
Larimer County LANDSCAPING GUIDE



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PLEASE NOTE:

Larimer County created this guide to provide information on basic landscaping concepts. Applicants for development review are not required to use the ideas presented here. Landscaping requirements are found in the Larimer County Land Use Code, under Section 8.5.

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LANDSCAPING GUIDE

for Larimer County, Colorado

Few things offer the possibility for individual expression that landscaping does. The design possibilities are almost limitless. Plants come in endless variations of color, texture, size and form and can be combined with other elements such as stone or water. This Landscaping Guide can help you begin the process of landscape design. Anyone can use it to plan most landscaping projects from a small-scale garden up to ones that are larger and more complicated.

The guide was specifically written with Larimer County in mind. It offers non-technical information on ways to approach landscaping in this region, although many of the ideas presented can work anywhere. It also outlines some of the fundamental steps in the landscape design process that the experts use. Even if you decide to hire a professional to create your design, this guide will give you the tools to help express your ideas, needs and desires to them.

It is also a good idea to remember there are some unique landscaping challenges in Larimer County and the Rocky Mountain region. They range from weather extremes, to steep hillsides to windblown exposed settings where it seems nothing will grow. A little planning around problems like these can reduce the frustrations that come from trying to get plants to thrive in tough areas. In fact, some of the ideas here can significantly cut costs in terms of maintenance and replacement dollars later.

To further help, this guide answers questions such as “What is xeriscaping?” Beyond that it covers a number of other issues such as how to create a Xeriscape plan (and what types of plants to use) along with some of the basics of plant arrangement. It will also walk you through a few typical “problem landscapes” that many projects face. Finally, there is a list of books, Internet sites and other resources that expand on many of the topics covered below. You will find these listed at the back of this guide.

- GETTING STARTED -

Every design starts with a basic understanding of the site. Gathering this information can be fun and will help sort out exactly what your landscaping should accomplish. To begin with, the elements of good landscape design are very old and tested through time. The elements usually, if not always, address some need of the property owner. This can be as simple as a desire to create privacy or control movement to more complicated challenges like enhancing a view or creating a relaxing environment. Simple or complicated, successful landscape design is always grounded in a clear understanding of what the specific desires are, because it uses different elements to address them.



One of the first things professionals do is study the site. This helps them gain a clear understanding of what the property can provide and what the owner wants or needs. Since each site has its own unique opportunities and constraints, basic site analysis is critical (if you want an effective design that has both beauty and function). Site analysis also gives you a framework to begin laying out a landscape plan. In seeking to understand the important issues that are specific to any property consider the questions below.



CHECKLIST #1: SITE SURVEY

- What type of soil do you have? Is it primarily loam, clay, sand or a mix? (*The Cooperative Extension Office can provide free soil test help. They are listed at the back of this guide along with other sources that can tell you how to do the test yourself.*)
- What is the pH of your soil? Is it neutral, acid, alkaline or a combination? (*Same as item 1.*)
- Where are the wet and dry places?
- What areas are already in full sun, full shade or a mix of both? (Remember, this could change as plants mature).
- Do you need a windbreak, or do you want to take advantage of the wind?
- Do you need landscaping to provide shade during the summer, but not in the winter months?
- Do you want to protect or enhance significant views?
- What types of plants already grow on your site? Which ones do you plan to keep or remove?
- Are there any unique, natural features on the site that should be part of a final plan?
- Where do you want play areas, parking, decks, future buildings etc. located?
- Where will you want public areas, semi-public areas and private areas?
- Should your design provide visual or physical connections to neighboring properties or not and how?
- Do you need to design around elements such as powerlines or livestock pens?
- How much time do you want to spend maintaining the landscape, and how much money do you want to invest?
- Where will entry points be into structures? Should one be the primary and one be the secondary entrance, or should they be the same?
- Where do you want paths, or other elements not already mentioned?

This list is only a beginning but it represents an important step. There could be other issues you are aware of. A quick look around your area may provide more ideas or clues on deciding what you want in your final plan. For example, if you like the landscaping on a nearby property try to figure out what you think gives it charm or character. Then think about ways to use (or compliment) the plants, materials and ideas used in that design. This approach serves to connect adjoining landscapes and helps create a unifying neighborhood identity, while leaving plenty of room for individual tastes. In fact, there is nothing wrong with using the same elements in your own plans if you like them. But remember your site is truly unique and you can't just copy a plan onto it. It won't look the same, function the same or have the same fit. Instead, you must add the elements in ways that will answer the questions raised in your site analysis.

The Western Landscape

Not many places offer the drama of the western landscape, and fewer still have the diversity of elements found within it. Covering over 2,600 square miles, Larimer County stretches from the alpine forests of the Continental Divide to the grasslands of the Great Plains. Between these strikingly different places are a number of distinctive plant associations, each with their own environmental character.



What's that again?

Are you confused by horticultural jargon? Here's a breakout of some common terms.

<u>Family</u>	A family may contain a single genus or have several genera. Family names are always written in Roman type (i.e. Aceraceae).
<u>Genus</u>	A genus contains a closely related, definable group of plants that make up one or more species. For example, all maples come under the genus <i>Acer</i> . The genus is always written in italic type. Common characteristics of these plants include similarities in flowers, fruits and leaf forms.
<u>Species</u>	This is next step in classifying plants. A species is one specific plant. The scientific name of a plant consists of two Latin words (i.e. <i>Acer rubrum</i>). The first name represents the genus (<i>Acer</i>) and the second (<i>rubrum</i>) denotes the species. The designation <i>ssp.</i> after a genus refers to the species in that genus.
<u>Variety</u>	Species are divided into varieties. Varieties have inherited characteristics, which are preserved through propagation. Variety names are preceded by "var." for example (<i>Berberis thunbergii</i> var. <i>atropurpurea</i>).
<u>Cultivar</u>	The word cultivar is a contraction of two words: cultivated and variety. Cultivar names are not italicized and are set off by single quotation marks (i.e. <i>Berberis thunbergii</i> var. <i>atropurpurea</i> 'Crimson Pygmy').
<u>Hybrid</u>	A plant resulting from a cross between two or more species or genera. Hybrid names comes after the genus name and is signaled by the letter "x" (<i>Symphoricarpos</i> x <i>chenaultii</i> 'Hancock').

Layered within these natural habitats are even more sub-communities of plants and animals, sometimes called microclimates. One example of a natural habitat would be a riparian area. (Even here there is a breakdown, because riparian areas in the mountains are distinct from those on the prairie). A microclimate within the riparian habitat might be found in the more sunny or shady spots, or along the wetter and dryer edges of the site. Knowing something about your specific natural habitats and their associated microclimates makes it easier to select plants to use at the site. To further help you choose plants that do well in a particular area,

Larimer County has compiled a set of "Plant Lists." These lists are broken out by elevation, and group plants by type and where they grow (such as in dry, sunny spots or in cool and shady areas). The lists also describe each plant and offer ideas for their possible use in landscape design. They are available at the Larimer County Planning Department. This Guide and Plant Lists are also available via the Internet at www.larimer.org or www.co.larimer.co.us.



- The Basic Elements of XERISCAPE DESIGN -

People are often surprised to learn that Larimer County's climate is semi-arid, receiving an average of only 12 to 15 inches of rain per year. While the mountain areas generally get more precipitation, the climate and elevational conditions make it a challenge to grow many plants. On top of that, Colorado's weather is unpredictable and subject to dramatic changes. Thus, these conditions make it worth considering a Xeric landscape design.

By its nature, Xeriscape design is best able to adapt to the climatic conditions found in Larimer County. Contrary to popular belief, Xeriscape (pronounced: zir-ah-scape, not zero-scape) does not mean you are stuck with a colorless landscape and limited to a few cacti, some rock and a pile of sand. Xeriscape is a term first used by Denver Water to describe an established landscape with minimal water needs. Because the Xeriscape concept is new, there are a number of misconceptions about it. The myths and mistaken beliefs should be cleared up before talking about what Xeric design really is. Xeriscape Colorado! Inc. (found at www.xeriscape.org on the Internet) has this response to the misconceptions;

- ❖ Xeriscape does not use only dry, desert design.
- ❖ Xeriscape is not just rocks and sand.
- ❖ Xeriscape does not mean a lawnless landscape.
- ❖ Xeriscape is not "native plants only".
- ❖ Xeriscape is not a boring monoculture of spiny plants.



Xeriscape? But I do not want cactus and rock!

If that's true, then you may really like Xeriscaping. The fact is good Xeriscape plans are full of color and texture, in every season of the year. Xeriscape means "water smart" design that costs less and is easier to care for. It doesn't mean bland. Of course, you can still use cactus and rock if you like....

Ok then, just what does a Xeriscape plan look like? Because anyone, anywhere can use the Xeric design concepts there is no single "look." Besides, Xeriscape is not really a look anyway, but more of an approach to design. However, an essential component of a Xeric plan is that it uses water efficiently by choosing plants that are appropriate for a specific site and grouping them according to their needs for water, sun and other elements. The Larimer County Plant Lists are a good place to start. These lists provide a wide selection of native, adaptive and drought tolerant plant species that provide a critical element in Xeriscape design. Once established, these plants will thrive on natural rainfall most of the time, although they may need supplemental irrigation in extreme drought situations. This is equally true for the native grasses. Imagine not having to drag a sprinkler around the lawn three nights a week during the summer, or having to pay someone to water when you are on vacation.

Another benefit of the Xeric concepts is that they work with any kind of landscaping, soil type or site specific conditions. Just like other types of design, Xeric plans can be full of color and texture or they might have just have a simple plant pallet. Perhaps the biggest benefit to Xeriscaping is that it saves water...along with the money to pay for it. Because Xeriscaping uses fewer resources, it is less expensive overall and better for the environment. To simplify the process of creating a Xeric plan, the National Xeriscape Council created seven principals as the foundation of this distinct approach to landscaping. Remember your site analysis? It covers the first concept, and answers many of the questions raised in the remaining six principles. So, as you start to think about a planting plan keep in mind the concepts from Checklist #2, found on the next page.



CHECKLIST #2: THE SEVEN XERIC DESIGN CONCEPTS

- Plan and design for Water Conservation from the start:* Here is where you will begin to use the information gathered during your site analysis. How you plan to use the site will help determine which plants to use and where to place them. It is important to remember that water conservation does not mean dry-only landscaping. It is just that Xeriscape plans organize plants in ways to get the most out of the water that you do use (see #3).
- Create practical turf areas:* Make them manageable in size and shape. Consider how much room you need for outdoor activities and lay out the turf areas accordingly. Then select a grass mix that is appropriate for Colorado. Pure Kentucky Blue Grass requires around 32 to 36 inches of rainfall a year to remain healthy, which is far more than much of Colorado receives on average. However, new hybrids of Kentucky Blue as well as some native grasses that are adapted to dryer areas offer a lush, comfortable grass while using less water. You should even consider allowing some of the native grasses to grow to their mature size for their ornamental value, then use shrubs, flowers and ground covers in other places around the site. This approach will cut down on the amount of time you spend mowing and watering.
- Use plants that are appropriate for Larimer County:* The Larimer County Plant Lists can help you here. Select and group plants together based on their needs for water, sun and other elements. Then place the different plant groups around the site based on how you plan to use it (see #1).
- Consider adding soil improvements such as compost, manure, etc.* Xeric plants thrive in dry conditions, but they still need soil that provides get oxygen and water to the roots. The plants you decide on will play a role in which soil improvements you use to support them.
- Use mulches where possible, such as wood chips, rock, etc.* Mulches can help control weeds, reduce evaporation and keep the soil cool. They also bring different textures and visual interest to the planting plan. Mulch depth should be between 3 and 4 inches to be effective, but no deeper as you may provide a home for rodents or other unwanted pests. Contain mulches with some type of edge treatment, which can add another layer of texture to your plan, or be virtually hidden from view. An important note...the organic mulch around Xeric plants may cause them to rot by retaining moisture either above or below ground, while rock mulches can raise the temperature around plants that need cooler conditions and cause leaf burn.
- Irrigate efficiently:* A properly designed irrigation system can include a hose, sprinkler setup and inexpensive timers. A combination of these items will result in using just the right amount of water at the proper time. Here is something to think about *80% of the water used for lawn irrigation during the day may be lost to evaporation, and you are paying for it.* Do you really want to humidify the outdoors? Timers will allow you to water in the late evening or at night, and for just the right amount of time needed to keep your plants and lawn healthy.
- Plan for an appropriate maintenance system for your landscape:* Along with the irrigation system, maintenance includes mowing, fertilizing, weeding, etc. If you are not keen on yard work, it is certainly worth noting that once established, Xeriscape landscapes generally require less time to maintain and even help you battle the weeds. What more could you ask for? Along with the plants, you must remember that hardscape elements (like decks, walks and gazebos) need care too.



