

PROPERTY OWNER'S MAINTENANCE FOR STORMWATER BMPs

BMP stands for Best Management Practice and includes such things as detention basins, rain gardens, and non-engineered methods. The intent of BMPs is to reduce the impact of runoff, caused by the increase of impervious area associated with development, on downstream streams and lakes. This development can range from a single-family home to a large commercial/industrial site. The goal is to minimize, slow down, infiltrate, and/or filter runoff so that pollution to our lakes and streams is decreased. Many BMPs will use vegetation for their ability to use water, put water back into the atmosphere or help it infiltrate into the ground. Some BMPs are landscaped and others are buried. Native plants are the best choice for landscaped BMPs.

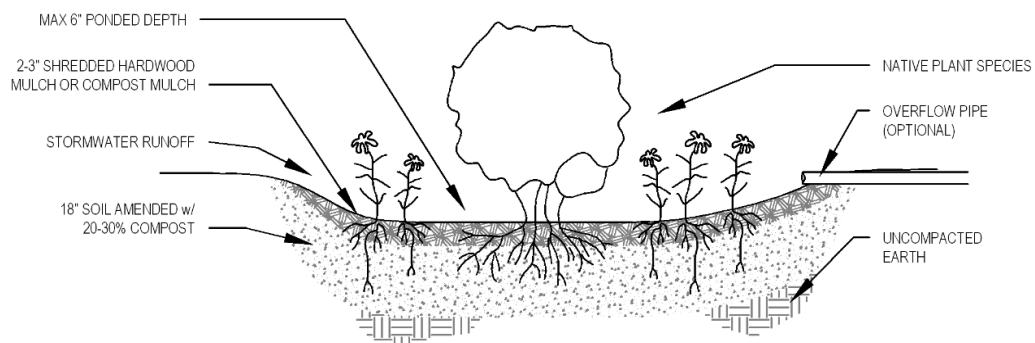
When development of a project occurs the long-term BMP operation and maintenance responsibilities becomes that of the property owner to ensure its proper functioning and operation. If the property was constructed after 2010, chances are your property was developed with some type of BMP. Maintenance of the BMP is a requirement that runs with the land. As the property owner, you are responsible to ensure that the BMP is functioning properly. This responsibility includes maintaining the plants and/or materials of the BMP. Any maintenance performed on the BMP should be clearly documented. Under the Township's Stormwater Management Ordinance, Perkiomen Township can conduct inspections of the BMPs. If it is determined that the BMP is not being properly maintained, Perkiomen Township will issue a notice as to what maintenance work needs to be completed.

Examples of Some Type of the BMPs in the Township are:

RAIN GARDENS and SMALL BIORETENTION BASINS

Rain Gardens and Bioretention Basins are areas to hold runoff. They reduce the amount of runoff and remove pollutants. The area is planted with specially selected native vegetation that will filter the water as it infiltrates into the ground. The deep and dense root system of the perennial vegetation increases the amount of water that is infiltrated. Even during large rain events, during which the rain garden may overflow, the runoff is still filtered through the vegetation removing the pollutants.

TYPICAL RAIN GARDEN CONFIGURATION



HOW DOES A HOMEOWNER MAINTAIN THE RAIN GARDEN and BIORETENTION BASINS?

TWICE A YEAR:

- Any trees or shrubs planted should be inspected twice a year to evaluate the status of their health.
- Check the vegetation to make sure it is healthy. Replant any bare spots.
- Check the inflow area and make sure that sediment is not building up.
- Remove any accumulated sediment.
- Mulch should be respread where erosion is evident.

ANNUALLY:

- Perennial plantings should be cut back if needed and any dead vegetation should be removed once a year either at the end or immediately before the beginning of the growing season.
- Once every year check to see if the mulch needs to be replaced. Mulch should be replaced a minimum of once every two years.

