

Ken-Caryl Ranch Landscape Guidebook



LANDSCAPE GUIDEBOOK

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LANDSCAPE GUIDEBOOK

INTRODUCTION. The purpose of this guidebook is to help you prepare an appropriate landscaping plan for your home site and to maintain your completed landscape. **These are not requirements but suggestions to help you attain a successful landscape project.** Careful planning, installation and maintenance will greatly enhance the ultimate appearance and value of your property and of the Community.

Prior to making initial landscape improvements or to making significant changes to a previously approved landscape, it is necessary to obtain approval in accordance with procedures established by the Ken-Caryl Ranch Master Association Architectural Committee. Contact the Architectural Administrator at 303-979-1876 ext. 119 for information on submittal requirements for approval.

I. Importance of Maintaining Overlot Drainage System.

Most areas of the Front Range of Colorado consist in part of a soils material that swells when introduced to water. It, in essence, acts as a sponge. When this expansion takes place, extreme pressures are exerted on foundations and other man-made structures which are placed in the ground, the results of which can be severe structural problems for your home.

Your lot has been final graded to meet County, FHA, and VA requirements to assure positive drainage away from your house and into the drainage swale areas (V-shaped areas) located on your lot. These swale areas are designed to carry the flow of water off your lot. Minor drainage modifications may be made to your lot providing you do not alter the engineered drainage pattern of the lot existing at the time the lot was conveyed to you from the builder or the previous homeowner. Damage to your drainage system caused by acts of nature should be repaired as soon as possible to avoid further damage. Recommendations contained in these guidelines are intended to protect your house and lot from potential drainage-related problems.

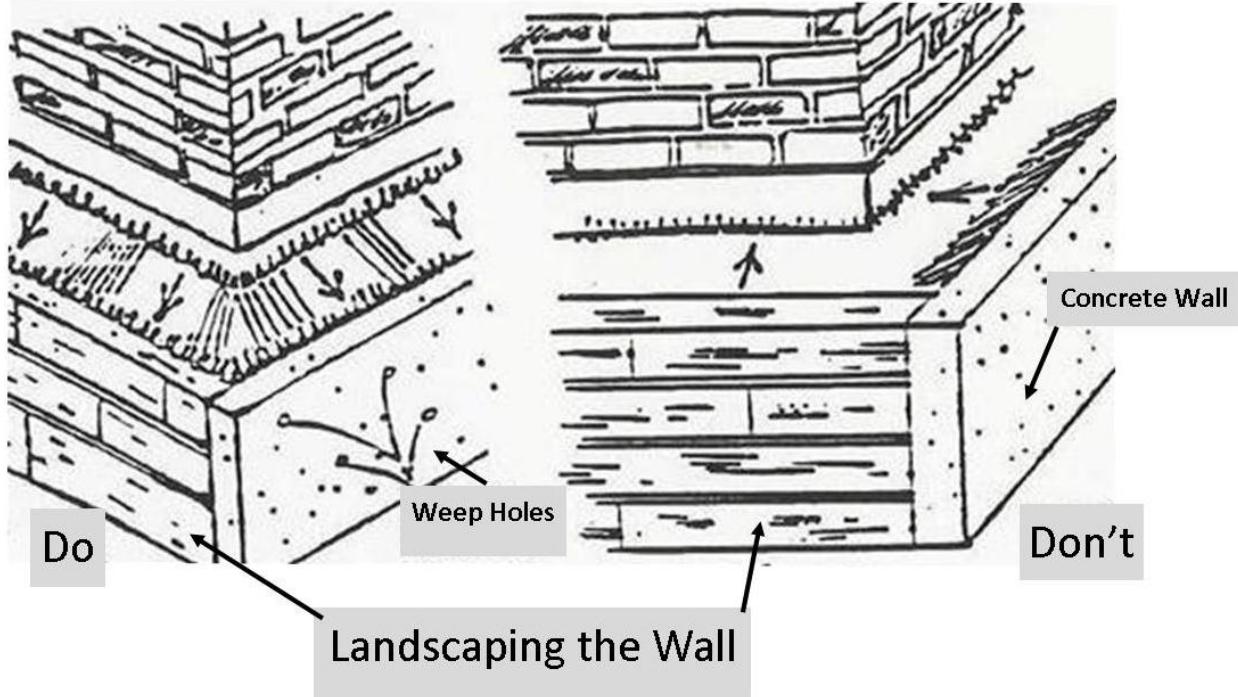
II. Landscape guidelines.