- SOIL & WATER -

Soil: As with many of the subjects covered in this guide, the topic of soils could easily be a whole book by itself. However, if you keep some basic information in mind when considering soils, it will go a long way toward providing plants with a healthy place to grow.

For any plant to stay healthy, it needs a mix of oxygen, water and nutrients. Because Xeric plants prefer dryer conditions, they can thrive with less water, but even they can't function well in soils that are low in oxygen. Thus, soils for Xeric plants should generally be on the coarse side, as dense clay soils are too fine, low in oxygen and do not lend themselves well to plant growth. Coarse soils, on the other hand, allow oxygen to get to the plants and help excess water drain away. It is also a good idea to add some types of organic amendments before planting to enrich the soil. In very heavy soils where improving the drainage is not feasible, consider planting trees and shrubs on berms. Berms are mounds of well-drained loamy soil that should be at least 24 inches high and wide enough to accommodate all of the plants that you want to place on them. As a design tool, berms can incorporate various landscaping elements such as terracing, rock or water features and large planters. Many of these elements can double as seating areas and add interest to landscape plans with their different looks and textures.



Don't treat your soil like dirt!

If you just add sand to clay soils, you get something like concrete (at least digging in it will feel that way.) Heavy soils need organic elements such as compost to break them up. This creates better drainage and allows oxygen to get to plant roots. What you end up with is viable and valuable soil...not just dirt.

SOIL TESTS: Specific details about the soil will play an important role in shaping your plan. Soils are the fabric of your landscape. They hold the other elements together and have several critical functions. Because different types of plants require different types of soils, you need to know the kind of soil you are starting with to make many other decisions. This is not as hard as it may seem. You can tell a lot about your soils just by digging a little around the site. Pick up some of the overturned soil and work it between your fingers to see if it is sandy, firm or something in between. Keep this information in mind when you review plant lists such as those prepared by Larimer County, as such lists often describe the types of soils that many of the plants require.

Another source of information is the "Xeriscape Handbook – A How-To Guide to Natural, Resource-Wise Gardening by Gayle Weinstein." It is part of a 3-book series produced by Denver Water (those folks that created the idea of Xeriscape in the first place). It offers some easy-to-do-at-home tests to determine such things as a soil's structure, nutrient makeup and drainage traits. (The 3-book set offers a lot of other information on adding soil amendments such as compost, mulch and fertilizer, landscape maintenance, the design process, plant photographs and details on their specific needs and companion plants). If you prefer in-person help, the Colorado State University Cooperative Extension Office can provide free soil test kits, as well as explain the results and what your some of your options may be. For their current location and telephone number, check the blue pages under County Government.



Why humidify outdoors?

Watering during the heat of the day can be very expensive. More than 80% may be lost to evaporation. Grass and other plants can also suffer from leaf burn damage if watered during the hottest part of the day.

One final place to look for information about your specific site can be the local library. There you can see the complete soil survey for all of Larimer County. It's titled simply enough...Soil Survey of Larimer County Area, Colorado. Produced by the Soil Conservation Service (SCS) and others through the U.S. Department of Agriculture, the Soil Survey provides "series" information on many soil types. These are profiles about specific elements in the soil at a particular location. The book also provides other good information about different soils such how well they drain, their susceptibility to erosion, etc. The Soil Survey is a good place to start for some basic information about what lies in the hidden world beneath the grass.

Water:

In the landscape, water is life. Naturally, the amount needed depends on the specific plants. One of the best ways to organize plant groups is to do it by water and sun requirements. After creating individual beds take the separate groups and match them up. In other words...group the groups. This approach uses water efficiently and it is the key characteristic of true Xeriscape design. Xeriscape is, after all, a way of organizing plants into simple groups that require high, moderate and low water use.



To much of a good thing?

85% of all landscape problems are directly related to over-watering! A properly designed and operated irrigation system can reduce water use by 20% or more a year.

From a pamphlet by the American Water Works Association.

IRRIGATION SYSTEMS - AUTOMATIC, OR BY HAND? The next question is how do you get water to your plants? Automated irrigation systems work well because you can time them to water during the night and at non-peak hours. It is still a good idea to have an above ground hose system for spot watering individual plants, misting large bed areas and treating lawns. Use a drip irrigation system for most shrubs and flowerbeds. You can now buy hoses that are designed to drip irrigate at ground level. Simply connect the hose and lay it out in the area you want to irrigate then turn on the water. Numerous small holes release a set amount of water all along the length of the hose. Because it is at ground level, you lose little to evaporation. You can also have an in-ground irrigation system installed. This system works well because it provides water directly to the roots. Of course, many of these plants enjoy getting misted from above to clean and moisturize their leaves or blossoms, so you may want to investigate a combination system using pop-up and drip systems. One other handy gadget to consider is a timer to control the length of time you water. Some timers attach directly to outdoor water spigots, while others are incorporated into the irrigation system. The irrigation system can even be set to water while you're away, but it's a good idea to ask a neighbor to check on it anyway in case there are problems.

HOW MUCH WATER IS ENOUGH? Cool season turf grass is one of the highest water using plants and will need full irrigation, by either an automated system with popup heads or one that you have to move around by hand. Other plants in a new landscape will usually require regular watering until they are established. This is true even for native or drought tolerant species. It can take at least two (and maybe up to five) growing seasons on average for plants to establish themselves. After that you can reduce the frequency and amount of watering, but some supplemental irrigation may be necessary during very dry spells. The truth is that most Xeric plants will do just fine during dry periods, even extended ones. This is one of the benefits of Xeric design. In the end, it all depends on that unpredictable Colorado weather, the natural water sources available at your site and the specific plants you select.

Water use relates to placement too. For example, plants in the wild grow in areas where they get the right amount of water, sun and protection they need to survive. Try imitating these arrangements in your own layout with plants that require a lot of water placed in low and wet areas. Those plants that don't need as much water may prefer to be in higher, more exposed places. Using this type of layout will help you to create a more natural looking landscape too. If you want a plan that is a little more formalized, use this same approach, but select species that will take pruning to a shape you prefer. Arrange them in a more ordered, symmetrical fashion. Remember that the key is to group plants together that have the same water, soil and sun requirements.

DEEP ROOT WATERING: Frequent and short watering promotes shallow roots, which can buckle walks or drives. Help avoid this by periodic deep-root watering. Deep root watering is done less often, but the water runs long enough to saturate the soil beyond just the few inches on top. For existing trees, prepare the site for deep-water irrigation by drilling holes into the ground about a foot deep. Be sure to do this between obvious major root areas, especially around larger trees. Inexpensive, specially designed, garden drill bits are now available for this purpose, or you can use a mallet and stake (or something similar). Don't worry about making perfect holes, as the water just needs to get deeper into the ground. Drill 3 or 4 Holes about 1 to 2 inches in diameter into the ground to allow the water and oxygen to penetrate the soil. In some areas, you may also want to consider using root-barriers to force growth downward and prevent damage to pavement. These barriers tend to work best in well-drained, loamy soils. Check in the section below on planting new trees for information on how to install an easy, deep root watering system when you are planting new trees.

AND, DID YOU KNOW...? In 1991, the American Water Works Association and the Denver Water Board published "55 Facts, Figures & Follies of Water Conservation." Here are just a few that apply to landscaping...

"Sweep outside with a broom, not the hose. Yes, it's lots more fun using water, but just five minutes of hosing will waste, unnecessarily, some 25 gallons of water. Sweeping the sidewalk and driveway will get them clean enough."

"Do your lawn sprinkling early in the morning, between 4 and 6 a.m., when water demand is low. After about 10 a.m. both heat and evaporation go up, robbing the lawn of moisture. Sprinkling at night is fine for Colorado's dry climate. It's in humid climates where the relatively cool, moist conditions can create an ideal environment for lawn diseases to develop".

"Delay regular lawn watering during the first cool weeks of spring. This encourages deeper rooting and makes your lawn healthier for the rest of the summer. It also delays the first time you have to mow the grass."

"If you have an automatic sprinkler system, check the heads periodically. Be sure they haven't shifted direction to spray water on the side of the house, driveway or sidewalk instead of the lawn."

"Nearly 97% of the world's water is salty or otherwise undrinkable. Another 2% is locked in ice caps and glaciers. That leaves just 1% for all of humanity's needs."

"If you have a lawn, chances are it's your biggest water gobbler. Typically, at least 50% of water consumed by households is used outdoors. Inside your house, bathroom facilities claim nearly 75% of the water used".

- PLANTS & THEIR ARRANGEMENT -



Most people have an idea of what types of plants they like or don't like. Before going to the nursery, it's also a good idea to consider what is already growing at your site. There are probably plants you will want to keep and some you'll want to get rid of. But consider this, from a design perspective mature plants and existing natural features often add character to an area, increase property values and result in a more diverse landscape. Try to incorporate existing trees and shrubs into plans wherever possible, and maybe think of that "big rock" as an opportunity to have something unique on your property. (Besides, some people pay big bucks to have those big rocks brought to their site from the landscaping materials yard).

As mentioned, the best types of plants for this area are the native, adaptive and drought tolerant species. These plants survive better in Colorado's unpredictable climate, which can go from one extreme to another in a very short time. Native plants already thrive in the Rockies, and are often characterized by their adaptation to these sudden climatic changes. They tolerate the more intense sun and the drier conditions. Usually mature native species require less water and maintenance. When selecting plants, be sure they are also non-invasive so they don't create problems for other plants nearby. Anyone having just moved to Larimer County should be aware that many plants used in other parts of the country do not grow well here. Plants you chose should be hardy in zones 1 through 4 as classified by the United States Department of Agriculture (USDA). Plants that prefer zones 5 or higher are usually not suited for this area. Sound confusing? One advantage to using the Larimer County Plant Lists is that much of the homework in selecting plants is already done for you. The experts at nurseries and garden centers can also provide on-the-spot advice about specific plants and your site.



Stressed Out!

For some plants just any old site won't do. The aspen tree is a good example. As a mountain tree, it prefers a wet, cooler area and generally does not thrive on the Front Range. Yet, people plant it there anyway and often end up with a stressed tree that doesn't grow like they expected. Avoid stress (both yours and the plant's) and check the plant listing for what will work in your area.

