



## **Public Works Department**

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## **STORMWATER POND MAINTENANCE**

### ***Frequently Asked Questions (FAQs)***

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#### **What are stormwater ponds?**

Stormwater ponds are manmade features generally located near your neighborhood or business. They are designed to mimic the ecological function of naturally occurring ponds and wetlands. Water from these ponds drains to a lake, river, stream, wetland, or may infiltrate into the ground. Depending on the age of the pond, it may serve one or two stormwater management functions. Older ponds were designed to slow the flow of stormwater and discharge it at a rate to minimize downstream flooding. Newer ponds are designed to manage water volume as well, but also provide a water quality benefit. A properly designed stormwater pond will remove a substantial amount of sediment and other pollutants from stormwater before releasing this water downstream. Some ponds are planted with wetland plants.

#### **What should a pond look like?**

Next to being properly designed to store and convey stormwater, landscaping is the most critical component in the proper functioning of the stormwater pond. Historically, many ponds were designed to have mowed grass edges as a form of “sales appeal” for the developer, rather than being landscaped for the long term benefit of the pond. Mowed grass to the waters edge on all shorelines means the pond is not providing its full ecological value (however mowing can be an easy way to ensure weed control). Buffers should also extend into the pond where possible using emergent wetland plants. The most important factor when designing a buffer is to choose the proper vegetation for the slope and soils. The buffer should include a diverse plant community that provides both habitat and aesthetic appeal. The proper buffer will provide both a water quality and wildlife component:

Water Quality: The proper plant community will prevent shoreline soil erosion (bank slumping) around the pond. It will also prevent herbicides and pesticides from going directly into the pond. Eliminating the need for fertilizers and frequent mowing will reduce the potential for algae blooms.

Wildlife: A diverse plant community will provide habitat for a variety of wildlife, including predatory insects, amphibians and birds which keep mosquito populations in check. Tall native grasses will also discourage Canada Geese from taking over the pond and adjacent lawns.

Fences: Ponds are generally designed with gentle slopes so if someone falls into the pond, they are able to climb out. In locations where walls or steeper slopes are incorporated into the pond, a safety fence will be added. Many ponds have fences installed to help identify the presence of the facility and indicate in a passive way that they are not swimming or play areas.

## **Who is responsible for maintaining the stormwater pond by my house? What does it entail?**

According to the City of Sedro Woolley's regulations, it is the property owner's responsibility to maintain the stormwater management facility onsite. If the stormwater facility is located on jointly owned property, such as in a housing development (subdivision), it is the Home Owners Association's (HOA's) responsibility to maintain that stormwater facility. The developer of the subdivision should have provided a copy of the subdivision's Stormwater Maintenance Manual; check with the City if you are unable to locate a copy. A good Stormwater Maintenance Manual includes a description of the structures and facilities in your subdivision, and when and how to maintain these structures and facilities. Many simply reference the Department of Ecology's 2014/2014 Stormwater Management Manual for Western Washington: Volume V Runoff Treatment BMPs Maintenance Standards for Drainage Facilities (pgs 4-32 through 4-53).

An annual inspection report or checklist detailing the condition of your subdivision's stormwater facilities is required by the City of Sedro Woolley. ***City staff is currently preparing accessible files for each system and building a webpage to provide HOAs with pertinent information, the requirement's involved for a private stormwater facility, and tell you what to look for in terms of maintenance.***

## **How are ponds maintained?**

Much pond maintenance, such as sediment and aquatic plant removal requires the equipment and expertise of a professional. Some work, like weed control or planting of approved plants can be performed by home owners and/or volunteers. Native plant buffers around the pond and its discharge waterway require maintenance to prevent non-native invasive species from taking over. This is critical because the native plants often require more time to become well established than the weedy species. Debris removal and weeding will be required as small plants develop. Plant identification is very important for this operation since it is difficult in the beginning to distinguish between the non-native and native plants. Invasive plant removal will be an annual task but will diminish as the native plants fill in.

Be sure that the pond is properly functioning, and has no cracked or broken structural components. Be sure to also remove potentially harmful vegetation (such as trees) from embankments, and remove debris and vegetation from inlet and outlet structures.

## **What is the best way to get rid of noxious plants?**

There are two types of plants that come to inhabit stormwater plants, non-native invasives, such as Himalayan blackberries, and native "invasives," such as Red alders. Himalayan blackberries are non-indigenous to this area and tend to take over the habitat of indigenous plants. Although trees such as red alders are indigenous to Western Washington, and common in stormwater ponds because they are primary succession plants (they appear first after a land disturbance), they can compromise

the integrity of the stormwater pond by limiting capacity or by damaging structure with their roots.

Heavy duty vegetation maintenance should be done in the dry season (summer) in order to cause the least amount of disruption and harm to the pond and other seasonal plant and animal life. The best way to “get rid” of plants and trees is to dig them out by the roots. This is easy if your HOA does regular vegetation checks and is able to pull up plants while they are small. If this is not possible, cut plants down as close to the ground as possible.

Should an herbicide be required, it should be applied in small amounts to specific plants in the dry season. An herbicide such as rodeo glyphosate can be used on dry land by homeowners

### **My stormwater pond is being inundated with algae and aquatic vegetation. How do I get rid of it?**

First, encourage residents to decrease the use of lawn fertilizers throughout the community. Work with your lawn care company to be sure that grass clippings are not dumped into the pond. This will reduce nutrients into the system. Algae removal is optional (not required). A simple, yet effective, means of algae removal is to “rake” the layer from the body of water and deposit on the banks of the facility to dry and decompose naturally.

### **How can I prevent my pond from becoming over run by mosquitoes?**

Newer ponds are being designed to absorb water faster, so they're less likely to provide habitat for mosquitoes. For older ponds, Ecology recommends that homeowners destroy mosquito larvae before they hatch with a naturally-occurring organism, *Bacillus thuringiensis israelensis*, or Bti. Products containing Bti, such as Mosquito Bits or Mosquito Dunks, can be found at the local home and garden shop. Your HOA may wish to hire a licensed professional to control mosquito larvae in the spring. Do not use non-native fish or other wildlife to control mosquitoes in ponds; they're not very effective and may threaten native species.

<http://www.ecy.wa.gov/news/2003news/2003-046.html>

### **Have a question that hasn't been answered?**

Contact the Public Works department at City Hall, 360-855-0771.

For further information, click on one of the following links below:

#### **City of Sedro-Woolley:**

<http://cms5.revize.com/revize/sedrowoolley/departments/stormwater/index.php>

#### **Skagit County:**

<http://www.skagitcounty.net/Departments/PublicWorksSurfaceWaterManagement/stormwatermain.htm>

#### **Department of Ecology:**

<http://www.ecy.wa.gov/programs/wq/stormwater/index.html>