



# Landscape Design

ON THE PATH  
TO AN  
ENVIRONMENTALLY-  
FRIENDLY  
LANDSCAPE



In Minnesota, we only have a short time to enjoy our yards. As a result, we take advantage of them as play areas, gardens and as places to gather with friends and family. We also spend a great deal of time and money making sure our shrubs, trees, flowers and lawns look great. Traditionally, this high-maintenance type of yard care may have included large quantities of inputs – water, fertilizers, pesticides, weed control and money; not to mention our own sweat and time.

Enter environmentally-friendly landscaping, otherwise known as sustainable landscaping. This type of landscaping employs some basic principles that can reduce the impact we have on

the environment and the amount of time and labor while still creating a functional, aesthetically pleasing landscape that can be easily maintained in the years to come. These principles include such practices as improving your soil, choosing the right plant according to conditions, replacing lawn areas that are difficult to maintain with better adapted shrubs and trees and reducing inputs into the environment.

*A sustainable landscape is not a “no-maintenance” landscape and some of these changes will take time to get established. Your landscape will still require some level of care, but not as much because you are working with the environment instead of against it.*

Look at your yard. Wouldn't it be great to spend more time enjoying it rather than working on it? You'd no doubt have a lower water bill, while minimizing the use of pesticides and fertilizers. To learn how you can

do all this and more, take a look at the following tactics for turning your yard into an environmentally-friendly and sustainable landscape. *It's your chance to make a positive impact on the environment.*

## GETTING STARTED: CREATE A BASE MAP

The first step to creating a new landscape design is to assess what you have and consider how you would like to use your yard.

### TO DO/What are your current conditions?

- How much sun does the area receive each day? Keep track of how many hours of sun different parts of your yard receive during spring and summer days. Is it morning sun or afternoon sun?
- What is the soil like? Heavier, sticky clay? Lighter, more porous sand? Or is your soil rich, black loam? (see *Improving Soil*, pg 4)
- What is the moisture level of the area? Does it remain damp after a rainstorm or watering, or does it dry quickly? Are there low areas that may make for great rain garden locations? (see *Rain Garden*, pg 19)
- Are there plants or other features that you would like to keep?
- Where are your utility lines (above and below ground)? What planting restrictions apply to these areas? (see *TO DO/Call before you dig*, pg 4)
- Do you have an underground irrigation system? If so, where are the lines/sprinkler heads?

### TO DO/How would you like to use your space? (What are your needs?)

- Where are your high traffic areas?
- How much open space do you need for yard activities? (play areas)
- Which views would you like to enhance?
- Would you like to create areas for wildlife? A butterfly garden, a bird feeding station?
- Would you like more privacy?
- Would you like to add features to improve water quality? (see *Practices to Improve Water Quality*, pg 15)

### TO DO/Drawing the Base Map:

Now that you have answered the basic questions, create a map to build from. First measure the dimensions of any permanent structures (home, shed, fence, etc.) and your lot. Include locations for major doors and windows. This will help as you develop views from inside your home, and determine available plant space. Then measure from a fixed location, the corner of the house, to the street, to the property line, to the driveway etc. Plot these measurements on a large sheet of graph paper. Next draw in the features

that you would like to remain or that cannot be moved (utility fixtures, large trees, sand-box). Use a piece of tracing paper to overlay the base map. Draw your new designs and ideas on the tracing paper. Using multiple sheets of tracing paper will allow you to create different landscape options without damaging or redrawing your base map.

## **WORK FROM THE GROUND UP: IMPROVING SOIL**

The soil is the basis of your entire yard and garden. Consider it the foundation of your landscape similar to the foundation of your house. If you have a weak foundation, your house will have maintenance problems in the future. If you have a strong foundation, your house will endure.

Poor soil may be compacted, lacking in nutrients and organic matter and may have poor water-holding capacity. Healthy soil is loose, contains organic matter and holds water easily, yet allows it to easily drain excess water. We tend to pay more attention to our plants and lawns, forgetting that plant care begins with the soil. Here are some basic steps you can take to start improving your soil:

### **TO DO/Call before you dig:**

Before you dig, call Gopher State One at 800-252-1166 statewide or 651-454-0002. Gopher State One will notify your local utilities and they will mark their electric, gas lines, and cable lines that are buried in your yard. Always be careful of lines installed by previous homeowners (e.g., from the house to an external garage), Gopher State One does not mark these lines.