The following sections of this guidebook present suggestions for homeowners to follow in planning, installing and maintaining landscape improvements for their lots.

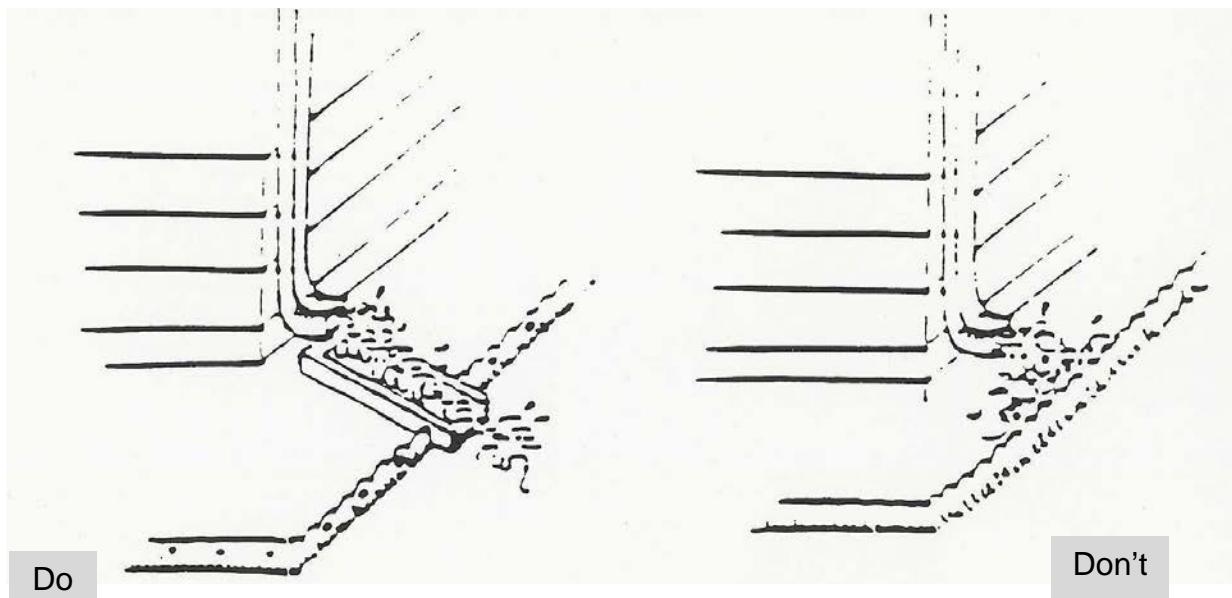
A. Slopes. Grading can be used to create berms, slopes, and swales which can define space, screen undesirable views, noise, and high winds. Grassed slopes of berms are suggested not to exceed 3' of horizontal distance to 1' of rise or vertical height (3 to 1 slope) in order to permit greater ease of mowing and general maintenance. It is important to note that if slopes are not landscaped, severe erosion and silting may occur. As a result, it is recommended that slopes be landscaped by the homeowner as soon as possible after moving in. Slopes and banks should be planted with drought-tolerant plants. Erosion of slopes can be lessened by terracing or surfacing with stone or other free-draining

materials. Loose aggregate or wood chips are not recommended on slopes unless measures are taken to prevent erosion or displacement by wind and/or water. Slopes can also be planted with groundcovers, shrubs and bushes to prevent erosion. Rock gardens are another technique to help prevent slope erosion and create a landscape amenity. Slopes given proper design treatment can become an attractive, interesting part of the landscape.

B. Retaining Walls. Retaining walls may be used to accommodate or create abrupt changes in grade. Terracing is suggested to retain a steep slope. Walls should be properly anchored to withstand overturning forces. Stone walls should be made thicker at the bottom than at the top to achieve stability. To avoid destructive freeze-thaw action, all retaining walls should incorporate weep holes into the wall design to permit water trapped behind them to be released. Timbers for walls or other landscape use should be treated to resist decay. Walls should not be located so as to alter the existing drainage patterns, and should provide for adequate drainage over or through (by means of weep holes) the wall structure. Retaining wall designs must be submitted for approval because of potential impact to site drainage.

