



Naturalized Stormwater Basins

There are many benefits to retrofitting traditional stormwater basins to a more natural state using herbaceous plantings and native shrubs and trees. This involves allowing them to grow out, transforming a conventional basin into a natural ecosystem capable of providing habitat, improving the water quality, and providing aesthetic value. A long-term benefit is the reduction of costs required to maintain these basins.

A simple way to start is to identify "no mow" areas in the basins to promote natural growth. Work with your municipality to request a waiver should their existing ordinances exclude the ability to allow the establishment of a meadow in your detention basin. Likely the language in their ordinance is dated and therefore does not incorporate the newer available science related to benefits of native grasses.

Did you Know? According to the Environmental Protection Agency (EPA), a gas-powered lawn mower can produce as much pollution in one hour of operation as driving a car for 300 miles. In particular, a gas mower can emit up to 11 times the air pollution of a new car for each hour of operation.

Why go Naturalized?

- Comply with new state and federal regulations
- Reduce runoff pollutants and improve the quality of the water leaving the basin
- Decrease the amount of air pollution being created by maintaining these basins
- Provide for the safety of Township employees (many of these basins have steep slopes that are difficult/dangerous to maintain)
- Provide better ground water recharge

Benefits of Naturalized?

- Vegetation will be left to grow naturally on the inside of the basin, and maintained as directed by the guidance of the Township's Landscape Architect
- More wildlife will appear in the area due to new habitat and food provided by the new meadows
- Eradication of invasive plants if necessary
- Once vegetation begins to grow, there may be a decrease in the goose population
- The vegetation will help reduce runoff pollutants and improve the quality of the water leaving the basins
- Naturalized basins provide opportunities for passive recreation in larger open space areas designed for stormwater management
- More naturalized basins will allow for the re-colonization of insects that can help reduce the mosquito and tick population

NATURALIZING STORMWATER BASINS

CONVENTIONAL BASIN...

Conventional basins provide little habitat or water quality treatment and cost a lot to maintain.



Conventional stormwater basins help control flooding during large storms, but often do little else to reduce the harmful effects of stormwater.

During storms, stormwater passes in and out of conventional basins in a matter of minutes or hours. The design of conventional basins offers little opportunity to allow pollutants to settle out, or to allow stormwater to seep into the ground.

While new developments are required to install new “low impact” stormwater management systems such as rain gardens and infiltration basins, older communities built in the 1980’s and 90’s must be retrofitted to improve stormwater treatment.

A NATURAL IMPROVEMENT ...

Naturalized basins can be attractive landscape features, while providing habitat and water.



Naturalization projects offer the opportunity to upgrade conventional systems to provide water quality treatment and habitat benefits.

Naturalizing stormwater basins involves transforming a conventional stormwater basin into a natural ecosystem capable of providing habitat, water quality treatment, and aesthetic value.

There are many options for naturalizing basins, ranging from simply planting trees, wildflowers, or shrubs within the basin to more extensive wetland and wet-pond treatment systems.

ADDITIONAL BENEFITS of NATURALIZED BASINS:

Infiltration: Unlike mowed basins, native trees, shrubs, and wildflowers have deeper root systems, and encourage runoff to seep into the soil, replenish groundwater supplies, and maintain base flows in nearby streams.

Water Quality: The plant material slows the flow of stormwater, cooling the water and reducing the amount of sediment and pollutants from entering streams.

Aesthetics: A naturally planted basin adds beauty to any area. The basin may also provide the added benefit of passive recreational open space.

Habitat: Provides habitat for wildlife and birds.

Maintenance Costs: The first and second years after construction of the naturalized basin have higher maintenance cost, due to the need for invasive species removal and replanting/reseeding to ensure that the basin vegetation is well established. After the first two years, the annual cost of maintaining the naturalized basin will be about \$200-300/acre as compared to the conventional basin annual maintenance cost of \$2,500-\$3,000/acre.