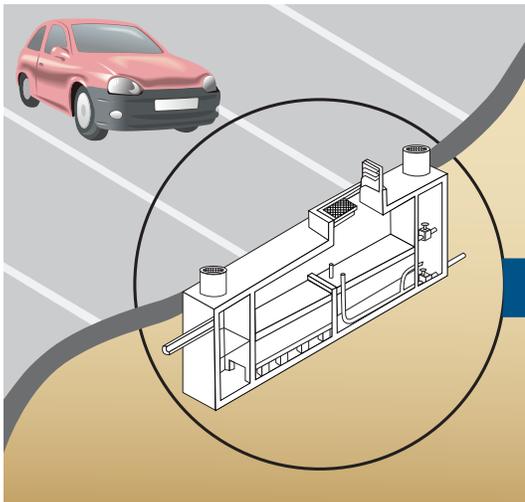
STRUCTURAL MAINTENANCE

What is an Underground Sand Filter?

An underground sand filter is a type of stormwater management facility designed to filter rainwater through sand to remove pollutants. Sand filters can be located on the ground surface or underground. Please see the fact sheet for surface sand filters if your facility is on the surface. You can find sand filters in residential neighborhoods and around commercial businesses.

How does it work?

During a storm, rainwater collects pollutants as it flows across hard surfaces, such as rooftops, sidewalks, and roads. Flow splitters are often used to send a certain quantity of untreated water, known as the "first flush," to an underground sand filter. An underground sand filter is typically contained within a concrete shell with three chambers. In the first chamber, heavy grit, debris, and oil are removed from the stormwater. The second chamber contains a sand filter with layers of gravel, sand, and a filter fabric (filter materials). Additional pollutants are removed as the stormwater passes through the filter media. A pipe beneath the filter collects and directs the stormwater into the third chamber, which releases the clean water back to the local stream or into the storm drain system.



As rainwater flows over hard surfaces and lawns it picks up pollutants such as sediment from eroded areas, trash, pesticides from lawns, nutrients from fertilizer or pet waste, and oil and grease from cars. Underground sand filters remove much of this pollution.

Why are underground sand filters important?

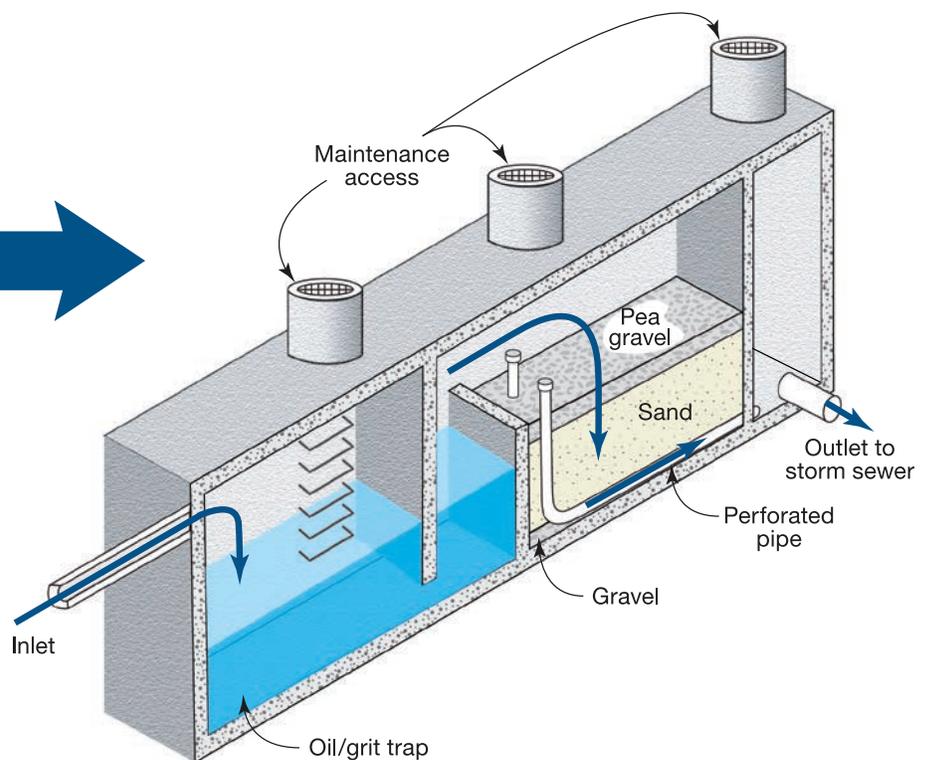
- Remove pollutants
- Improve health of streams and rivers
- Help make our waters fishable and swimmable
- Improve the quality of the Chesapeake Bay

Why is it important to keep your underground sand filter maintained?