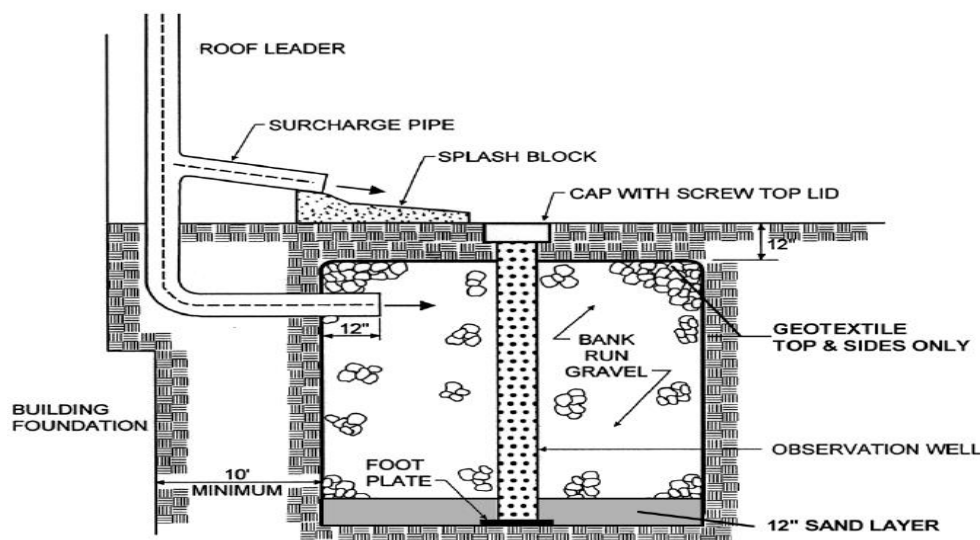
During extended droughts, the rain garden/bioretention basin may require watering.

Rain gardens should be checked after a large rain storm to make sure they have drained within 72 hours.

DRY WELL/SEEPAGE PIT

Roof runoff can be directed to an underground dry well or seepage pit so that the stormwater can infiltrate into the soil. The dry well or seepage pit is an underground storage facility so that it can drain slowly into the soil.

TYPICAL DRY WELL CONFIGURATION



- Inspection of the dry well or seepage pit should be conducted at least four times a year and when storms exceed one inch of rain. The inspection should determine:
 - If any sediment debris/trash or any other waste material exists within the dry well or seepage pit. Remove and dispose of any material.
 - Evaluate the drain down time to ensure that the dry well or seepage pit is draining within 72 hours. If the drain down time is more than 72 hours, clean out the dry well or seepage pit. If it still is not draining within 72 hours after cleaning it out, the system may need to be replaced.
 - Check to see that it is structural sound, e.g. walls are not sagging or deteriorating.
- Regularly clean out the gutters to prevent debris from getting into the dry well or seepage pit.

VEGETATED SWALE

A vegetated swale is a wide shallow channel planted with grass or shrubs. A swale conveys water runoff much slower than a typical drainage ditch. The upkeep of a vegetated swale is relatively low. Maintenance strategies of swales focuses on sustaining the hydraulics (flow characteristics of the water) and removal of pollutants while maintaining a dense vegetative cover. Proper maintenance activities will help ensure the functionality of the vegetated swale.

The following maintenance activities should be performed annually or within 48 hours after a major storm of at least one inch of rain:

- Inspect and correct any erosion issues, damage to vegetation and sedimentation and debris accumulation.
- Inspect vegetation on side slopes for erosion and gullies and correct as needed.
- Inspect pools of standing water; dewater and discharge to an approved location and restore to the original shape
- Mow and trim vegetation to ensure safety, aesthetics, proper swale operation, or to suppress weeds and invasive vegetation. Dispose of cuttings, mow only when swale is dry to avoid rutting.
- Inspect for litter – Remove prior to mowing.

Maintenance activities to be done as needed:

- Plant alternative grass species in event of unsuccessful establishment.
- Reseed bare areas; install appropriate erosion control measurers when soil is exposed, or erosion channels are formed.
- Rototill and replant swale if draw down time is more than 48 hours.
- Water during dry periods.

If amended soils are used during the construction of a BMP, these soils cannot be removed. Loosening the soil or tilling can help reduce compaction and increase the soil's ability to infiltrate the runoff. Adding organic material like compost, sand or manufactured soil media to the soil increases the pore spaces in the soil which also increases the soil's ability to hold water and over time allow the infiltration of the water into the ground.

Additional Resources are:

Landscaping with Native Plants: www.dcnr.state.pa.us/forestry/plants/nativeplants

PA Stormwater Best Practices Manual (2006):

www.elibrary.dep.state.pa.us/desweb/View/Collection-8305

Perkiomen Township website: www.perkiomentownship.org – Homeowners Guide to Stormwater BMP Maintenance.