Color & the Art of Landscape Composition:

After studying the site and developing ideas in your mind about what you want, the next step is to lay out a more detailed "draft plan." Some people find it easier to add to an existing landscape, simply because they don't have to fill in all of the details. Others see possibilities at the scoured sites left in the wake of new construction. Either way, the toughest part of design for a lot of people is in choosing plants that match, deciding what other elements are needed and then putting it all together. The landscape is, after all, a series of layered elements. Plants, structures, paths and even views all occupy different layers of a design. Together, they provide the "architecture" in landscape architecture. French painter Claude Monet is recognized as one of the greatest landscape impressionists partly because of his ability to see the individual elements and layers, then transform them onto his canvas. While complex design questions require professional advice, it doesn't take a great painter or natural born land designer to understand the basic steps in deciding what goes with what and where.

As with painting, approach your design by simply considering the individual elements at first. You will then bring them all together later. The next section provides ideas that build a framework for the soft and hardscape layers of your design. It includes a checklist with hints on placement, color theory, mixing textures, laying out paths, using rock or water, etc. that will help you refine your plan and fill in the details.

Your First Plan;

After selecting the plants you want, you have to decide where to put them. This will become your first plan. It does not have to be perfect the first time, as there will likely be some changes anyway as you get farther along. Start with sketching out an arrangement or two for larger plant beds, as if you were looking down on the site from directly above. This is what professionals call the “plan view.” It helps to think of it as sort of the landscape version of a home floorplan. Try to use several sizes of circles to represent the larger trees and shrubs, and different types of squiggles to show the smaller trees, shrubs, flowers and even ground covers. You may want to draw in paths and walks too.

One trick to make things easier is to draw your design on some transparent grid paper. This will help to help keep things in proportion, but you must determine ahead of time how big of a space each grid represents. If you have an Improvements and Location Certificate (ILC) make a copy and place it beneath the grid paper to serve as your “base plan.” It won’t be perfectly accurate, because ILC’s are not meant to be perfectly accurate, but it will certainly give you a pretty good idea about the existing dimensions of your site and buildings. You can draw several plans using the same base map, or even draw all the trees on one sheet, shrubs on another, walks on another, etc. This allows you the option to mix and match different ideas. No matter how many sheets you decide to use, draw the big trees and planted beds first then work your way down in size to the smaller plants. Again, remember to use different lines, colors or whatever symbols you think of to represent each of the elements.

CYBER SHRUBS AND VIRTUAL LANDSCAPES; There are, in fact, a number of computer software programs available to help design a landscaping plan. How good are they? A lot depends on how comfortable the intended user is with computers. Many of these programs have gotten much easier to use in recent years. They now include things like plant dictionaries, deck design elements, garden planning aids and even virtual landscaping. Virtual landscaping allows the user to take a digital photo of the site and then add plants and other elements to it. The result is a fairly realistic idea of what a particular place will look like once it is planted, at least from the view of where the picture was taken.



Xeriscape Designs don't always require Xeric plants!

No, this is not a contradiction in terms. The reason is simple. Xeric plants are those that tolerate dry soil conditions. However, Xeriscape design approaches landscaping with an eye toward using water efficiently. Therefore, if you have a wet site or a high water table, you can select plants with higher water needs and still have a Xeriscape garden.

The software programs cannot do everything...yet. Like anything else, it is a good idea to read the packages to see if the program does what you need it to do. It is also good to remember that landscaping software is not a replacement for a landscape architect, just as tax software doesn't replace an accountant. However, the programs can be very useful, not to mention a whole lot of fun. The next section, has a checklist that outlines a few approaches to laying out a plan. Try using them when working with the software.

Planting Themes & the Components of Design;

As mentioned, there are many ways to lay out a landscape design. Some people like traditional approaches and others prefer to take their own road. To help, here are a few methods of design that may give you some inspiration. You might even choose parts of each approach below and create something entirely new and different.

Mix plant heights and the depths of planted beds:

A standard approach to arranging plants is to put the tallest at the rear, then stair-step forward to the smallest. This approach can work very well but it gets mundane. In some places, play with the idea of putting a few taller plants toward the front, or running a row or two of ornamental grasses through a bed in an undulating line. These plants act as natural partitions that offer glimpses between plant groups, yet not revealing everything at once. Small clusters of taller plants can be effective as accents in spots where the light will highlight their colors or other features too. Another trick here, you can change the height of the planted bed itself by adding small berms in some places. Once you have decided on the character of the individual groups, then start to group the groups so they fit together as a unified whole.

Select a dominant color, tone or theme:

This doesn't mean you must stick with a single color or type of plant. Use plant color and textures in the way many artists use them. The overall design should have a dominant color throughout its different parts to unify the plan as a whole. The other colors play a smaller role but add detail and variation. When you have a dramatic separation from one landscape to another, such as from a building or a fence, you can change the dominant elements. In the "Xeriscape Color Guide, 100 Water-Wise Plants for Gardens and Landscapes by Denver Water" the plants are organized by color and type to help make initial selections easy. The book was created with this in mind, and its introduction states... "While landscape painters may capture a single great moment in time, landscape gardeners must create great moments that extend through all four seasons and well into the future. For gardeners, the real hallmark is creating a harmony of colors that evolve and change over time..."

Play with secondary / transitional colors and textures:

This means use the greens, grays and blues of foliage to soften the "visual jump" from one main planting to another. For example, even though two shrubs have yellow flowers, one might be faded while the other is intense and more dramatic. The foliage color helps to neutralize any conflict between the two hues and shades of yellow. (It can also be very visually pleasing to have the two right next to each other, it just depends on the plants involved). Another approach to using transitional colors is to put lighter colored plants farther away. The idea is that they help a design blend with the sky and the more distant mountain or prairie backgrounds. For changes in textures, add ornamental grasses, flowerless shrubs and ground covers between the larger shrub groups. This technique sets up natural dividers and helps to avoid potential clashes between different shades and hues that don't quite fit together. One more benefit, the grasses, ground covers and less showy shrubs provide an effective border or background around plants with fine leaves, small flowers or seed heads that are supposed to be appreciated up close.

Risk some bold moves:

Ok, now that you know to soften the visual jumps with foliage that has cool, neutral colors...consider going in the opposite direction. Try planting vibrant colored flowers right beside each other. Bright yellows, reds, and oranges in varying shades add excitement to the garden by stirring the visual senses, and the sense of smell too if you plant scented species. This arrangement is not tranquil, but so what. Is there a reason the whole garden has to be "restful" in nature? Some spots work best with something more stirring and you go further in setting different moods around the site. The result is a more tropical and exotic look.



Do these look good together?

Some art supply stores sell pocket-sized guides to mixing colors, which include a color wheel. These handy little guides are small enough to carry with you to the nursery. You can use them to quickly see what plant colors compliment each other, and thus will work well together in your plan. Remember...in colors, opposites attract!

Or, consider being simple...yet elegant:

While plant diversity can be exciting, it doesn't take hundreds of different plants to make a beautiful garden. Some of the best designs use just a few carefully placed ornamental trees and shrubs, separated by neutral ground covers, evergreens and less showy ornamental grasses. These groups are set up in measured intervals that establish a natural rhythm. Arrange smaller flower beds the same way. Showy flowers like roses become the focal point in the same way that the ornamental tree or shrub does in the larger design, with smaller plants like vinca, daisies and low-growing ornamental grasses filling in the gaps. In this type of plan a single, simple design establishes the mood for the whole garden.

Create Understory Screens;

This approach works on the area between the bottom of the tree canopy and the ground level. Sometimes these plantings are done to "screen out" unwanted views, and sometimes just to add plant diversity. Try placing smaller, flowering trees and shrubs beneath the larger canopy trees. This layout makes a very effective understory screen. Be sure to choose a mass of different species to allow for flower and leaf changes throughout the growing season and to give you a change of scenery without ever leaving your site. Depending on the varieties you choose, the understory screen can also serve as an effective windbreak or just add to your privacy.

Natural Patterns:

Nature has its own way of designing a landscape, and provides numerous patterns for us to emulate. People who want to create the natural look, just need to visit places where this exists. It is a good idea to take pictures to help you remember a certain "composition" if you really like it. Or, just jot down a few notes about what plants are there, how they relate to each other and the type of area they are in (sunny, dry, cool, moist, north or south facing, and so on). It's also a good idea to think about the sizes of the plants involved. If you don't have the space for, say, a larger pine then ask the nursery about a variety that fits your site with the same characteristics. Another place to get ideas quickly, just take a look around the neighborhood for arrangements that work well.

Structural Devices:

Plants are great but they aren't the only element in a good design. Built structures form their own layer in a plan. Sometimes the site provides the obvious place for a gazebo or deck but often it doesn't. How do you decide what goes where? With decks it is easy, as most people want them connected to a building. However, they do not always have to be attached to another structure. Simple or even complicated decks and gazebos can be freestanding, located away from buildings and surrounded by plants. Consider placing them in or near a grove, beneath the canopy of mature trees. Decks can also provide a comfortable platform for enjoying significant views, and a gazebo can be a great spot to listen to the sounds of a nearby stream away from a busy house or play area. The steps to start placing buildings are similar to deciding on where the plants go. Simply select the spot for larger buildings or decks first. They can even be part of the same layer that includes the large trees and shrubs. Gazebo styles vary and they can be custom built, or self built from kits. The fun part in designing a deck is that it can be made truly site specific, and unlike anyone else's. Decks just don't have to be squares or rectangles, or even just one layer. Both gazebos and decks will require building permits, so be sure to check with the Larimer County Building Department for more information on what is required.

Illuminating Approaches:

Often used just for security, light has the potential to add another unique texture to the landscape simply by how it illuminates the things around it. New technologies give designers more ways than ever to direct light up, down, around and through different elements. Of course how you use light will make all the difference between good, mundane or bad design. Here are a few tips.

- On pathways use down-directed lights, so that you see the path, but the path doesn't become the focal point in your design. Light fixtures come in many designs from umbrella styles to luminarias to Japanese lanterns, to suit practically any taste or plan.
- Use spotlights to accent the real focal points in the garden such as a pond, ornamental tree or a rock feature. Be sure to hide spotlights so that you never stare directly into them, which can be distracting and uncomfortable on the eyes.
- Another element of light to consider is the direction it comes from. Light can dramatically change how you see an object. For example, light directed down on a plant emphasizes its form, while lighting from back is used to show off intricate patterns, such as with fern leaves or ornamental grasses. Light can also set a mood. For example, hidden, low voltage, filtered light can simulate moonlight.
- Color makes a difference too. Yellow light can make plants look sickly but soften hard surfaces like pavement, while blue lights provide a chemical free way to attract bugs away from gathering places into more distant places in the garden.

Pathways, Trails and Mystery:

As kids, many of us enjoyed walking the trails in places near our home. There was always a mystery and excitement in finding out what was around the next corner. For some adults the excitement remains while for many others, a pleasant stroll along a path is just very relaxing. Garden paths do more than simply take us from one spot to another. They allow us to recreate that childhood mystery or personally design the relaxing stroll. As with the other layers, the materials available to create a path are many. Brick, stone, crushed rock, specialty pavers, sand and even concrete are all potential surface treatments for making paths. You can use them individually or in a combination, and in doing so they allow even further personalization of a design. A path's course within the garden can be a straight line or wander throughout the site. The advantage to a straight path is that it visually leads the eye directly toward a dramatic view or to some other focal point. Paths that wander are much more subtle in what they reveal, and in when they bring us to a certain point or to a particular element. Done correctly, wandering paths should keep things hidden until just the right moment. This old approach reveals the landscape as a series of rooms, each with its own character. Many of the world's most beautiful and exciting gardens are laid out this way. It is true that the size of the site and layout of existing buildings will dictate the placement of some paths. However, even a small site can use a wandering path, straight lines or both in creative and interesting ways.



Elements of a perfect Garden....

In traditional Asian design, four elements are considered essential for a garden to be complete. These are water, stone, plants and buildings. This idea wasn't limited to the Far East, as these four elements are also found in what are thought to be the most beautiful gardens in many other cultures as well.