An unmaintained underground sand filter may:

- Not remove pollutants as intended, sending polluted water to streams and rivers
- Become clogged and allow water to pool long enough for mosquitoes to breed (longer than 3 days)
- Cost more to fix if problems are left unchecked

You may be able to locate your underground sand filter by identifying a series of manhole covers on your site. Only certified contractors should enter underground facilities.



Maintenance 101

Performing maintenance

Performing **preventive maintenance** regularly will prevent long-term damage and help avoid potential violations. These actions will keep your facility looking good and working correctly, which will save you money in the long term. The preventive maintenance actions listed below can be thought of as similar to preventive car maintenance (like changing the oil in your car every 3 months).

Structural maintenance is work done on the components of the filter that allow it to control rainwater and remove pollutants. Structural maintenance problems in the table below are things you should be looking out for. When they happen, call the Department of Environmental Protection (DEP) for help (like calling your mechanic when the engine light comes on).

Preventive maintenance

(Things you can do)

Frequently

- Pick up trash, debris, and leaves around your property and in front of inlets to your underground sand filter

As Needed

- Know the pollutants sources on your property and try to eliminate the pollutants at the source
- Sweep paved areas on your property to remove pollutants, such as sediment and sand
- Store chemicals, used oil, and pesticides in covered areas so these potential pollutants are not exposed to rainfall
- Do not stockpile sand or salt on your property unless they are in covered containment areas
- Do not wash your vehicles or mechanical equipment on paved areas and prevent wash water from entering the storm drain system
- Mark your underground sand filter inlets to ensure snow plow operators do not damage the facility

Structural maintenance

(Only by a contractor)

Problem:

Possible Fix:

Missing or damaged manhole cover	Replace manhole cover
Trash, debris, oil and grease, or sediment accumulation	Pump-out, power wash, clean, and properly dispose of any debris
Missing steps/ladders	Repair or replace steps/ladders
Clogged pipes and trash racks	Remove and properly dispose of debris causing clogging
Clogged filter and standing water for more than 3 days after rain event	Replace filter media
Corrosion of metal pipes	Repair or replace corroded metal parts
Damaged structural components (i.e., pipes, concrete, trash racks, pipe joints, proprietary units, and cartridges, etc.)	Repair and/or replacement for these components to be determined by DEP

Who is responsible for the maintenance?

As the property owner, **YOU** are responsible for all maintenance unless your underground sand filter has been transferred to the DEP Stormwater Facility Maintenance Program. If you would like more information about transferring your underground sand filter into this program, please visit <http://www.montgomerycountymd.gov/stormwatertransfer>.

How will I know what maintenance is required?

DEP recommends owners use a certified contractor to pump-out, power wash, and clean their stormwater facility annually to ensure the facility is properly functioning and passes inspection. If DEP inspects the facility and finds maintenance issues, you will receive a notice of violation with a work order showing the list of required maintenance and repairs. You will have 45 days from the date of the notice to hire a certified contractor to complete the maintenance and repairs. A civil citation may be issued if you have not complied with the maintenance and repair requirements.

A DEP-approved contractor must be hired to perform structural maintenance. Please visit <http://www.montgomerycountymd.gov/stormwater> for a list of approved contractors.



What if I need help or have questions?

DEP can answer your questions and provide additional guidance about maintaining your underground sand filter. Please e-mail us at Askdep@montgomerycountymd.gov, call the Montgomery County Customer Service at 3-1-1, or visit our website: <http://www.montgomerycountymd.gov/stormwater>.

