

# LAWN CARE PRACTICES

SAVE MONEY & PROTECT OUR WATER

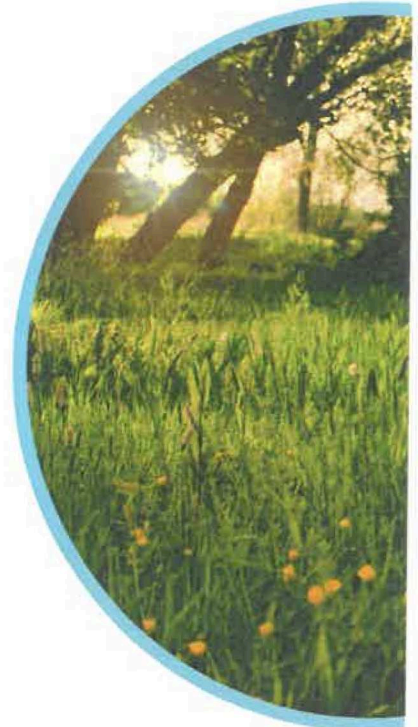
While many communities value attractive lawns, traditional turf grasses and standard lawn maintenance activities can be both expensive and harmful to water resources. In most homeowners' associations, lawn care and irrigation are major annual expenses. **Consider the following strategies to save money and reduce your environmental impact.**

## Plant Turf Alternatives

Selecting a grass species can greatly impact your lawn's needs. Most lawns use Kentucky bluegrass, which requires more watering, mowing, and fertilizing than the following alternatives:

- **Plant native grasses:** They require less water and fertilizer, are more resistant to pests and disease, and increase water infiltration into the soil with their deep root systems.
- **Plant low mow lawns:** Slow-growing and drought-tolerant fine fescue grasses only need to be mowed twice per year.
- **Plant bee lawns:** Drought-tolerant fine fescues and low-growing perennials provide nectar for pollinator species.
- **Limit turf:** Plant Kentucky bluegrass only where it has a practical function, like children's play areas.

Visit [bluethumb.org/turf-alternatives](http://bluethumb.org/turf-alternatives) to learn how to get started, and contact your local watershed for grant opportunities to transition your existing lawn.

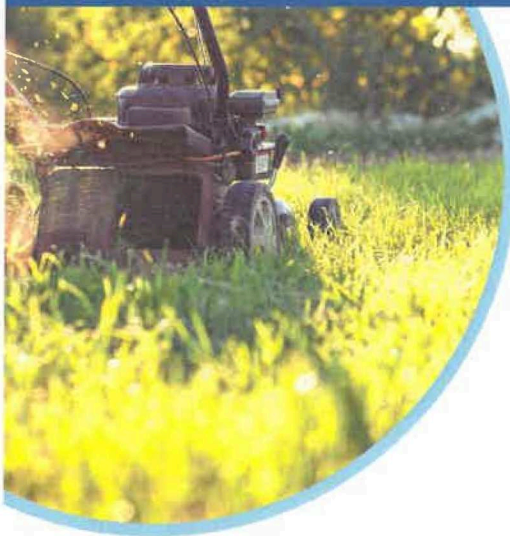


## Promote Healthy Soil

The health of your soil greatly affects the health of your lawn and can be impacted by erosion, compaction, and lack of organic matter. Practice these soil health principles:

- **Aerate your soil:** This increases infiltration to the plant's roots and reduces stormwater runoff.
- **Test your soil:** Testing your soil helps reduce your fertilizer use. A standard soil test from UMN costs \$20 and will help determine which nutrients your lawn needs.
- **Amend your soil:** Adding material to your soil helps reduce compaction. In the fall, add compost, mulch, and leave leaf residue. In the summer, leave lawn clippings after mowing.





## Mow Smarter

Mowing is necessary, but cutting the blades too short can harm your lawn. Ask your lawn care contractor if they follow these best practices for lawn health:

- **Mow at the highest setting (at least 3"):** Reduce the amount of grass being cut to better capture pollutants, crowd out weeds, and develop deep drought-resistant root systems.
- **Mow regularly:** Avoid removing more than 1/3 of the leaf blade during each mow to reduce stress and vulnerability to disease, drought, and insect or weed invasion.
- **Mow less or skip during dry periods.**

## Limit Fertilizer & Lawn Chemical Use

While fertilizers promote growth, pesticides kill bugs, and herbicides kill weeds, they also pollute the water. Discuss the following with your lawn care provider:

- **Fertilize with grass clippings:** They are a natural source of nutrients.
- **Use natural organic or slow-release fertilizers:** They feed plants slowly and evenly to help increase lawn health.
- **Fertilize less often:** Only apply fertilizer in the late summer and fall.
- **Maintain a buffer zone:** Do not use fertilizers or lawn chemicals within ten feet of water bodies and storm drains.
- **Spot treat bugs and weeds:** Treat only small areas to reduce chemicals.