Water, A Calming Element:

Water is one of the most widely used elements in landscape design worldwide. It is an important feature Chinese gardens, Moorish courtyards or classical European palace grounds. People often enjoy the sound of rivers, streams and waterfalls in nature and strive to recreate them in their own gardens. We also like the way water looks as it moves around and between rocks and plants, or when it is still, reflecting the world around it. With ponds, water offers the chance to add another form of life to the landscape - fish. You can build a koi pond in any size and shape to fit just about any design. They can be connected to streams and water falls as well. Carefully consider the placement of these features, as you will likely want them in close proximity to a deck or gazebo so they can be easily enjoyed. There is no one design for a pond, but there are traditional versus modern design methods. Garden supply stores, nurseries and even stores that specialize in ponds can provide the materials, instructions, plans, plants, liners, pumps, lines, rock, statues and yes, even the fish.



Fish Tales!

There are actually several types of Koi Fish available.

Koi are smart, and can even be trained to eat from your hand. However, if you want something less exotic but with a similar look, try ordinary gold fish. They are cousins to the Koi, as both fish are members of the carp family. Goldfish can also grow as big as Koi in a well-maintained pond, while being a whole lot less expensive.

Stone; Stability in Nature:

Stone, like water, is another widely used landscape element found in many cultures. Unlike water, stone doesn't reflect its surroundings, unless it is highly polished. Stone adds an element of stability to a landscape, a counter-point to the soft and changing nature of plants. Unlike plants, stone requires no maintenance. However, it should not be just dropped into a plan but needs to be placed carefully. For one thing, stone is too heavy to just move around easily. More importantly, it serves many functions that you need to consider. Stone can be a backdrop for plants, or a focal point. It can mark a turning point along a path, or become part of the path for running water. In China, the Li River has cut a course through the surrounding mountains and carved out steep rock formations. These formations influenced ancient Chinese and Japanese gardens and art, and most of us have probably seen their images in oriental artwork. In much the same way, the landscape in



Different Elements, Unique Functions & Multiple Meanings

Water provides movement and reflection in the garden. Stone, on the other hand, offers stability in a ever-changing garden. Used together these two elements can be placed to represent favored places in the natural world.

Colorado provides countless patterns for "stonescapes." You do not need a large site to use stone effectively, just scale down the composition to fit the size of your site. It may work best to take a photograph of a favorite stone formation with you to the landscape materials yard. Use it to select stones that will be part of the composition. Different sized plants can fill in the gaps between the stones. Some mosses and ground covers also work great between stone pavers in both natural and formalized designs. They are durable and some provide a pleasant scent when walked on. These elements between the stone further serve to soften its hard edges and blend it with the surrounding landscape.

Framing a View, and Borrowed Landscapes:

The Chinese have an old and effective method of framing a view. They call it a "moon gate". Such gates are built into an ornate fence or wall and constructed with a large, round opening at the center. These gates are placed in such a way that the moon is visible through the opening's center at certain times of the year. The Chinese also used moon gates to transition from one "room" in a garden to the next, a technique imitated in other parts of Asia as well. The Middle East and Persian Gulf region also have some of the most lush and beautiful gardens. Ancient Arab designers placed intricate latticework partitions in their gardens that helped to cool the area. These partitions also created dramatic patterns of sun or moonlight in gardens and courtyards. Both cultures used these elements to connect distant landscapes or views with their immediate surroundings, hence the term "borrowed landscapes". Here in Colorado, we are fortunate to have many beautiful views available. If your site is lucky enough to have one, consider using plants or structural elements to "frame" these outdoor portraits.



Autumn & Winter Buffet

Keep feeders filled during the winter months and you'll have birds year-round. Birds also love to feed on the seed heads of ornamental grasses such as blue gramma and Indian rice grass, or late summer and fall flowers including sunflowers, zinnias and coreopsis. You can use specially designed heaters to keep birdbaths from freezing during the colder months too.

Birds, the Voice of the Garden:

Even the best landscapes would seem somewhat empty without the song of birds. Birds add another dimension of life and nature to the garden. They are generally happy to inhabit your landscape, if they have a few essential items. These include food, water, cover and nesting sites. Many plants that provide some of these elements for birds are listed in the Larimer County Plant Guides. Along with the plants, you can also put out a variety of seed mixes. Different types are available depending on the specific birds you are interested in attracting. There are multitudes of feeder types available too at nurseries, garden centers and “wild bird” specialty stores. Some feeders are designed for specific birds, or to prevent squirrels from raiding the store. However, you can also buy feeders just for squirrels that hold tempting corncobs, a favored squirrel treat. Which birds you attract will depend some on the plants you choose. The more variety you have in flowers, shrubs, trees and ornamental grasses the greater the attraction to a broad range of feathered clientele. Lastly, water for drinking and bathing round out the list. Birdbaths can be either the traditional “pedestal” types or hang from shepherd’s crooks and tree limbs. Hanging baths allow you to experiment with placing them at different heights, in order to attract the most birds. This is also a great way to keep feeders safely off the ground and way from other animals. There are even heaters available to keep birdbaths from freezing during the winter months.

And butterflies too...

Like the birds, butterflies add life, color and movement to the garden. They need the same things that birds do to survive. Colorado’s Front Range is home to dozens of butterfly species. Adult butterflies will feed on fluids such as nectar from flowers. Many plant species, such as the “butterfly bush” will easily attract this diverse group of beautiful and gentle insects, and fit readily into a Xeric landscape. Some places are now selling butterfly houses as well, which give these delicate insects shelter away from winds and hungry birds. Nurseries and bookstores can provide more information on the butterflies that live in Colorado and on planting a butterfly garden. Another alternative is to check out Colorado State University’s web site on the Internet at; www.colostate.edu/Depts/CoopExt/PUBS/INSECT/05504.html for lists of plants and other important elements in a western butterfly garden.

Early steps to avoiding problems later:

Two important notes here. Before planting, you need to test for poor soils or a high water table, as these can affect the health of your plants. Do this by digging several small test holes at your site and fill them with water. The holes should drain out over night. If they don’t, ask your nursery about soil amendments that will help the plants you select get established.



I need my space!

Remember to give plants the room they need at maturity even though it may be many years before they require the space.

One other problem people encounter is in deciding how close to a structure they should plant a tree or shrub. The trick to figuring “how close is too close” is a simple one. For trees, you need to know what the size of the mature canopy will be. With shrubs, find out how wide the plant will be when it is full-grown. Install these plants at least half of that distance from the structure, and maybe even a little more (to be safe) as plants are somewhat individualistic in their mature size and final form. You can plant trees closer, but only if you know the mature canopy is going to be clear of the roof or other structures. This will likely require some pruning as the tree grows to its full size. Ask the nursery for advice in this area when selecting plants. If you are working with a very small spot, consider using one of the medium to larger sized ornamental shrubs. Some of these can be pruned to look like small trees.



CHECKLIST #3: PLAN LAYOUT - A FEW APPROACHES

Here is a brief review of the approaches listed above.

- Mix plant heights and the depths of planted beds.* Also, create berms as a way to add height variations to the planted area.
- Select a dominant color, tone or theme,* then look for variations within it.
- Play with secondary / transitional colors and textures* by adding plants with less showy blues, grays and greens.
- Risk some bold moves,* the whole garden doesn't have to be "restful".
- Consider being simple, yet elegant* with a more limited plant pallet.
- Add Understory Screens* to block unsightly views, control winds and diversity in blooming times and rates throughout the growing season.
- Remember Structural Elements* such as decks and gazebos. Plan for the placement of these elements early on in the design process.
- Pathways, Trails and Mystery.* Don't just think of the path as a means to get from one place to the other. Be creative in its layout.
- Water, A Calming Element.* Water brings the additional elements of sound and motion to the landscape. Consider where you want water elements early as well, and in conjunction with the structures and paths.
- Stone; Stability in Nature.* Plants move through the seasons in their various stages of life. Stone adds a permanent, unchanging and maintenance-free element to the garden. It makes an excellent and dramatic backdrop to the other parts of the landscape.
- Frame Significant Views, Borrow a Landscape.* Enhance significant views by framing them with elements off to the sides. Perhaps try one of the ancient approaches to this such as the Chinese moon gate, or invent one of your own.
- Imitate Natural Patterns.* In our area, natural patters are many and all around us. If you are stuck for ideas on how to arrange plants, nature's templates are all around and free to copy.
- Provide for birds and butterflies.* These animals bring yet another dimension of life and motion to the landscape. They will need food, water, shelter and nesting sites. Many of plants provide 3 out of 4 of these elements, just add water.

Trees:

As a group, trees offer one of the most diverse plant palettes available. They are the oldest living things on earth and among the largest. Trees grow almost everywhere in Colorado, and vary from the noble giants towering over 100 feet to their smaller, more delicate cousins...the ornamentals. Trees offer a staggering variety of textures, colors, flowers, leaves, barks, fruits and forms in endless combinations. They add interest to any landscape, and do it in every season of the year. Even their shade can vary from dappled to dense. You can plant trees in groups or as a dramatic, solitary, specimen. The benefits from trees are significant and many. They can serve as wind breaks, cool a house in summer, provide wildlife habitat, frame a view and clean up the air...and do it all at the same time. They are an important element in both the natural and built landscape, not just because they provide things we need but because we simply enjoy looking at



Tree Buying Tips

1. Check for a healthy root ball.
2. Check for wounds on the trunk.
3. Check its form. The branching should not be squeezed upward against the trunk.

them and being around them. Trees stir our memories and imaginations, and their role in a planting plan can not be understated. Large or small, there is a tree for just about every Landscape.

BUYING HEALTHY TREES: Since trees represent a big portion of any landscaping budget, buy them from reputable sources who will be happy to answer questions and provide a guarantee. Try asking friends whom they have used, and if they had any

problems or successes. For sources, check the phone book under garden centers and nurseries then visit and shop around. If you have some time, ask about when they have their big sales, such as in the fall or early spring. This can save you as much as 20 to 50% on tree costs, maybe even more.

When visiting the supplier, you should know how to inspect trees for possible problems before deciding which ones to buy. For starters, nurseries and tree farms sell trees in three ways: as bare root stock, balled and burlapped (or b&b as is often listed in nursery catalogues) and as container stock. The way they are sold depends mostly on size and you can get healthy trees in all three categories. In checking trees for possible problems, look for three things;

First, the tree should have a healthy root ball. The roots should not be crushed, torn or root-bound. Being "root-bound" means the roots are twisted and circled inside their container because they have out-grown it. On burlapped trees, feel around the outside of the burlap to see if root bounding is readily apparent. Also, ask the supplier what replacement provisions or guarantees they have if it turns out the tree you buy is root-bound.

Second, check the trunk and branches for wounds. Check both the visible areas and under the tree wrapping if possible. Wounds are caused from bad pruning, objects hitting the tree, insects and even winter burn. Not all wounds are problems but it does not hurt to ask questions.

Third, check the tree's overall form or shape. Branches should be somewhat evenly spaced along the trunk and have a solid, open connection to it. This gives the limbs strength as they mature, especially under snow loads. Branches that angle up sharply against the trunk tend to be weaker and more likely to break under heavy snows that we sometimes get in Larimer County.

TREES IN THREES: So, now that you've tested the soil and selected the trees, it's time to decide just where to plant everything. An old (and unexplained) rule passed along to students of landscape architecture suggests planting trees in groups of three, as this number often makes a more pleasing arrangement. The rule likely comes from old Chinese design theory, along with many basic concepts of landscape architecture. It seems to work...as long as you have the room. How so? Well, for example, three carefully placed trees can soften the sides and corners of a building. The trees further help to "rusticate" the architecture, or connect it to its surrounding landscape without hiding it from view. In many Oriental gardens where there is not a lot of room, groups of smaller ornamental trees give the illusion of a "grove" in a design where illusion is a critical element.

