



## WATER CONSERVATION LANDSCAPING

### FACT:

The average U.S. Household uses 350 gallons of water per day, according to the American Water Works Association. Almost 58% of that total being outdoor use and nearly 75% of summer water use is by outdoor vegetation. Saving water outdoors through the use of xeriscaping can make a huge difference.

Originally developed for drought-afflicted areas, the principles of xeriscape today have an ever broadening appeal. With water now considered an expensive and limited resource, all landscaping, residential or commercial, can benefit from this alternative.

---

### Benefits of Xeriscape

**1. Saves Water.**

For most of North America, over 50% of residential water used is applied to landscape and lawns. Xeriscape can reduce landscape water use by 50 - 75%.

**2. Less Maintenance.**

Aside from occasional pruning and weeding, maintenance is minimal. Watering requirements are low, and can be met with simple irrigation systems.

**3. No Fertilizers or Pesticides.**

Using plants native to your area will eliminate the need for chemical supplements. Sufficient nutrients are provided by healthy organic soil.

**4. Improves Property Value.**

A good Xeriscape can raise property values which more than offset the cost of installation. Protect your landscaping investment by drought-proofing it.

**5. Pollution Free.**

Fossil fuel consumption from gas mowers is minimized or eliminated with minimal turf areas. Small turf areas can be maintained with a reel mower.

**6. Provides Wildlife Habitat.**

Use of native plants, shrubs and trees offer a familiar and varied habitat for local wildlife.

## The Seven Principles of Xeriscaping

### 1. **Water Conservation.**

The fundamental element of Xeriscape design is water conservation. Landscape designers constantly look for ways to reduce the amount of applied water and to maximize the use of natural precipitation.

### 2. **Soil Improvement**

The ideal soil in a water-conserving landscape does two things simultaneously: it drains quickly and stores water at the same time. In addition, windbreaks help keep the plants and soil from blowing dry. Use trees, hedges, shrubs or tall ornamental grasses as natural windbreaks.

### 3. **Create Limited Turf Areas**

Reduce the size of turf areas as much as possible, while retaining some turf for open space, functionality and visual appeal. When planting new turf, or reseeding existing lawns, ask at your garden center for water-saving species adapted to your area.

### 4. **Use Appropriate Plants**

For best results, select plants that are native to your region.

### 5. **Mulch**

Cover the soil's surface around plants with a mulch, such as leaves, coarse compost, pine needles, wood chips, bark or gravel. Mulch helps retain soil moisture and temperature, prevent erosion and block out competing weeds. Organic mulch will slowly incorporate with the soil, and will need more applied, "top-dressed", from time to time. To be effective, mulch needs to be several inches thick. There should be no areas of bare soil.

### 6. **Irrigate**

Water conservation is the goal, so avoid overwatering. Soaker hoses and drip-irrigation systems offer the easiest and most efficient watering for xeriscapes because they deliver water directly to the base of the plant. This reduces moisture loss from evaporation. They also deliver the water at a slow rate which encourages root absorption and reduces pooling and erosion. In general, it's best to water deeply and less frequently.

### 7. **Maintain your landscape**

Low-maintenance is one of the benefits of xeriscape. Keeping the weeds from growing up through the mulch may require some attention. Thickening the layer of mulch will help. Turf areas should not be cut too short - taller grass is a natural mulch which shades the roots and helps retain moisture. Avoid overfertilizing.

## **Retrofit your Existing Landscape**

The average home landscape uses over 50 percent of the water in a household. Even if you already have a well-established landscape, you can substantially reduce water use by following some simple steps.

### **Survey Your Yard**

**Observe turf grass areas that are difficult to water and maintain.** These include:

- along fences;
- on steep slopes where water tends to run off;
- corners of lawns where it is hard to water without overlapping into other areas;
- narrow strips of lawn between the house and sidewalk or driveway; and
- irregularly shaped lawn areas that do not fit the normal pattern of most sprinklers.

If you have an underground sprinkler system, turn it on and observe where the water sprays. Common sprinkler system problems include mis-matched nozzles or spray and rotor heads installed on the same zone.

Adjust heads that are spraying concrete and other hardscape surfaces to water only plants. Sprinklers spraying wood fences cause unsightly water staining and rapid deterioration thus increasing financial costs. Relocate sprinkler heads near fences so water sprays towards plants, move heads further away so water doesn't wet fences, or switch to drip (micro-irrigation).

Strips narrower than 8 feet are difficult to irrigate effectively. Size areas accordingly. Irregularly shaped areas should be re-shaped to fit sprinkler irrigation patterns and odd-shaped areas converted to drip irrigated, xeric plantings or hardscape.

High traffic areas including children play areas and pet exercise areas for pets are best left in turfgrasses that can take the wear. Note that bluegrass is one of the best-adapted grasses for wear tolerance. Xeric grasses such as buffalograss have less wear tolerance partly because they grow slowly on less water and don't replace worn-off grass.

Note that turf does play an important role in the landscape when placed in well thought out locations. Turf prevents soil from moving into the air, streams and homes. Turf is the best filter of runoff and scrubs pollutants from water. It builds soil for other plants and is one of the best means of urban fire control.

### **Removing Turf**

Mark off unwanted turf areas with a string and stakes or a garden hose. Do not leave sharp angles or small strips that are difficult to water without overlapping into nonturf areas.

