
SAND FILTERS

Maximizing the Benefits To Your Home & The Environment



As the name implies, this BMP filters pollutants as stormwater runoff infiltrates through a two- or three-foot layer of sand. Sand filters are moderately effective measures for keeping stormwater pollution out of nearby waterways. The filters are usually constructed on sandy or other permeable soils. But with an underdrain a sand filter can be installed on any soil.



On the other side of this factsheet you'll find a typical sand filter design from the [Maryland Stormwater Design Manual](#). As shown to the left, a pit is excavated. A gravel drainage layer is placed on the bottom. Perforated plastic pipes are then placed on the gravel. More gravel is added to cover the pipes. This is then covered with two- or three-feet of sand. The filter should hold water no more than a day or two after each storm, thus negating mosquito problems.

A distinctive feature of sand filters are the numerous white PVC caps usually present, some of which may be observation wells or cleanouts.

The amount of pollution washed by rain from a residential or commercial area can be two- to twenty-times greater than that from a forest. Runoff from rooftops, streets, parking lots and other impervious surfaces flows onto the surface of the sand filter via a system of pipes known as storm drains. As runoff percolates through the sand 40% to 80% of the pollutants washed from streets and other impervious surfaces are filtered out. The infiltrated water also maintains volume in wells and provides the dry-weather inflow essential to wetlands, streams and other waters.



Numerous white PVC caps are frequently present in a sand filter

Over time sediment and other material can accumulate on the sand filter surface which can deplete the area needed to store runoff or the sediment can cause the filter surface to clog. Most sand filters will have a pretreatment system such as a forebay. If it appears that more than half the forebay original volume has been lost then it needs cleaning

KEEPING SAND FILTERS HEALTHY IS EASY

1. If soil is exposed to erosive forces within the area draining to a sand filter, then the soil should be mulched-seeded as quickly as possible and runoff diverted away from the trench in the meantime.
2. A sand filter probably needs maintenance if:
 - a. Cattails or other wetland vegetation are present;
 - b. Water remains in an observation well more than 48 hours following a storm, or
 - c. The filter overflows at the spillway when less than an inch of rain falls in a 24-hour period.
3. To report a maintenance issue Google the name of your county or city and "stormwater inspection" or contact CEDS.