PLANTING TIME: Many places that sell trees will also install them. The cost can vary depending on where you buy the trees and how many you purchase. Many places will charge 1/2 of the tree's price to deliver and install it. Another thing to consider is that if the nursery does install the tree, they may give a better replacement guarantee. However, if you decide to plant the trees yourself it is not a complicated process, but does need to be done correctly to give the tree a good start.

PROTECTING EXISTING TREES: During construction of a new home or business, existing trees are at risk of potential (and permanent) damage. Building materials, dumpsters and equipment should not be stored under the "drip line" of trees. The drip line defines the most critical area for root protection around trees. Equipment and materials can compact the soil and prevent air or water from getting to the plant, which could kill it. Use care during the removal or addition of soil, trenching, compaction and grading on site as these activities can disturb or even cut major roots. In some cases, the age and species of the tree may require protection around an even larger area than just below the drip line.

WOUND DRESSINGS AND DAMAGED TREES: It used to be a general practice to apply some type of "wound dressings" to damaged tree trunks. People thought these dressings helped the tree heal faster and protected it against disease, insects and decay around the wounded area. However, this thinking did not account for the fact that trees and people don't heal in the same way. Unlike, people, a tree will generate new growth around the wound, and it will become part of the tree's internal makeup. Today many experts do not recommend using wound dressings at all. At best, they have a temporary effect, and trees seem to do just fine without them.

MIS-STAKES, IN TREE STAKING: Improper tree staking seems to be a common sight these days. Lines are stretched too tightly in all directions from the tree out to 3 or 4 stakes, preventing any movement at all. But that's the point, right? Well, not really. Young trees should be staked in places where winds can uproot them or they need support to remain upright. However, some bending in the wind is good for trees and helps them develop strong, flexible trunks. No matter where you are there should be some slack in the line to allow the tree to bend in all directions. In areas of high prevailing winds, multi-staking may be necessary to keep the plant planted. Where winds are minimal and mostly from one direction, single staking works or staking may not even be necessary. After the tree is planted and staked, add mulch to a depth of 2 to 4 inches but no more... as deep mulch makes a nice home for unwanted pests like mice. Plus, keep the mulch about 2 to 4 inches away from the base of the trunk. Water when finished, and you're done. Check the trees every few weeks for problems and to be sure stakes stay grounded, lines attached, etc. Remove the stakes after six months to a year, as they are no longer needed. With some trees that are very small a little more time may be necessary for them to get established. If so, be sure to check and adjust the lines to allow for growth. When you are ready to plant and stake new trees here's what you do;



CHECKLIST #4: PLANTING AND STAKING A TREE

- Dig a hole that is between two to three times the width of the root ball. It should be as deep as the root ball itself. The generous size of the hole allows the tree's roots to spread out into the soil and anchor it in place. Firmly pack the soil in the bottom of the hole to prevent excess settling, or just stop loosening the soil once you get to the required depth. Cut off the bottom of a wire basket or container, but leave the sides intact for ease of placing the tree in the hole and making adjustments. Some nurseries recommend that you add things like root stimulates to the hole before placing the tree in as well.
- Place the tree into the hole so that the root flare remains 1" to 2" above ground. You will find the root flare at the base of the tree where the roots begin to spread out. Try to always lift the tree by its root ball, and not by the trunk to prevent damage.
- After planting, remove all excess materials such as string, plastic, rope, wire and plastic. With balled and burlapped trees, go ahead and leave the burlap in place as it will rot away in time, but peel it back so that the top 1/3 of the root ball is exposed. If the roots are tangled and tightly compacted, gently pull them apart a little to help them get started. It may be easier to just cut the bottom off of the wire basket or plastic container leaving the sides intact. This will help keep the tree's roots under control while you set it in the hole and make adjustments. Once you are satisfied, slide the wire basket or plastic up and over the top of the tree.
- Consider placing a section of perforated PVC pipe in the ground. The pipe should be as long as the hole is deep. Stand the pipe up in the hole, fill it with gravel, and then continue adding dirt to the hole. Later, you can place the hose in this pipe for a quick and effective way to deep root water the tree.
- Before adding soil around the tree, make adjustments to be sure it is straight and that the tree trunk and branches face the direction you want. *(No, trees don't have "faces" as such, but people inevitably like one side better. It is much easier to position the tree now, rather than removing soil and changing it later).*
- Start placing backfill into the hole in 1/3 increments, stopping to gently pack the soil into place, adding a little water but *do not* add fertilizer at the time of planting. You are now ready to add the stakes, but only if they are really necessary.
- First, place single stakes on the windward side and be certain they do not rub against the trunk. With multiple stakes, attach the lines in opposite directions on the tree in line with the prevailing wind. Two stakes can support most trees up to three inches in caliper. The stakes should normally be the same diameter as the tree's trunk. Drive the stakes into undisturbed soil about 18 inches.
- Next, use heavy twine or small rope for the ties that are attached to the tree. Connect the lines to the lower two thirds of the tree, as this also allows for movement in the upper branches. As with the stakes, be sure the lines do not rub the branches or trunk of the tree. You can do this by running the line through a section of old garden hose or tubing, or wrapping it in cloth.

Traditional Turf or Native Grasses:

Grass may well be the most widely used landscaping plant of all. It is found in almost every design in some form or another. We play on it, lay on it and admire its uniform texture and the way it looks. Native grasses are found in many parts of Larimer County. At one time, the prairie along the Front Range supported a great diversity of grasses such as blue grama, buffalo grass, western wheat, Indian rice grass and sideoats...along with the many wildflowers that grew there as well. Few places remain with true native grass stands to remind us of how things once looked. (The Pawnee National Grasslands is one place to see them. This protected site is located just east of Larimer County, north west of Ault off State Highway 14). In the mountains, hikers and even those in cars can still find meadows where a variety of grasses, wildflowers and other types of plant life still thrive during the warmer months.

So, what types of grasses are suitable for your design? Given the size of Larimer County there is no single answer. However, one thing can be said with certainty....pure Kentucky Bluegrass is not a good choice. Why? Simply because Kentucky blue requires approximately 32 or more inches of water throughout its growing season to stay healthy. The average in Larimer County...11 to 18 inches. There is good news however. Hybrid grasses that combine the lushness of Kentucky blue with the drought tolerance of the natives are becoming more available, as nurseries and garden centers begin to stock them along with other native plants.

You may also want to consider using a hybrid sod, seed mixes of pure native varieties or a combination of all of these.

One myth is that people can not play on native grasses because "they just won't hold up." It is this idea that doesn't hold up. After all, native grasses survived quite well under the buffalo. Another myth is that the native grasses are stiff and uncomfortable to walk or play on. This one is not true either, as varieties of buffalo grass and blue grama can be as soft and lush as traditional turf grasses. You will find a list of resources to get more information on native species at the back of this guide. Two of them, the Colorado Native Plants Society and the CSU Extension Center, are both located in Ft. Collins.



The stakes are high....

Between 40% and 60% of the municipal drinking water in the Rocky Mountain region goes toward irrigating landscape plants such as Kentucky Bluegrass. These non-native, high water use species also require significantly higher amounts of fertilizers, herbicides and pesticides to remain healthy.

From: The Xeriscape Flower Gardener by Jim Knopf



The Most Unwanted Weeds

Want to know which weeds are banned where? The US Dept. of Agriculture keeps an active list for regulated noxious weeds in all States. Check their Internet site located at; www.aphis.usda.gov/npb/statenw.html

Just remember that lawns in the west should not be expected to look like they do back east or in warmer areas, at least not without a lot of additional water, weeding and care. Our native grasses have their own unique beauty, and the benefits of low water use and less maintenance are significant.

LANDSCAPE MAINTENANCE -



Landscape maintenance covers a lot of ground, so to speak. It should include watering, pruning, mowing, weeding, fertilizing and maybe adding soil amendments. These are all done to keep the plants alive and healthy year round. You can buy soil, organic amendments, large rocks, mulch and many of the other items described here at nurseries and garden centers. There are also landscape supply yards that specialize in bulk purchases of things like mulch, sand and stone. They often sell the larger ornamental rocks prized by some gardeners.

Many of these places now carry books with more information on landscape design or maintenance, and have staff experts to answer questions about specific plants or materials.

With any maintenance plan, there are a few important points to consider. The items here are arranged somewhat in the order you'll need them, starting with soil preparation.



A wise gardener once

said...It is better to dig a \$5.00 hole for a \$1.00 plant than the other way around. Be sure to dig holes large enough for trees and shrubs when planting them. Holes should be at least two feet wider than the root ball or plant's container.

- **TOOLS NEEDED:** The old rule about using the right tool for the right job definitely applies to landscaping. In fact, the right tools will make all the difference between having to do "yard work" and enjoying your garden. What you buy will depend a lot on the tasks you are planning and how much time you want to spend doing them. When buying tools, check how they fit your hand for comfort. Are they too heavy, or do they feel flimsy? Do they seem to be well made? Some new tools have those weird shaped, ergonomic handles. They look strange, but they sure eliminate a lot of bending. Also, investing in a higher quality, adjustable hose nozzle with different settings allows you to correctly water different types of plants and flowers, where single setting nozzles (or no nozzle at all) can damage more delicate plants.
- **FIRST PLANTING:** Find out if the plants you want have particular needs when they are first placed in the ground. All plants must have proper drainage to insure water does not pool in the root area. They will need to have a properly sized hole, and given the right amount of space between them and other plants. Some plants also do better with soil amendments added at planting, while others do not. When buying plants, the nursery can give specific details you'll need to know in this area.
- **WEED BARRIERS:** A layer of cloth or plastic weed barrier under the mulch can help control weeds. However, some people find the weed barrier gets in the way of creative planting, because you have to cut a new hole every time you add a plant, or conversely you're left with old holes after taking plants out. Weeds find these holes convenient too, and work their way up through them. Still, for an area where you do not plan to make a lot of changes weed barriers can help keep the little green pests under control.
- **WEED CONTROL STRATEGIES;** If noxious weeds are a problem at your site, then contact the Larimer County Weed District listed under "Weed Control" in the blue pages of the phone book. They can help you develop a plan for controlling or eliminating weeds. One new and somewhat strange sounding method of controlling weeds involves "renting" herds of goats or sheep. The herd's owner will bring them to your site and let them do what they do naturally...eat the weeds. Oddly enough, the animals actually prefer eating the weeds over the other plants you want to keep. It may take several seasons, but this method offers a "chemical free" way to control weeds, and you just might get some natural fertilizer too.

- ORGANIC OR NOT? Should you use these types of pesticides, herbicides and fertilizers instead of traditional treatments? Only you can answer that for sure, and both sides have strong supporters. The key is to identify the problem you are trying to correct, then check the labels for products that specifically treat it. Applying treatments to your grass and other plants that they don't need is not a good idea, no matter which type you choose.

- PESTS: Some plants have natural defenses to protect themselves against pests and weeds. However, you may want to consider a supplemental treatment. Keep in mind what types of plants you have and what problems you want to control. No matter if you choose standard treatments or the organic ones, do not apply more than the recommended amounts. The idea that using more is better is rarely true in the garden.

- COMPOST YOURSELF: Composting is easy and does not require any special machines. One big benefit in our area is that compost improves the quality of clay soils, making them more airy and better for growing healthy plants. All you really need for composting is some space, organic matter, water and time. If you are looking for a device to help your composting efforts some cities and towns sell a composting bin called the "Earth Machine" through their public works or parks departments. The cost is between \$20 to \$40, which is a good deal considering the Earth Machine normally sells for around \$70.00. Still, the Earth Machine is just one of a number of different composting bins available. You can find out more about it along with other types of devices and compost-related items (such as worms and mixers) at www.composters.com on the Internet.