Modify your sprinkling system so water is applied only to the turf you retain. In some cases, this may involve changing the spray patterns of the heads from a full circle to a partial circle. In other

cases, it may require reorienting heads to direct water away from the nonturf areas. Major changes, however, may require shutting off parts of zones and relocation or installation of complete sprinkler lines. Another method is to let the sprinkler pattern be your guide and renovate areas not covered by the spray pattern.

Replace turf using:

- Drought-resistant plants. In general, these plants have leaves which are small, thick, glossy, silver-grey or fuzzy - all characteristics which help them save water.
- Select plants for their ultimate size. This reduces pruning maintenance.
- For hot, dry areas with south and west exposure, use plants which need only a minimum of water.
- Along north and east-facing slopes and walls, choose plants that like more moisture.
- Most importantly, don't mix plants with high- and low-watering needs in the same planting areas.
- Trees help to reduce evaporation by blocking wind and shading the soil.

When removing turf and installing flower and shrub beds remember to use mulch to help reduce water use by decreasing soil temperatures and the amount of soil exposed to wind. Mulches also discourage weeds and can improve soil conditions.

Note that xeric plants are similar to high water plants during establishment. They require regular and relatively high amounts of water after transplanting or seeding. Only after xeric plants are well established can they be gradually weaned and watered more sparingly. Consider water availability when deciding the timing of a change from a moderate or high water using landscape to a xeriscape.

## **Drip (micro-irrigation) Systems**

Drip or micro-irrigation systems can be a good way to water any type of plant except turf. Low pressure, micro-irrigation systems apply water slowly and close to the ground. This eliminates waste from water blowing off-target and reduces water use. The boundary between sprinklers and drip irrigation has blurred with advancements in micro-irrigation to include spray stakes. Most micro-irrigation systems are easy to install and modify. Drip irrigation kits are available at most garden centers. They allow you to water plants separately with emitters, or water groups of plants with micro-spray stakes or tapes that ooze water along their entire length. You can enlarge the system as plants grow or as new plants are added.

Use drip systems to maintain constant moisture in the plant root zone. Do not use them to “water in” new plantings. New plantings need rapid, deep watering that is best done by hand. Once the soil has settled around new plants, the drip system can maintain moisture.

## **Practices to Avoid**

Do not group plants with different water needs together in the same irrigation zone. You will not be able to meet the water needs of any of the plants resulting in poor plant growth or death. A

common mistake is to group a high water use plant such as a spruce together with a low water use pine.

When removing areas from turf, do not cover them with solid sheet plastic and gravel, rock or volcanic cinder. Plastics shed water and create wasteful runoff. They exclude water and essential air exchange to plant roots, increase evaporation from surrounding areas by raising local soil and air temperatures, and can cause root injury due to heat buildup.

Keep rock or gravel areas to a minimum. They tend to increase air and soil temperature. Use weed barrier fabrics (geotextiles) available in garden centers. These materials allow water penetration and air exchange. Cover landscape fabrics with mulch.

Instead of rock and gravel, consider organic materials such as wood chips and chunk bark. They give a natural look and help retain moisture, as well as hold weeds in check. Use mulch either with or without a landscape fabric to save water.

Rock may be required to cover a steep slope where wood chips and gravel may wash away. In these cases, use natural river bed cobble of varying sizes. Lay rock over a weed barrier fabric in much the same way as if you were constructing a rock wall.

# Applicable Town of Milliken Codes

## Watering/Sprinkler Restrictions Sec. 13-2-60

1. Addresses ending in numerals 0, 2, 4, 6 and 8 shall be allowed sprinkling of lawns every Monday, Wednesday and Friday from 12:01 a.m. to 9:00 a.m. and from 7:00 p.m. to 12:00 midnight only.
2. Addresses ending in numerals 1, 3, 5, 7 and 9 shall be allowed sprinkling of lawns every Tuesday, Thursday and Saturday from 12:01 a.m. to 9:00 a.m. and from 7:00 p.m. to 12:00 midnight only.
3. Hand-watering and drip irrigation shall be permitted Monday through Sunday and not be restricted by the above-mentioned lawn sprinkling restrictions. *Hand-watering* shall mean holding in the hand a hose with an attached positive shutoff nozzle or a bucket, and does not include operating a hose with a sprinkler or manually operating an irrigation controller.
4. Town-treated water shall not be used for lawn sprinkler irrigation between 9:00 a.m. and 7:00 p.m. daily.
5. No automatic sprinkler irrigation shall occur between November 1 and March 1 of each calendar year.

## Prohibited Plant List Sec. 16-2-475

The following list of trees are prohibited in the Town:

1. Russian Olive (an invasive species that threatens native trees in riparian ecosystems).
2. Lombardy Poplar (susceptible to canker-forming fungi for which there are no available controls).
3. Siberian Elm (can dominate native vegetation, especially in disturbed areas; is weak-wooded and subject to continuous dieback when large; can be devastated by the elm leaf beetle).
4. Boxelder Maple (primary host plant of the Boxelder bug).
5. Cotton-bearing Cottonwood. The Board of Trustees will consider cotton-bearing cottonwood on a case-by-case basis for restoration projects along riparian corridors. (Often considered a public nuisance.)

All plant species on the Colorado State Invasive and Noxious Weed List are prohibited.