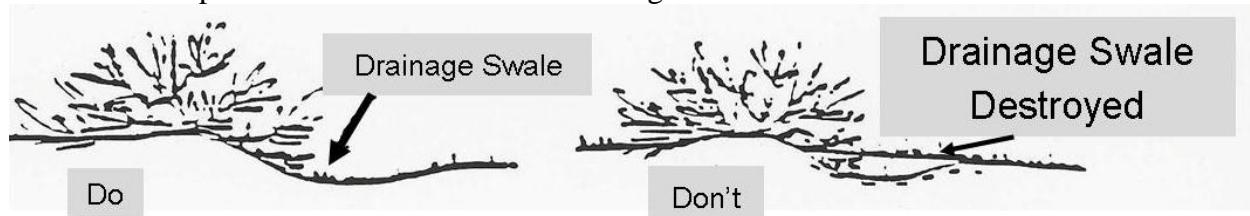


C. Splash Blocks and Downspout Extensions. Always check splash blocks and/or downspout extensions at your gutter downspouts, exterior faucets, and sump pit discharge locations to insure that they are in place and are carrying the drainage at least 5' away from the foundation wall. Also, check to make sure the splashblock or downspout extension is discharging water beyond your edging or that your edging has been installed with gaps or has adequate perforations to allow drainage to pass through it.

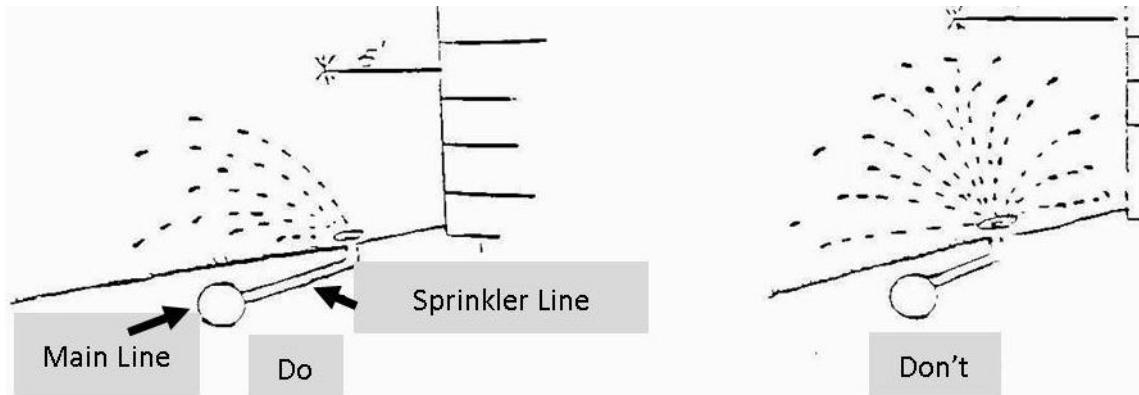


D. **Soil Preparation.** Soil conditions may vary throughout the Ranch. Individual soil testing is suggested for each lot to determine the exact nature of the soil and the desired level of amendment needed such as mulch, sand, and fertilizer to optimize plant growth. Local nurseries may offer assistance in determining the proper quantity and type of soil amendment. After the soil has been amended, make sure that the existing drainage pattern is re-established on your lot. A common mixture for most soils is 1" to 2" of sheep peat or cow manure for every 6" of topsoil. Another equation is one yard of sheep peat or cow manure for every 324 sq. ft. of lawn area. You may wish to increase the soil amendment to 2" in your garden bed areas.

During soil preparation of your lot, rototilling of manure, peat, composite with the native soil causes the soil to fluff up, and in some situations will change the direction and function of the drainage swales on your lot. Remember, when you add these types of soil amendments, you are filling up your yard. Therefore, keep in mind that after the soil preparation process has been completed, rake your lot to re-establish the original drainage swales prior to installation of sod or other groundcover material.



E. **Irrigation Systems.** Irrigation systems planned for your lot should be designed such that any overspray or direct spray of water from the system does not occur within 5' of the foundation wall. Location of irrigation pipes which may leak and drainage pits which are designed to drain the irrigation system should be at a distance of more than 5' from your foundation wall. Also, monitor your lawn's particular moisture needs so as not to cause undesirable saturation of the soils on your lot.