## Water Less

Over-watering wastes water resources and increases nutrients and pollutants running into water bodies.

- **Audit your irrigation:** This will help identify leaks and suggest strategies for making your system more efficient.
- **Water less often for longer:** Lawns only need about 1" of water per week, which is about 20 minutes twice per week without rain.
- **Avoid mid-day watering:** Water is more likely to be evaporated from the hot sun, requiring more water to satisfy the lawn.
- **Use efficient sprinklers:** Ensure your irrigation system has a smart controller and soil moisture sensor to avoid unnecessary watering. Pressure-regulating systems can save 32,000 gallons of water per year, per household and \$4,000 per 100 households.



Visit [mnwcd.org/lawn-care](http://mnwcd.org/lawn-care) for more information and resources.

Reach out to your city for info on irrigation audits and other water saving measures such as irrigation re-use systems.





# MANAGING COSTS

## PLANNING & BUDGETING FOR MAINTENANCE



### Key Maintenance Activities

While requirements vary between practices and cities, your green infrastructure requires regular maintenance. **Your HOA should hire a professional to address common tasks:**

- Inspect the practice once every six months and at least once annually, during or immediately after a significant rainfall to ensure proper function.
- Remove invasive or competitive species, prune, and/or replant as needed.
- Remove sediment, trash, and debris from storage areas, piping, and other structures.
- Repair eroded areas.
- Replace broken piping, inlets, outlets, etc.

Stormwater ponds must also be dredged to remove the accumulated sediment in the pool. While this occurs less frequently, it is also much more costly than routine maintenance. **As the owner of the infrastructure, your HOA bears the financial responsibility of maintenance and repairs.**

### Estimated Maintenance Costs

**The cost to maintain your stormwater infrastructure could vary significantly based on the type and size of the systems you have.** A routine annual inspection will help you understand your maintenance needs and avoid expensive maintenance issues down the road. Typically, a raingarden will need \$100 to \$1,000 of maintenance every couple of years, while a large pond system may require \$50,000 or more every 15 or 20 years for pond dredging, in addition to annual maintenance. **Speaking with a professional contractor, having a good maintenance plan, and keeping maintenance records are the best way to budget for these expenses.**



## How to Plan & Budget

**Creating a maintenance plan is essential for your HOA to ensure the long-term function of green stormwater practices.**

To get started:

- **Retrieve copies of all site documents** from city hall/city engineer/zoning official including:
  - Maintenance agreements
  - Site plan or project review documents or permits
  - Protected wetland edges
  - Construction plans
  - As-builts (show how construction changed from the plan)
- **Create a written maintenance plan for each practice** to ensure consistency and clarity during board turnover and provide a record of which entity is responsible for each task. Include:
  - Contact info for current and previous owners and managers
  - Contact info for city, watershed, and other pertinent staff
  - Contact info for any companies providing service or maintenance
  - Copies of any current service or maintenance contracts.
  - An inventory of your features and facilities, including photos
  - A list of legal maintenance requirements identified in documents or discussions
- **Develop a maintenance and inspection checklist** for tracking your activities consistently and helping train staff.
  - Example visual inspection checklists can be found at: [stormwaterbook.safl.umn.edu](http://stormwaterbook.safl.umn.edu)
- **Write a short job description** for each task and **designate** whose responsibility it is.
  - Establish contracts for tasks requiring professional expertise.
- **Share pertinent information** with HOA board members and residents.
- **Be realistic** about your maintenance costs, and **create a budget**.
  - Include annual maintenance costs for all practices on the property.
  - Contribute annually to a long-term fund such as a pond maintenance fund that will cover dredging when the time comes, as well as occasional repairs.



Visit [mnwcd.org/hoa-stormwater-tools](http://mnwcd.org/hoa-stormwater-tools) for more information and resources.

**Reach out to your city to get the needed documents to begin a maintenance plan.**



# NATIVE VEGETATION

## HOW TO MAINTAIN PLANT LIFE

### What is Native Vegetation?

You may have native vegetation in HOA practices like stormwater ponds, raingardens, and vegetated buffers. Native plants are **adapted to the local climate** and **require less maintenance** than non-native alternatives once established. Benefits include:

- **Deep roots** that hold and infiltrate water, improve soil, filter pollutants, and capture carbon.
- **Reduced costs** from less mowing and watering and no fertilizer or pesticides.
- **Habitat** for pollinators and other wildlife.
- **Enhanced beauty** and landscape **resilience**.