### **TO DO/Do a soil test:**

Find out the condition of your soil before you do anything. Your local county extension service can provide you with the proper instructions and bags used to collect soil samples. Be sure to collect samples from various parts of your lawn. The University of Minnesota Soil Laboratory ([soiltest.coafes.umn.edu](http://soiltest.coafes.umn.edu), 612-625-3101) will be able to give you valuable information on the current condition of your soil – nutrient levels, soil structure, and pH – and make recommendations for improvement.

### **TO DO/Aerify your soil:**

Maintaining a healthy soil will improve short and long term lawn health. Where soils are hard and compacted, core aerifying can be used to improve plant health, increase rooting volume and improve infiltration. Aerification is done using a machine that can usually be rented from dealers in your area. The machine pulls 2-3" cores of soil from your yard, enabling air to be incorporated into the soil. Aerification will also allow greater access to soil water and nutrients, as well as improving plant stress tolerance.

**TO DO/Add organic matter:**

Organic matter is an important component of soil health. It increases the soil's capacity to absorb and release nutrients. It improves moisture-holding capacity of sandy soils and the drainage capability of heavy clay soils. It also improves the structure of soil by providing a good environment for root growth and by encouraging earthworms and microorganisms that are beneficial to plant health. You can easily add organic matter by using compost as a mulch on your garden soil and around shrubs and trees. To do this, mix 1-2 inches of well-decomposed compost into the top 6-8 inches of soil around your plants. You can also improve the health of your lawn by top-dressing. This means lightly spreading compost (about 1/4" maximum) over your lawn and gently raking it into the lawn.

**TO DO/Amend soils:**

Many lawns, especially those where the soil has been compacted by heavy machinery during housing construction are impervious and provide little infiltration of water. Tilling the soil to at least 4 to 6 inches with a garden tiller and incorporating 1 to 2 inches of well-decomposed compost will increase infiltration. Remember to lightly compact the soils before planting or seeding. A good rule of thumb is to measure how deep an impression your foot makes when stepping on the soil. Your foot impression should not be more than 1/4 inch deep. Choosing plants that develop a deep root structure (>4-6") will further increase the potential for water to infiltrate. (see Plant Selection, pg 7)

**PLANT THE RIGHT PLANT**

Choosing the right plant material for your yard is an important step in creating a landscape that is sustainable. It's easy to get caught up in the beauty of a plant you discover at the garden center, only to find it requires conditions that don't match your yard.

By selecting plants that are suited to the conditions of your location, you will reduce the work required to establish and maintain the plants and they will survive longer and look better in your landscape. Be sure to consider the location's soil, moisture, available light, and mature size when selecting plants.

The same goes for your lawn. The fine-leaved fescues as well as the older, common types of Kentucky Bluegrasses are better suited to lower inputs than turf-type perennial ryegrasses and many of the newer, improved types of Kentucky Bluegrasses.

## LESS IS MORE: ALTERNATIVES TO GRASS

Let's make it clear up front: there is nothing wrong with having a lawn. Grass is one of the toughest, most successful ground covers available. It is easy to grow, reduces dust, cools the surrounding air, and it prevents wind and soil erosion.

However, sometimes we establish grass in areas that we don't actively use or in areas that grass doesn't grow well, or are difficult to mow and maintain. These are the areas where less is more. It is often better to utilize other plant materials for these areas: flower beds, shrubs, no-mow ground covers, or mulch, such as wood chips. This makes the area functional, maintainable, and environmentally-friendly. *Part of a sustainable landscape is analyzing how you use your lawn and the areas in which a different type of ground cover would be better.*

## REDUCE INPUTS, REDUCE IMPACT

Inputs are anything you put into a landscape. This would include: pesticides, fertilizers, water, money and labor. At times, we will need to rely on these inputs to help our plants through weather, disease, insect infestation, or we may have to replace a plant altogether. The goal of sustainable landscaping is to reduce the need for these inputs as much as possible, by working with basics – soil, plant selection, lawn use – and by thinking ahead.

## FOR MORE INFORMATION:

- Visit the University of Minnesota Extension Service's Sustainable Urban Landscape Information Series at [www.sustland.umn.edu](http://www.sustland.umn.edu)
- Visit the University of Metro Watershed Partner's "Tips for Keeping Minnesota Water Clean" at [www.cleanwatermn.org](http://www.cleanwatermn.org)