



## Stormwater Management Facilities

### *Operation and Maintenance for Property Owners*

When it rains, stormwater washes over streets, roofs and other hard surfaces picking up dirt, chemicals and oil along the way.

Stormwater facilities slow, filter and infiltrate stormwater runoff on your property. They remove pollutants and reduce the rate at which stormwater flows into our rivers and streams. This helps to reduce the impact of developments on downstream properties.

Vegetated stormwater facilities can improve the appearance of your property, provide wildlife habitat, and decrease landscape maintenance and water use.

Property owners are legally responsible for inspecting and maintaining any stormwater management facilities on their sites. This responsibility may lie with an individual property owner, multiple owners, or homeowner associations. Without proper maintenance, the performance and purpose of the facility will be greatly diminished.



## Facility Types

There are a number of different stormwater management facility types, the most common of which are wet ponds and dry ponds.



Dry Pond

## ***What to look for/ what to do***

Be safe. Watch for slopes, slick surfaces, and vegetation debris, which may cause slips, trips, and falls. Avoid maintenance work in wet weather. Always wash your hands after maintaining a facility.

### **Trash/Debris**

Stormwater facilities collect a variety of trash and debris. Ponds should be inspected once a month, and debris and trash should be removed.

### **Sediment**

Clean out accumulated sediment annually, or when it becomes a problem. Look for sediment that is four inches deep or that is damaging or killing vegetation. Sediment removal is easier during dry weather. Try to minimize damage to any underlying vegetation. Re-seed and mulch exposed soil. Reuse removed sediment on-site. Do not dump it in the street or in a storm drain.

### **Erosion**

Inlets, flow channels, and berms are susceptible to erosion, and can add sediment to runoff and cause some facilities to fail. Look for cuts or channels in the surface of the facility. Any area where more than two inches of erosion has occurred needs maintenance. Fill eroded area with soil, compact it lightly, then cover with mulch, compost, seed, or sod. Planting deep or heavily rooted plants will help stabilize the soil.

### **Vegetation**

Vegetation is an important part of your facility. Although some facilities are constructed of concrete or in wooded areas, most are designed and built in cleared areas with natural grassed surfaces. The property owner should maintain desired vegetation and control unwanted growth and nuisance vegetation. Inspect in fall and spring. Look for nuisance and invasive vegetation such as blackberry, ivy and reed canary grass. In a typical grassed facility, large tree growth on embankments and within grassed pond areas is considered undesirable and thus trees should be removed while they are still in an early phase of growth. Nuisance, unwanted, or dead vegetation, leaves, and grass clippings should be removed. Avoid using herbicides to remove unwanted vegetation. Maintain vegetation so it does not obstruct flow inlets and outlets. Most grass facilities can be mowed or cut with weed eater. Keep grass between four and nine inches tall. Consider replacing grass with shrubs or wetland plants that need little or no maintenance.

### **Structural Deficiencies**

Structural components of stormwater management facilities include outlet structures, metal plates, grates, pipes, berms, and other concrete, metal or plastic parts. Look for cracks, scratches, dents, rust, loose fittings, broken or missing components, and insufficient lubrication for moving parts. Repair or replace any major damage. Many components will need to be repaired or replaced during the life of the facility as a result of age, wear, or vandalism. These commonly include inflow and outflow pipes; concrete, metal, and plastic structures and components; and earthworks-such as embankments and side slopes.

### **Ponding Water**

Ponding water in a dry stormwater pond for a period of more than 48 hours after a storm event usually means the facility is clogged. You should always inspect facilities after major storm events (1/2 inch in 24 hours). . Clogging is usually caused by sediment or debris that has collected in pipes or at the outlet structure. Remove debris from the obstructed area using a rake or other device to restore flow.

### **Pests**

Standing water less than 3-4 feet deep can be a breeding ground for mosquitoes and vegetated areas can attract all kinds of wildlife, including rats. Look for mosquito larvae in standing water, especially during warmer weather. Larvae look like tiny wiggling sticks floating perpendicular to the water's surface. Look for rat holes and burrows. Remove pests from facility. Remove the cause of the ponding water, cut overgrown vegetation to allow sunlight into pond area. Backfill rodent burrows and set traps.

### **Odors**

Plants decaying under sediment can cause odors. Remove sediment.



**Example Photographs**



Overgrowth around outlet control box



Overgrowth in pond area



Standing water in dry pond



Accumulated silt clogging outlet pipe



Accumulated silt and debris at bottom of pond



Undesirable tree growth on embankment slope

**Sample Inspection and Maintenance Log**

Date \_\_\_\_\_ Name \_\_\_\_\_

Facility Type	Trash, Debris, Sediment	Erosion	Vegetation	Broken Parts	Ponding Water, Pests, Odors	Maintenance Action(s) Taken
Inlet						
Facility Structure						
Vegetation						
Other Observations						

TASK	SPRING	SUMMER	FALL	WINTER
Clean out trash and debris				
Clean out weeds and other unwanted plants and remove plant debris				
Check for erosion (> than two inches of soil gone)				
Check for pest and odors				
When facility is dry, do major scoop out of sediment				
Make any structural repairs				
Replace dead or dying plants				
Check for ponding water				