- MULCH ADIEU ABOUT NOTHING! Actually, it's a good idea to use mulch in your planted beds. Mulch has a number of benefits, from keeping the soil cool to retaining moisture. It can even help control weeds as long as it's deep enough (around 3 - 4 inches). There are basically two types of mulch, organic and inorganic. Organic mulch is made up of things that will decompose back into the ground, such as wood chips. The inorganic mulch category contains rock, stone or synthetic materials. Both organic and inorganic mulches have benefits and disadvantages. For example, large rock mulch stays put under windy conditions and it works well in places you don't plan to make a lot of changes to the landscape, such as a parking lot. However, the very thing that keeps rock in place, its weight, makes rock cumbersome to work with. For ease of use, wood chips may be the way to go. Wood chips come in different sizes and colors to suit individual tastes. Larger wood chips are less likely to blow away, but in protected areas, the look and texture of "shredded" wood may be more appealing. Unfortunately, little pests such as earwigs, beetles and slugs may take a liking to your wood mulch as well. However, you can control them with a variety of treatments, as described in the next item down. Finally, there are other types of mulch such as sand and pea-gravel. They each have their own characteristics, advantages and disadvantages as well. Like everything else, the choice is yours.



Compost: and the secret recipe is...

Here's the secret...there isn't one. Different people will swear by a certain mix of this and that, or a specific percentage of brown to green items. Don't worry about it. There are some things you shouldn't add like meat scraps, but it's ok if you have more lettuce one week then coffee grounds. If you want to follow a recipe, you can find several in composting how-to books and on the internet.



Energy efficient mulch?

While stone or rock mulch has some advantages, it can also raise the temperature of the surrounding air, the plants and even buildings.



Which fertilizer is best ...wet or dry?

With fertilizers, either product does the job equally well, so go with the one you find easiest to use. Remember that in order for the roots to absorb the fertilizer it needs to be water-soluble. Plus, be sure to follow the directions on the package. Over fertilizing is not good for plants, and could even kill them.

- THE BIG THREE...NITROGEN, PHOSPHORUS AND POTASSIUM! Trying to figure out which fertilizer to use? Look for three numbers in the “guaranteed analysis” section on the label listed like 16-16-16.” These numbers describe the nitrogen, phosphorus and potassium levels found in the product. Each element plays an important role in a plant’s health. For example, plants use nitrogen to produce lush, green foliage, while phosphorus aids in developing strong roots and fuller blossoms, and potassium helps the plant withstand adverse conditions. Products sold as “complete” fertilizers must legally contain some of

all three macroneutrients. Products without all three items have advantages too. When buying plants be sure to ask the nursery about what types of fertilizer is best for them.

- TURF MAINTENANCE: Your long-range landscape goals should include a turf maintenance plan. At a minimum, grass needs to be mowed before it forms seed heads or exceeds 4 – 6 inches in height (except the native and ornamental grasses that are attractive because of their height, color or seed-head). If you have a native sod, consider letting it grow to its natural height in some places. This will save you mowing time, and add another feature to your landscape, especially if you add in some wildflowers. Native grasses make an excellent choice in restoration plantings, open space areas, naturalized settings or any place you would like to create wildlife habitat, as they provide cover for small animals.



The dirt on dirt...

Remember, soil amendments are not fertilizers, and fertilizers are not soil amendments. Amendments help aerate and allow for better drainage in dense soils. They also improve a course soil’s ability to hold water and nutrients. Fertilizers add nutrients to the soil...a very different role in keeping plants healthy.

From information found in: Xeriscape Handbook, A How-To Guide to Natural, Resource-Wise Gardening, by Gayle Weinstein

- PASTURE MANAGEMENT, DO I REALLY NEED A PLAN? Horses and other large animals can be hard on a landscape. The Larimer County Extension Service can help you put together a long-range plan to care for your pasture areas.
- STRUCTURES: Do not think landscaping is limited to just the plants. Walks, walls, fences and other “hardscape” features are an integral part of a landscape plan and require care. Be sure to consider them when figuring your budget needs. It is a good idea to check with the Larimer County Building Department for code related requirements on things such as decks, stairs, etc. They can provide free printed information and permit applications. The Larimer County Building Department is located in the County Courthouse, at 200 West Oak Street next to Old Town in Fort Collins.
- SHOULD I REPLACE THAT TREE?: Yes, if it is dead or significantly damaged. Also, consider removing all trees that threaten structures on another property or pose a safety hazard. It is also very important to clear out diseased and insect / parasite infested plants that cannot be treated. This prevents contamination of other plants. If in doubt about a plant’s condition, a licensed arborist can help you out. Some nurseries and garden centers will also offer a free diagnosis of plant problems by their staff horticultural experts.



-SPECIAL SITUATIONS -

Streetscapes:

Almost every home or business owner wants curb appeal. "Streetscapes" have several important functions, regardless if the street is in a commercial area or part of a residential neighborhood. Landscaping provides shaded tree-lined sidewalks in the summer, directs pedestrian movement, buffers people from traffic and screens private places or unsightly areas. The presence of trees can even slow traffic by creating the illusion that the road is narrower than it actually is. The quality of the landscape along a street can significantly enhance property values and generally improve the pedestrian experience. There are several ways to provide for streetscapes depending on the relationship between the planted area, the sidewalk and other things around it. As with any landscaped bed, streetscape plans should include understory plants such as shrubs, ground covers and flowers to provide visual interest. One benefit of understory plants is that they also offer a measure of protection between traffic and children's play areas. Ground covers, too, have hidden benefits. They work especially well in places where turf is impractical, such as on a steep hillside where mowing can be difficult or even unsafe.



Getting only half the story...

Curb appeal is great, but a well designed landscape should look as good from the inside of a home or business as it does from the curb.

Sidewalks & the Entry Sequence:

Planting beds along sidewalks are sometimes treated as an afterthought. They aren't very big, so why waste a lot of time on them? But don't let the small size of the planted area fool you. These smaller planting beds provide an excellent opportunity for using flowers and other things that can only be appreciated close-up. Sidewalk beds that run in front of a property can add another layer to a site's overall landscaping, and help to set the desired character of a home or business that the owner wants to create. At a minimum, they help frame the start of what landscape architects call "the entry sequence" for a site.



Shady Deals

Deciduous trees are a good choice use along sidewalks in colder areas. Their lack of leaves in winter lets the sun melt the ice on the sidewalk and on drives too.

While the idea of an entry sequence is crafted differently for a residential use than it is for a commercial one, it still plays an important part of curb appeal. For the home or business, plants can be a reflection of an architectural style and an extension of it. To illustrate, think of a Territorial styled adobe home. Naturalized plant arrangements blend with and compliment elements of the architecture where a formalized arrangement may easily clash with it. Conversely, a brick Federalist Style building seems more suited to the formalized planting. In the best designs, landscaping and architecture work together as connected elements in the same way that curb appeal is tied to the entry-sequence. No matter if the preferred planting style is naturalized or formal, Xeriscape plans remain one of the most effective approaches to landscaping in Larimer County,

All of this plays a role in the above-mentioned curb appeal, and there are several other inter-connected factors to think about. Perhaps one of the most important landscaping questions along a sidewalk is the quality of the pedestrian experience. After all, sidewalks exist for the pedestrian. The quality of any summer's day walk is greatly enhanced by the presence of trees, flowers and other plants.

Consider placing trees along the walk far enough apart to give the tree room to spread out, but close enough together to allow their mature canopies to come together. That way they provide continuous shade and a more pleasant escape from that summer heat. It is not necessary to use all of one tree type. This is more formal, but in many ways not as visually interesting. Plus, if a tree has to be replaced, the new tree is not as obvious in a mix as it would be in among a group of a single species. Keep in mind that different types of trees provide different types of shade...from dense to filtered. It's ok not to have the same density of shade along the whole stretch of the sidewalk. Besides, you need to consider how the shade will affect your other plant groups in your yard too.

As a starting point, consider planting large shade trees (if there is enough room) or select a smaller ornamental tree that will let more light through. Some trees have spring or summer flowers and some, such as like crab apples, may produce more "tree-litter" to clean up. Usually, fruit trees don't make a good selection for use along a sidewalk. This is because of the added mess and possibility for slipping on dropped fruit. Shade patterns provide another consideration. Try to place the tree so that the shade falls on the sidewalk in the summer for most of the day. As so much of Larimer County is spectacular in its scenery, you may want to leave some gaps in trees to frame a significant view from your site. One last item to think about is using a form of root barrier. These barriers force tree roots to grow down and reduce the risk of sidewalks and driveways being buckled by mature roots.

*D*riveways & Parking Areas:

There are a number of reasons you may want to landscape in and around parking lots or similar areas. For one, shade trees keep vehicles cool. Landscaping also provides a measure of privacy. It can help to reduce road noise and will add to curb appeal. Businesses that require larger lots will find that landscaping breaks up the "sea of concrete" effect and minimizes the visual blandness that parking lots often create. Another problem with large paved areas is that they turn into heat islands in the summer months, warming up the buildings next to them and raising the costs of air conditioning. Trees, shrubs and even ground covers can break up this concrete mass and reduce the negative impacts.

Keep a couple of things in mind with parking lot landscaping. At the entry, exit and internal turning points do not block the view of drivers by using tall shrubs or higher ornamental grasses. If there is an accident, you might be held responsible. To avoid this problem altogether, use plants with a mature height of 3 feet or less.

Away from these points, there is a lot more flexibility in terms of plant choices and arrangement. Shrubs with a mature height of three to five feet work nicely, because they are more pleasing to look at than a bunch of tires, bumpers and grills from the sidewalk, but they still allow drivers and pedestrians to see inside the parking area...an important safety consideration. Try a mix of various sized plants to create a naturalized look along the sidewalk's edge. For a more formalized look, plant a line of evenly spaced shrubs as a hedge. Then add a uniform or regularly spaced planting of flowers or ornamental grasses around the base in a symmetrical pattern. Symmetrical beds, with their corresponding arrangement of elements and colors on opposite sides implies a gracefulness that a formalized look calls for. In either a naturalized or formalized planting, round out the plan by using a ground cover or two, and think about adding other things like rock, planters, seating areas, bird feeders, etc.

Why bother with such items at all? Because, in commercial areas we don't just park in parking lots. Friends meet there, people wait for rides there and sometimes the parking lot will play host to special events. It is another link in the "entry sequence" mentioned before, which goes back to idea of curb appeal. This shows not only the importance of the individual elements, but also the importance of their relationship to each other as well.

Finally, when landscaping around a residential driveway, the same ideas expressed above still apply. With residential plantings, it is also a good idea to keep plants near the street small so as not to block a driver's view. Carefully placed shrubs around a yard can help to keep things like balls or other toys from going into the street. Larger shrubs next to the home can conceal the view into an open garage and expand the home's private space. Because residential yards are usually larger than the planted strips around parking lots, homeowners have more freedom to use larger trees and shrubs. Remember to place them carefully to provide shade for parking and play areas as well.

Buffers & Screens:

As elements of landscaping, buffers and screens have similar functions, but with different results. In their simplest terms, buffers are used to separate uses, but they still allow a visual connection between them. Buffers might be a guide for movement from one place to another, or separate incompatible uses such as play and street areas. Screens, on the other hand, provide a solid visual barrier year round.

They create privacy between uses or within a single space. A screen can hide unsightly objects such as trash bins and utility boxes. In either case, buffers and screens can be short, tall, wide or narrow. It just depends on the desired outcome.

