

## Water Quality Impacts

Storm water ponds and wetlands are designed and constructed to contain and/or filter pollutants that are flushed from our roads and landscapes. These pollutants can include sediment, metals, and nutrients. Without proper maintenance of storm water ponds, the polluted runoff can lead to degraded conditions such as low dissolved oxygen, algal blooms, unsightly conditions, and odors. Neglected storm water ponds may also degrade the down gradient creek or river to which it flows.



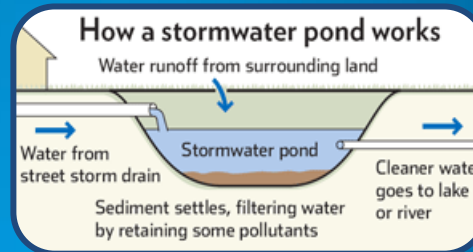
## Health and Safety Issues

**Waterfowl:** Geese and mallards may become undesirable year-round residents of a pond if structural complexity is not included in the pond design. Water quality in permanent pools often becomes degraded due to increased fecal coliform counts and nutrients from goose and duck droppings.

**Mosquitoes:** The proliferation of mosquitoes is usually an early indication that there is a maintenance problem. A few inches of standing water, such as that found in dry pond depressions, voids in riprap linings, or other inconspicuous places, can become mosquito breeding areas.

## Design Objective and Significance to Water Quality

- Design staff should review preliminary designs with facility owner, City Engineering, and parties responsible for long term operation and maintenance.
- Consider designing ponds with sediment forebays, pond drains, access for sediments removal, and a designated onsite disposal area.
- Properly designed storm water ponds protect our lakes & streams by holding runoff contaminants such as sediment and phosphorus.



- City code requires that you prevent illicit discharges from a storm water pond.
- For any new construction/redevelopment after October 2015, refer to instruction/maintenance requirements on your deed..

# Storm Water Pond Maintenance

**City of Bessemer**  
Storm Water Management  
Educational Series



**City of Bessemer**  
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## Common Maintenance Issues

- Sediment accumulates reducing the storage volume,
- Debris blocks the outlet structure,
- Pipes or the riser are damaged ,
- Invasive plants take over and out-compete the planted vegetation,
- Slope stabilizing vegetation is lost, or
- The structural integrity of the embankment, weir, or riser is compromised.

Maintenance Activity	Typical Frequency
Moving – minimum Spring/Fall/Summer	Monthly or Quarterly
Cleaning/removing litter and debris after major storm event (>2")	Annual or as needed
Harvesting of vegetation when excessive vegetation is present (10% reduction in the original open water surface area occurs)	
Repairing embankment & side slopes	
Repairing control structures	
Removing accumulated sediment from forebays or sediment storage areas when 10% of the original volume has been lost	Annually
Removing accumulated sediment if either 10% of the original volume has been lost or if the sediment depth is 6" or greater.	Annually

## Common Maintenance Issues

Examples of plants to control in your storm water pond:



**Purple Loosestrife & Cattails**



**Multiflora Rose**



**Porcelain Berry**



**Kudzu**

If a non-native or invasive plant community has been established, conduct removal with care or during a dormant season to discourage seed distribution.

### Inspections

Property owners should reach an agreement with the property management/landscaping contractor to conduct frequent inspection and maintenance items such as mowing, checking for clogs, and debris removal.

Inspection sheets should be created to record the conditions of all places, particularly those that need frequent maintenance.

Skill Level	Description
0	No special Skills or prior experience required, but some basic training via manual, video, or other materials is necessary. Consider assigning an HOA member or property manager to perform these tasks.
1	Inspector, maintenance crew member, or citizen with prior experience with ponds/wetlands.
2	Qualified Credentialed Inspector or Qualified Credentialed Professional

Inspection Activity	Inspection Skill Level	Frequency
Inspect low flow orifices and other pipe for clogging	0	Monthly – Quarterly After Major Storms (>1")
Check the permanent pool or dry pond area for floating debris & undesirable vegetation	0	
Investigate embankment & side slopes for erosion	0	
Look for broken signs, locks, and other dangerous items	0	
Inspect Area for possible mosquito production	1	Frequently in hot/warm season
Identify invasive plants	1	Semi-Annual – Annual
Ensure mechanical components are functional	1	
Inspect all pipes	2	Annual
Monitor sediment deposition in facility and forebay	2	
Inspect riser, barrel, and embankment for damage	2	