### Establishing Native Plants

**Do the following when establishing native plants:**

- **Water:** Water daily the first week of planting, and then 1 to 2 inches of water per week the first growing season unless it rains.
- **Weed:** Remove weeds and invasive plants by their roots and dispose of properly. As the natives establish, they will help crowd out weeds.

### Routine Maintenance Activities

Native vegetation requires some maintenance to ensure it does not get overgrown or interfere with the function of the stormwater practice. **Your HOA or landscape contractor should routinely:**

- **Prune:** Leave as overwintering habitats for wildlife, and then prune and remove dead vegetation in the spring.
- **Plant:** Add, replace, or divide plants as needed.
- **Mulch:** Maintain a 3 inch layer of mulch to limit weed growth and reduce the need for watering in rain gardens and bioswales.
- **Mow:** Leave grass above 3 inches but no more than 6 to 8 inches in swales and dry ponds. Leave an un-mowed buffer around wet ponds, wetlands, and streams, but burn or trim as needed.
- **Weed:** Spend an hour a month or at least 3 times during the growing season.



Visit [mnwcd.org/planting-for-clean-water](https://mnwcd.org/planting-for-clean-water) for more information and resources.

Work with your HOA board to create  
a vegetation maintenance plan.



# SNOW & ICE REMOVAL

## TO PROTECT WATER RESOURCES

### The Problem With Salt

HOA residents expect snow and ice on roads and parking lots to be cleared quickly, which commonly involves using salt to melt it. However, **excess salt creates chloride pollution**, with impacts including:

- Impaired lakes, streams, and rivers.
- More salt in shallow wells and drinking water.
- Toxicity to fish, aquatic bugs, mussels, and amphibians.
- Damage to flooring and landscaping.

### Practice Smart Salting

Follow best practices to **save your HOA money** and **improve water quality**:

- **Shovel first:** The more you shovel or snow blow, the less salt you will need.
- **Do not over apply:** Use less than one cup of salt per parking stall.
- **Use sand in colder temperatures:** Most salts stop working below 15°F.
- **Sweep the excess:** Sweep up and reuse extra sand and salt rather than letting it wash away.

**It only takes one teaspoon of salt to permanently pollute just five gallons of water, and more salt does not equal more safety.**

### Hire Trained Contractors

Does your HOA hire a snow removal service? **Find a contractor who is trained in smart salting** by searching online for road salt certificate holders or asking them the following:

- Have you attended a winter parking lot and sidewalk maintenance training session?
- Are you certified by the Minnesota Pollution Control Agency (or similar local authority) in snow and ice control best practices?
- If not certified, would you be willing to attend a training session?
- What best practices do you use to reduce the amount of salt applied?

Visit [mnwcd.org/hoa-stormwater-tools](http://mnwcd.org/hoa-stormwater-tools) for more information and resources.

**Work with your HOA board to hire trained  
winter maintenance contractors.**



# STORMWATER PONDS

## FUNCTION & MAINTENANCE REQUIREMENTS

### What are Stormwater Ponds?

Is there a pond in your HOA community? Chances are it was built to help manage stormwater instead of being naturally occurring. **Stormwater ponds are large constructed basins designed collect, store, and treat large amounts of stormwater runoff.** They help to reduce downstream flooding and remove pollutants by capturing and slowly releasing water. **There are two types: wet and dry.**

### Function of Wet Ponds

**Wet ponds** have a permanent pool of water and are typically surrounded by vegetative buffers to help collect pollutants. There is often a visible outflow structure in the pond, called a riser. In most wet ponds:

- Runoff flows into the pond through an inlet.
- A smaller pool, called a forebay, slows the runoff and lets sediment and other pollutants to settle to the bottom.
- Water then flows to a second pool, the primary pool, for additional settling.
- If the water level exceeds the outlet elevation, like after heavy rainfall, the outlet structure slowly releases it.
- During extreme rain events, water may flow over the highest part of the pond, called the emergency spillway or overflow.



### Function of Dry Ponds

**Dry ponds** are a large grassy basin, sometimes with rock, other vegetation, and an outflow structure that are dry except for after storms. In most dry ponds:

- Runoff flows into the pond.
- The basin slows the incoming water and allows sediment and other pollutants to settle out.
- The water infiltrates into the ground to replenish groundwater or is released slowly through an underdrain or outlet structure to nearby waterways within a few days.





## Promoting Healthy Ponds

You may notice that your stormwater pond is green. This is because wet ponds collect nutrients from fertilizers and plant matter, which cause algal blooms.

**While stormwater ponds are meant to collect and filter pollutants, they will be cleaner when pollutants are managed prior to flowing into the pond.** Follow these best practices:

- Limit using fertilizers and other lawn chemicals near the pond.
- Keep grass clippings and leaf litter out of the pond.
- Clean up pet waste and trash near the pond.
- Maintain a vegetated buffer to keep pollutants from reaching the water.