Perhaps some of the best examples of buffers and screens come from Asian landscapes. Japanese and Chinese gardens in particular are renowned for their simple beauty and mastery of illusion in small spaces. These techniques resulted partly because for centuries, garden areas were often confined to very small parcels of land. The intricate methods of layering the landscape that were learned there have survived the test of time. In fact, much of what is taught to students of landscape architecture today is based on old and proven Chinese or Japanese techniques, developed over these centuries of patience and practice. Before selecting plants or other materials for a buffer or screen, two important pieces of information are required;

1. Which is actually needed...a buffer or a screen?
2. What will its size and shape be?

Knowing this will lead to answers for all the remaining design questions relating to buffers and screens. First among these is the choice of plants to use. In fact, plant selection is a good example of why you have to raise the above questions. If the planted area is small, then large trees and shrubs likely won't be effective as buffers or screens. This is because you must add plants in layers to be sure that they block the view of whatever it is you want to hide, and the plants need to be effective in all seasons. A good approach is to arrange plants in a way that the open parts of one plant group are covered by the dense parts of another. (Think of a shrub being placed under a tree canopy. The two together provide a blocked view from ground to sky). Use a combination of evergreen and deciduous trees or shrubs, and try to vary the plant sizes so they fit together somewhat like a puzzle and create the desired effect. Then add ground covers, ornamental grasses, flowers, rocks, water features or other elements to personalize the design.



Ancient secrets in the garden...

For centuries, master gardeners in Japan and China have created privacy and illusion in very small places. Their designs appear to be simple, but if you take apart the individual elements of these beautiful places you will find great complexity in the details. Many of the techniques will work well in Larimer County, because they often used evergreens, rock and water. Check with bookstores for titles that offer detailed advice on Oriental design practices.

Fences & Walls:

As design elements, fences and walls serve a variety of functions. As a basic element, they may be the only way to effectively hide an unsightly object or to ensure complete privacy in a small area. However, they can do a lot more than just divide the public and the private realm. Take, for example, Thomas Jefferson's serpentine walls at the University of Virginia. The walls are well known and are one of several elements that define the character for the whole campus. Designed by Jefferson, the serpentine walls are only one brick wide. A graceful serpentine curve in their layout provides stability and, obviously, the name. As Jefferson planned, the serpentine wall is both functional and aesthetic. It does everything he wanted a wall to do, but with fewer bricks.

As said, fences and walls provide a number of other services in the landscape. Like buffers and screens walls can conduct movement, define paths and create entryways. Sometimes a gap in the fence or wall will frame a view, as in the Asian tradition of the "moon gate". Climbing plants will grow up them and establish a mood, from restful to romantic depending on if you are using ivy or roses. There are no set rules as to how high and wide they should be, as it depends on the intended use. They can be tall to protect privacy or to hide unsightly objects, or short to provide a seating place or accent in the planting plan. For walls or fences over six feet in height, you will need a building permit in Larimer County.

Let your landscaping needs define where they will go, but let your imagination give them life. The materials used to create them vary widely from wood to stone. When adding either of these elements, consider the following:

- Use short, decorative fences or walls along with plant materials to add a semi-opaque screen and visual variety. Place plant materials on both sides of the structure. This will break up the solid architectural plane and add interest, texture and color. You might want to create distinct plans for each side, allowing the taller shrubs and trees to blend over the top to unify the design. On the other hand, you could keep the same theme going for both sides of the structure, which also connects the private to the public areas.
- Explore using a combination of earthen berms, fences and walls. Berms also break up the solid plain and strong linear architecture of fence or wall. Berms further allow you to offset sections of the fence or wall and create openings for movement...while still protecting privacy. Combined with winding paths, these "hidden" openings add another point of interest to a design and give a sense of unity to a plan. Different styles of a fence or wall can create different levels of privacy as well. They too, provide a variety of textures and add interest to the overall plan.
- In larger landscapes, alternate fences or walls with thickly planted stands of trees and shrubs. This helps to avoid lengthy sections of expensive built elements. It opens a landscape plan, and creates a more naturalized look too. The trees and shrubs can serve as effective windbreaks as well, but they must be planted in layered rows to be effective in this capacity.
- Use a fence to provide a temporary screen while plant materials mature. This design technique can reduce ongoing fence maintenance and replacement, while lessening the amount of plant materials required during initial growing stages of planted areas.



- OTHER ISSUES -

Wildlife & Landscaping:

Why even mention wildlife in a landscaping guide? The answer is simple. In most parts of Larimer County, the two cannot be separated. Say for example that you want to plant fruit trees in the mountains. The birds would probably love the idea. The problem is, the bears just might love it as well. As many frustrated gardeners will also tell you, deer and elk can view your planted beds as an easy brunch. (Yes, there are flowers and plants that deer and elk generally won't bother unless they get hungry enough. Nurseries or garden centers can give you a list of "deer resistant" plants). For the most part, this guide does not offer information on how to deal with wildlife. Its intent is to let you know that encounters between your plants and wildlife will happen. However, that may be your objective in the case of birds and butterflies.

There are some landscaping options that can help you live in harmony with wildlife, without actually attracting every animal into your planted areas. Along with using plants that deer don't find appetizing, you can do a few other things.

- Be sure that trash containers are "bear proof". The Division of Wildlife can help you with ideas on how to do this but, it essentially means that garbage cans are protected and have tight lids.
- Cover exposed areas beneath your house. This will keep small animals like skunks from turning your crawl space into a garden level apartment.
- If you feed pets outside, clean up the scraps and leftovers after they are finished.
- Use wire mesh to protect young trees from grazing. The Division of Wildlife can help you select a fence type and give advice on where to place it. You can also use plastic mesh or specialized cloth covers over fruit trees to reduce pilfering from birds.
- Have you seen those "repellants" made from things like coyote urine mixes, and want to know how good they are? Well, the answer is that while some people swear by them, they seem to be somewhat limited in their effectiveness beyond a day or two.

Probably the best source of information on living with wildlife is the Colorado Division of Wildlife (or DOW). They have the expertise and experience to give the latest information and advice on animals along with the plants that attract them. Plus, they can help with wildlife problems not related to the landscape. Their address, telephone numbers, and Internet site addresses are listed here and at the back of this guide.

Colorado Division of Wildlife, (970) 484-2836
Northeast Regional Office
317 W. Prospect Road
Fort Collins, CO 80526

Internet/Web Site Address: www.wildlife.state.co.us or www.dnr.state.co.us/wildlife/

Powerlines & Buried Cables:

It is easy to overlook utilities when thinking about landscaping. Utilities come to us through overhead power lines and buried cables. We often just take them for granted. Yet, it is very important to know where these different utility connections to your home or business are before digging at your site. Utility easements are often “dedicated” on a plat, which means the utility companies have the right to access that portion of your lot even if you have a fence. Many times these utility easements run along property lines and are shared between two or more lots, but this isn't always the case. Before starting a plan, it is a good idea to contact the utility companies for information on their requirements and recommendations. When talking to them, remember to ask if they have any planting restrictions in their easements.

After checking with the Utilities, you can begin to think about landscaping plan. Around powerlines there is one basic rule....minimal is best! Do not plant trees below powerlines. If you must plant a tree near powerlines choose one of the smaller varieties that is less than 20 feet tall at maturity. Ask the nursery or grower how wide the tree canopy will be at maturity. Divide this number in half and place the tree at least that distance from the outer edge of the utility line, measured from the outer edge of the line to the ground. Maybe this sounds excessive, but it will keep trees and utilities separated and you can be sure the branches won't grow up into or around the powerlines. These lines can kill or seriously injure anyone who touches them, including kids playing in the trees or adults who must climb them to trim branches.

This does not mean you can't do anything around or below utility lines. Because these areas are open and sunny by design, they make a good site for a native grass and wild flower meadow plan, to provide habitat areas for small animals such as butterflies and honeybees. This type of plan is generally low maintenance in the long run, and if the utility company has to work on the lines these areas can restore themselves fairly quickly. Along the meadow's outer edge, plant an arrangement of shrubs and trees. For a pattern, look at natural mountain or prairie meadows which will give you all of the design ideas you'll need.

As for the underground utility lines, they pose different problems. The utility company may have to dig them up for repair work. In that case, they could damage trees or shrubs along with their root systems in the process. Knowing where the utility lines are from the start will help you design a plan to minimize potential conflicts between plants and power lines. If you don't want to use turf grass in these areas, a reduced scale version of the meadow idea can work pretty well in utility easements where the lines are buried.



Where are my utility lines anyway?

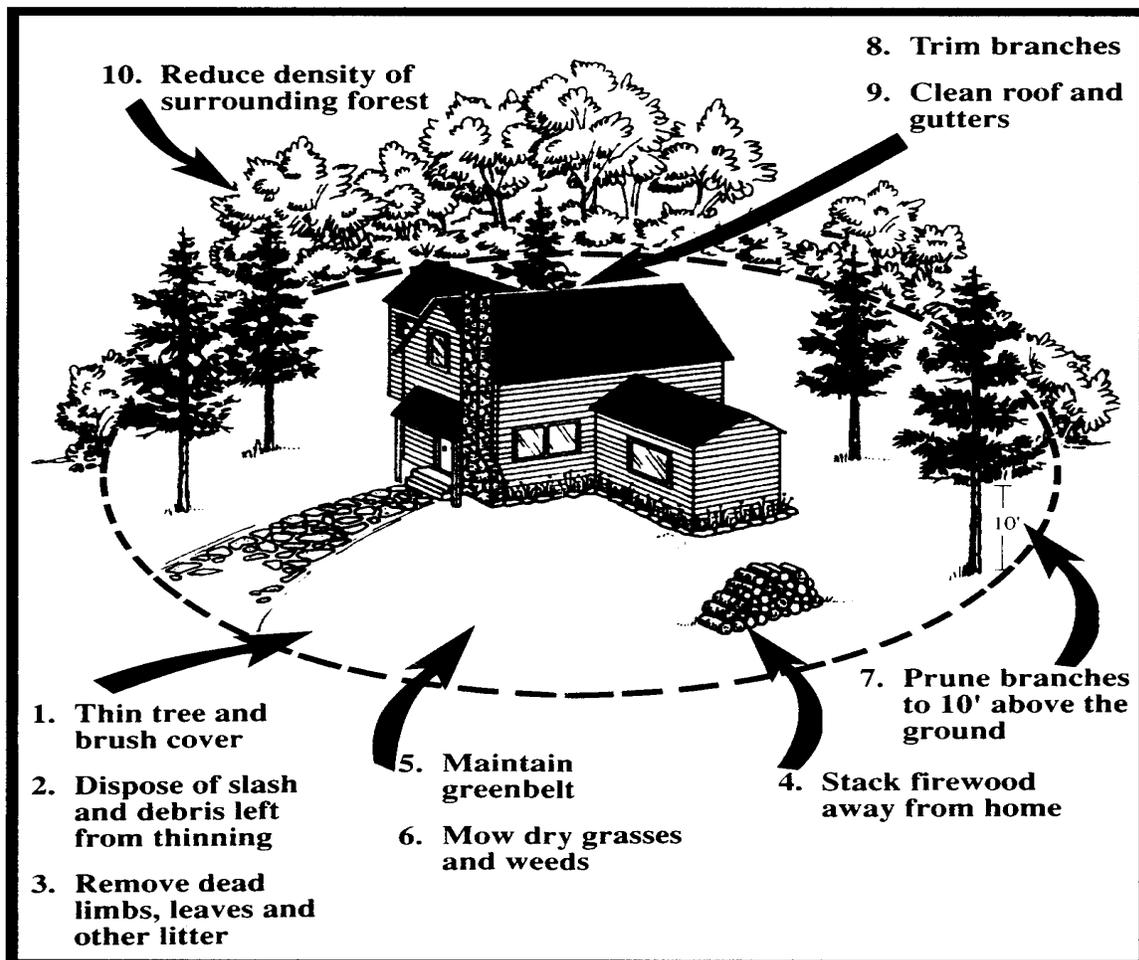
Want to know where all of your utility lines are? Call 1-800-922-1987 for a free utility locator service. Be sure to call at least 48 hours before starting to dig. The locator will tell you where all utility lines are including gas, electric, telephone and cable. (The service is paid for by a small charge on everyone's utility bill.)



