

# Best Management Practices

## Types of Stormwater Management Facilities



RETENTION

Retention facilities or wet ponds permanently pond water. Wet ponds provide water quality benefits by allowing pollutants to precipitate from the water before discharging into receiving streams. Wet ponds can be an amenity to a development because of their aesthetically pleasing appearance and the attraction of aquatic creatures.



### EXTENDED DETENTION

Extended detention Facilities store the first flush (normally the first ½" of runoff) of stormwater runoff for a period of time between 24 hours and 72 hours. After 72 hours, the bottom of the facility will be dry until the next storm event. Detention of stormwater runoff provides water quality benefits allowing some pollutants to precipitate from the water before being discharged to receiving streams. Under new regulations plantings will be allowed within these facilities to create shallow marshes that are more aesthetically pleasing.



### MICROPOOL/FOREBAY

A micropool is provided in an extended detention pond to prevent resuspension of previously settled sediment and prevent clogging of the low flow orifice. The wet extended detention provides water quality storage through a combination of permanent pool and extended detention storage.



### DETENTION

Detention facilities are dry ponds which become completely dry within 24 hours of a storm event. These facilities provide the least amount of water quality benefits.



### UNDERGROUND

Projects may have BMP's completely underground. These underground facilities use the practice of infiltration, extended detention or detention. These BMP's are used typically in commercial development where tight site constraints do not allow areas to be designated strictly for stormwater management.

### TYPES OF INFILTRATION



INFILTRATION BASIN



### INFILTRATION TRENCH

Infiltration allows the water to seep into the ground and recharge the groundwater. The infiltration rate refers to how quickly the water enters the ground; this is based on the type of soil. Sandy soils infiltrate more quickly than gravel soils. The practicability of infiltration depends on groundwater elevations, the depth to bedrock and the infiltration rate.



### **BIORETENTION**

Bioretention combines open space with stormwater treatment. Sequencing is essential when filtering practices are built in conjunction with overall site construction. Stormwater filtering practices should not be used during site construction for controlling erosion and sediment. Filtering media is installed after site construction is complete and the contributing drainage area is stabilized.



### **SAND FILTER**

The underground sand filter is an option for providing WQv where space is limited.