## Maintenance Requirements

**Your HOA is most likely responsible for maintaining your stormwater pond,** which is required to ensure proper long-term function. **Failing to maintain your pond can lead to increased water pollution, higher flood risk, and costlier maintenance down the line.** While your HOA can do some maintenance activities, others require a contracted professional.

**Your HOA or landscaping contractor should do the following monthly or as-needed:**

- Clear sediment from the inlets and outlets.
- Remove trash and debris from the pond, its structures, and the shoreline.
- Maintain vegetation with mowing, removing woody vegetation, and restoring ground cover.

**A qualified professional should inspect for the following semi-annually to annually:**

- Inlet or outlet structure blockage or damage.
- Erosion and embankment damage.
- Sediment accumulation.

**Structural components must be repaired immediately if they reduce the pond's function.**

**A qualified professional will eventually need to remove accumulated sediment from wet ponds due to reduced storage capacity.** It is the most expensive maintenance, requiring special equipment and skilled labor. Frequency will depend on the pond's size and amount of sediment accumulated.

- **Forebay:** every 2 to 7 years or after 50 percent of total forebay capacity has been lost.
- **Primary pond:** every 25 to 50 years or after 50 percent of the pond volume has been lost.



Visit [mnwcd.org/hoa-stormwater-tools](http://mnwcd.org/hoa-stormwater-tools) for more information and resources.

Reach out to your city and contractors to determine the proper maintenance schedule for your pond.



# STORMWATER PRACTICES

## IDENTIFYING WHAT YOUR HOA OWNS



**Do you know what green stormwater practices are found on your HOA property?** There are a variety of best management practices (BMPs), used to **collect, filter, and release or infiltrate stormwater**. Common features of stormwater BMPs include:

- **Inlet:** Where water enters the practice, and often filters some sediment as the water flows in.
- **Outlet:** Where water leaves the practice once it reaches a certain level, if not infiltrated into the ground or released through evapotranspiration.
- **Media mix:** Mixture of soil, mulch, gravel, and rock used to filter stormwater and promote infiltration.
- **Native vegetation:** Plants used to slow and filter stormwater and provide aesthetic appeal.
- **Underdrain:** Drain beneath practice used to transport filtered water back to the storm sewer if it cannot soak into the ground.

### Wet Ponds

- **Features:** Constructed basins, usually with an inlet, an outlet, and native vegetation that are designed to hold water permanently.
- **Purpose:** To collect and store stormwater, allow sediment and other pollutants to settle out, and slowly release the water when levels exceed the outlet elevation.



### Dry Ponds & Infiltration Basins

- **Features:** Constructed basins, usually with an inlet, an outlet, a porous media mix, and native vegetation that are designed to be dry, except for after storm events. Dry ponds may also have an underdrain.
- **Purpose:** To collect and hold stormwater for about 48-72 hours after a storm event. Infiltration basins replenish groundwater, while dry ponds are meant for storage and will release water through infiltration or an outlet or underdrain after filtering out pollutants.





## Raingardens

- **Features:** Small, shallow constructed basins, usually with an inlet, a porous media mix, and water-tolerant native plants. They may also have an underdrain and an outlet for emergency overflow.
- **Purpose:** To collect and filter rainwater before it infiltrates into the ground, evapotranspirates, or drains to the nearby sewer. They are built to hold water for up to 48 hours and provide water and nutrients to the plants.



## Bioswales

- **Features:** Shallow channel, usually with a porous media mix, and water-tolerant native plants. They may also have an inlet and an underdrain.
- **Purpose:** To transport stormwater as well as to collect or slow, treat, and release or infiltrate stormwater, similar to a raingarden.



## Vegetated Buffers

- **Features:** Strips of dense native plants, ideally about 10 feet wide, that are preserved or planted between developed land and water bodies.
- **Purpose:** To slow the flow of stormwater, collect pollutants and sediment, promote infiltration, and stabilize shorelines.



## Tree Trenches

- **Features:** Trenches with one or more trees, usually with an inlet and a porous media mix. They may have underground storage or an underdrain.
- **Purpose:** To intercept rainfall in the tree canopy as well as collect, filter, and store, infiltrate, or release stormwater. The stormwater also promotes tree growth.



## Permeable Pavement

- **Features:** Hard surfaces made from asphalt, concrete, pavers, or a recycled material with gaps or holes to let water through to the soil.
- **Purpose:** To provide a hard surface for walking, biking, driving, or parking and also allow stormwater to pass through the surface and into the ground.

Visit [mnwcd.org/hoa-stormwater-tools](http://mnwcd.org/hoa-stormwater-tools) for more information and resources.

Reach out to your city for site plans identifying your stormwater practices and information on your maintenance responsibilities.