Firewise Landscapes:

As the spring and summer of 2000 showed, the mountains and foothills in Larimer County are susceptible to wild fire, and thus require a different approach to landscaping. Houses and other structures located in these areas are more at risk. Not just because of the natural conditions present, but because they are usually farther away from fire stations and other emergency services as well. In some cases, fire equipment simply may not be able to get to structures on steep hillsides because conditions make it unsafe to do so.

Unfortunately, there is no guarantee that a specific approach to landscaping is effective all the time. Because severe wildfire hazards exist on most forested building sites, you can reduce many hazards by following the defensible space guidelines developed by the Colorado State Forest Service outlined below. For starters, structures in wildfire prone areas can be given some measure of protection simply by choosing the right plants, placing them appropriately and following a few maintenance guidelines. This approach creates a "defensible space" which is defined as an area around your home where the landscaping is designed to slow the rate and intensity of advancing wildfires. It also provides room for firefighters to work and helps protect the forest from becoming involved should a structure fire occur.





CHECKLIST #5: FIREWISE LANDSCAPING

- Thin out continuous tree and brush cover around structures and remove all flammable vegetation for 15 feet. Beyond 15 feet thin trees so there is 10 - 12 feet between their crowns. Occasionally, clumps of 2 or 3 trees are ok for natural effects if more space surrounds them. The dimensions of a defensible space are subjective, site specific and dependent on site characteristics.
- Dispose of slash and debris left from thinning by either chipping, hauling away or by piling and controlled burning.
- Remove dead limbs, leaves and other ground litter within the defensible space.
- Stack firewood uphill or on a contour and at least 15 feet from your home.
- Maintain a greenbelt around your home using grass, flower gardens or ornamental shrubbery. An alternative is rock or other noncombustible material, but avoid bark or wood chip mulch.
- Mow dry grass and weeds to a height of 6 inches or less for a distance of 30 feet from structures.
- Prune tree branches to a height of 10 feet above the ground. Also remove shrubs and small trees, or other potential "ladder" fuels from beneath large trees, which can carry a ground fire into the tree crowns.
- Trim branches that extend over eaves of roofs. Remove branches within 15 feet of chimneys.
- Clean roof and gutters of pine needles and leaves to eliminate an ignition source for firebrands, especially during the hot, dry weather of the fire season.
- Reduce the density of surrounding forest areas at least 100 feet out from your structure. Remember to thin the trees so there is 10-foot crown spacing.
- Maintain the defensible space annually by removing debris, shrubs and other vegetation that accumulated during the year.

For more information, call the Larimer County Wildfire Safety Coordinator at (970) 498-7718. You can also find information on the Internet from Larimer County's own Wildfire Safety web site located at <http://www.larimer.org/wildfire> and from the National Wildland / Urban Interface Fire Protection Program at www.firewise.org.

*F*inal Thoughts. . .

This guide began with the idea that landscape design is a personal thing. There are probably as many ways to approach a design as there are plants to use. Rarely is there just one answer to a problem or one way to do something. (Just look at the great diversity of built and wild landscapes in Larimer County as a testament to this fact).

The hope is that this guide will provide some framework for your ideas. However it is just that...a guide. You can still try something different that does not follow “the rules” because when all is said and done, the choices are yours. If you would like more detailed information on the ideas presented here, check the lists below for a few of the many books, public and private agencies and Internet resources available.

Sean M. Wheeler, ASLA
Larimer County Planning Department

CONTACTS



Colorado Division of Wildlife
Northeast Regional Office
317 W. Prospect Road
Fort Collins, CO 80526

Phone: (970) 484-2836

Internet/Web Site Address: www.wildlife.state.co.us or www.dnr.state.co.us/wildlife/

(Use this site for more information on living with Colorado's wildlife, including what types of landscaping wildlife is attracted to.)

Colorado Native Plants Society
Box 200
Ft. Collins, CO 80522

Internet/Web Site Address: <http://carbon.cudenver.edu/~shill/conps.html>

(This site has information on Chapters statewide, field trips and other things related to native plants in Colorado.)

Colorado Nursery Association
5290 E. Yale Circle, Suite #204
Denver, CO 80222

Phone: (303) 758-6672

FAX: (303) 758-6805

Colorado State University Cooperative Extension Office
1525 Blue Spruce Drive, Fort Collins

Phone: (970) 492-8281

Internet/Web Site Address: www.colostate.edu/Depts/CoopExt/PUBS/GARDEN/pubgard.html#tree
(Provides gardening and horticulture information.)

www.colostate.edu/Depts/CoopExt/PUBS/NATRES/pubnatr.html
(Provides forestry, range and wildlife information.)

www.colostate.edu/Depts/CoopExt/PTLK/ptlkmnu.html
(Provides information on Planttalk Colorado, a 24-hour toll-free phone service with information on a variety of horticultural topics. The web site has text versions of the Planttalk Colorado scripts.)

www.colostate.edu/Depts/CoopExt/PUBS/INSECT/05504.html
(Provides detailed information on setting up a butterfly garden in Colorado)

Composting Information:

Internet/Web Site Addresses: www.composters.com
www.wormman.com (Also has information on fishing bait)
www.oldgrowth.org/compost

Denver Botanic Gardens

1005 York Street
Denver, CO 80206

Internet/Web Site Address: www.denverbotanicgardens.org

Denver Water

1600 W. 21st Avenue
Denver, CO 80254

Internet/Web Site Address: www.denver.water.co.gov

(These are the people who coined the word “Xeriscape.” Use their site search engine to find information, links and demonstration on Xeriscape concepts.)

Firewise Landscaping Information:

Larimer County Wildfire Safety Coordinator:
Larimer County Court House
200 West Oak, Fort Collins, CO 80537

Phone Number: (970) 498-7718

Internet/Web Site Addresses: <http://www.larimer.org/wildfire>
(Larimer County’s own Fire Wise internet site.)
www.firewise.org
(National Wildland / Urban Interface Fire Protection Program)
www.nfpa.org.
(National Fire Protection Association)

Gardening Sites:

Internet/Web Site Address: www.gardeningcolorado.com
www.garden.com
www.garden.org
www.hgtv.com
www.chestnut-sw.com/diction.htm

International Society of Arboriculture (ISA)

P.O. Box GG
Savoy, IL 61874

Internet/Web Site Address: www.2.champaign.isa-arbor.com

(This non-profit organization supports tree care and research around the world, and is dedicated to the care and preservation of shade and ornamental trees.)

The Larimer County Planning Department

P.O. Box 1190
Fort Collins, CO 80522

Phone: (970) 498-7683

Internet/Web Site Address: www.larimer.org, www.co.larimer.co.us or
www.larimer.org/planning

(Check our own Internet site for on line versions of the Landscaping Guide and the Plant Lists.)

BOOKS



The below list covers books about many of the topics described above. It is by no means a complete listing of the numerous, excellent titles available.

Birdscaping Your Garden by George Adams

The book is described as “a practical guide to backyard birds and the plants that attract them” and has lots of color photos and drawings. Also included is information on providing food, water, cover and nest sites for different birds, along with information on landscaping techniques. Adams includes both a bird and plant directory as well.

The Craft of Gardens by Ji Cheng

Written in China around the year 1632, this is perhaps the oldest book available on the subject of Landscape Architecture. Though Chinese design practices date back many centuries before its publication, the book provides what is considered the best written record of the ancient Chinese approaches to garden design. Many of these practices form the basis for western thinking on landscape design.

Grassland to Glacier, the Natural History of Colorado and the Surrounding Region by Cornelia Fleischer Mutel and John C. Emerick

This book details the various natural habitats in Colorado (calling them lifezones) from a natural history perspective. It provides considerable detail on the various lifezones spending a chapter on each. The back of the chapters list plants and animals found in each area.

Home Landscaping by Elizabeth Murray and Derek Fell

This book provides an array of ideas, styles and designs for creating outdoor spaces. It has a lot of color photographs and focuses in on landscaping techniques for issues like conducting movement, creating privacy, climate control and even how to produce optical illusions. The book describes how to create a plan and blueprint as well.

Meet the Natives, the Amateur's Field Guide to Rocky Mountain Wildflowers, Trees and Shrubs by M. Walter Pesman and the Denver Botanic Garden

Another book that outlines native plant species found in Colorado, based on specific lifezones. This book provides information on what plants are found at what elevation, but also describes their habitat in terms of water needs, full sun, shade, north or south slope, etc.

Natural Stonescapes, The Art and Craft of Stone Placement by Richard L. Dube, APLD and Frederick C. Campbell

The book provides a lot of detailed information on natural stone patterns, and how to imitate the designs found in nature, along with formal patterns found in specific types of design. It also has information on how to find and select appropriate stone for your plan, or how to adapt your plan to fit an existing, natural, feature. Finally, the book tells you how to transport, move and set stones into place.

Step by Step Landscaping by Better homes and Gardens

The book provides very detailed information on how plan, plant and build a complete landscaping design. There are numerous color photographs of complete designs, plant lists, plan views and even discussion on tools and hardware to use. The book further breaks down a landscaping plan into the various areas that require special consideration such as front yards, decks and service areas.

The Rocky Mountain Plant Guide from the Colorado Nursery Association

This is not really a book, but an inexpensive booklet with numerous excellent photographs. It has information on each plant's size, spread and other characteristics, needs, etc. The booklet further provides general guidelines on landscaping in the Rocky Mountains. It is a useful item to carry with you to the nursery as you look for specific plants.

The Wild Lawn Handbook, Alternatives to the Traditional Front Lawn by Stevie Daniels

The title says it all. This book has a national focus, but does provide some good regional information on how to replace a traditional lawn with different grass types, and on specific native prairie grasses. It also covers basic design ideas to approaching naturalized lawns.

the Xeriscape Flower Gardener, A Waterwise Guide for the Rocky Mountain Region by Jim Knopf.

A good over-all reference for Xeriscape information, tailored to this area. Includes a detailed plant list with color photos of specific plants. Also has good information on how to design, build and maintain a Xeric garden.

These three books are from Denver Water, the people who started the Xeriscape movement;

Xeriscape Plant Guide from Denver Water

The book is described as a comprehensive resource for more than 100 low-water-use plants. This is an excellent book for people who want pictures of the actual plants, with shots showing the plants in different seasons. It also includes detailed information on landscape use, plant form and characteristics, culture, best plant features and disadvantages, companion plants and species or varieties available.

Xeriscape Color Guide from Denver Water

A companion to the Xeriscape Plant Guide, this guide has additional information on plant colors, flowers, fruit, bark and foliage during each season of the year. The book acts as a sort of "color wheel" for plants. It is divided into five sections from trees and shrubs, perennials and vines, grasses and groundcovers to annuals and shade plants. Instead of photographs it shows color plates of over 100 plant species, with additional information on landscape use, light and water requirements.

Xeriscape Handbook by Gayle Weinstein

The third in the series, this book offers advice on how to care for Xeric plants. It also offers detailed information on the basic principles of Xeriscape techniques including planning and design, soil analysis, appropriate plant selection, practical turf areas, efficient irrigation, use of mulches and maintenance.
