

Municipal Stormwater Ponds

Stormwater ponds are constructed man-made or modified natural basins designed to capture and retain stormwater runoff for the purpose of removing pollutants, flood relief and reducing downstream water quantity impacts.

What is a stormwater pond designed to do?

Stormwater ponds are designed to receive and hold a volume of runoff for a specific period of time or until it is displaced by the next storm. During this time, particles settle to the bottom taking many of the pollutants with them.

Are stormwater ponds safe?

Unlike natural ponds, stormwater ponds are designed to capture and retain runoff carrying pollutants, and as such, are generally considered unsafe for swimming, fishing, or other recreational activities.

Contact with the water is usually not a concern, but immersion or ingestion of pond water is discouraged. Stormwater ponds are often designed to keep people from coming in contact with the water by incorporating built-in safety considerations such as gradual side slopes and safety ledges or natural barriers such as tall shrubs or grasses planted around the perimeter.

How does a stormwater pond function?

As stormwater flows over land and impervious surfaces, it picks up pollutants and sediment, carrying it along as it travels downstream. Stormwater directed to ponds is detained in the basin, providing an opportunity for pollutants and sedi-



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ment to settle to the bottom. Pond plants, algae and other biological processes remove dissolved metals and nutrients, while natural sedimentation processes remove particulates, organic matter, metals and other potential pollutants. Some pollutants will not breakdown but will accumulate along the bottom and can be removed during maintenance activities.

How do you ensure it is functioning properly?

All stormwater ponds require maintenance. Failure to properly maintain a pond can reduce storage capacity and decrease the amount

of pollutants removed. Periodic inspections of ponds are necessary to monitor the amount of sediment accumulation and to clean out debris trapped in outlets or inlets. Vegetation must also be properly maintained to allow for inspection and prevent clogging.

Stormwater Pond Maintenance

Communities regulated under the National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) Municipal Separate Storm Sewer System (MS4) Permit Program are required to annually inspect all structural pollution control devices and 20 percent of all stormwater ponds they operate.

The City regularly conducts inspections to determine when it is necessary to dredge the pond and remove excess sediment accumulation. At a minimum, the City evaluates ponds once every 5 years to determine the need for dredging.

Dredging is typically scheduled for winter or the driest time of the year. As an alternative to winter removal, some ponds are designed with a drain to draw down the pond and periodically clean out sediment buildup. If dredging is needed, the sediment is sampled (depending on project size) for pollutant concentrations, and disposal options selected before dredging begins.

For more information on stormwater ponds, please visit the City website or Minnesota Pollution Control website at www.pcs.state.mn.us/water.

Courtesy: Minnesota Pollution Control Agency.