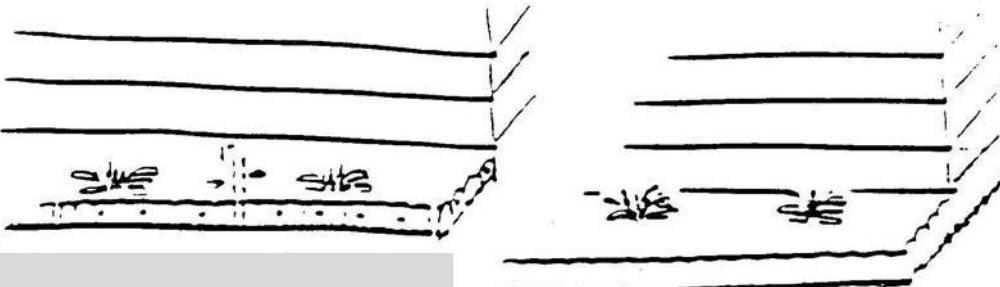


Watering is recommended to be done in the early morning or evening. One of the most common tendencies is to over-saturate your lot. We urge each homeowner to conserve water and as a result minimize problems on their own lots, as well as on adjacent property owner's lots caused by over-watering. This can be accomplished by watering at shorter cycles more often. Avoid watering during the heat of the day to improve water efficiency.

Several systems can be used to water your lawn: manual and automatic sprinkler systems, portable sprinklers, and drip irrigation systems. The following are some facts to consider in selecting the type and location of the sprinkler system you are going to use:

- Size and shape of areas to be watered.
- Type of turf or groundcover.
- Available water supply and pressure.
- Environment of the area - wind, rain, temperature, exposure, and grades.
- Low spraying irrigation devices help to minimize wasted water due to wind.
- Drip irrigation systems are recommended for tree, shrub, and gardening areas.
- Type of soil and its ability to accept water. Local nurseries or do-it-yourself sprinkler stores have detailed information concerning the type and installation of irrigation systems.

F. Landscape Edging. All landscape edging which is installed within your lot should either be perforated or should be spaced in order to allow drainage to pass through it. It is not recommended to install a solid edging within 5' of foundation.



1" Gap or Perforations for Drainage

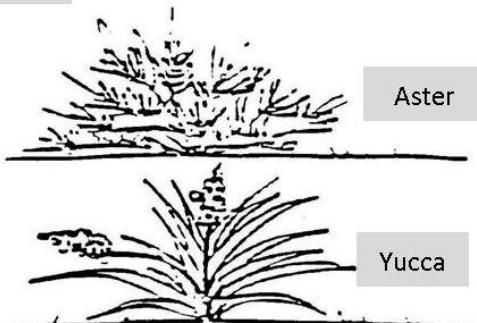
Do

Don't

G. Rockscapes. Boulders and cobbles present an attractive alternative landscape element if used sensitively within the overall landscape composition. Rock areas are suggested for use along drainage swales, driveways, walkways, steep slopes, and along perimeters of foundations. Large expanses of rock areas are not encouraged.

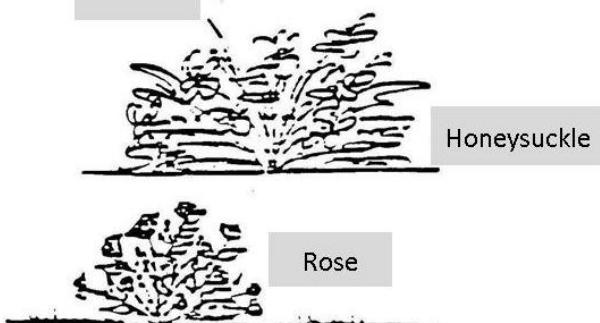
H. Foundation Plantings. Foundation plantings within the 5' area adjacent to the foundation should be of a plant material which requires very small amounts of moisture. "Annual" type of flowers require a great deal of water to survive the hot summer climate of this area and are discouraged as plant material within this 5' area. It is recommended that native types of plants such as succulents (cactus or low water evergreen shrubbery) should be planted in the area adjacent to the foundation.

Do



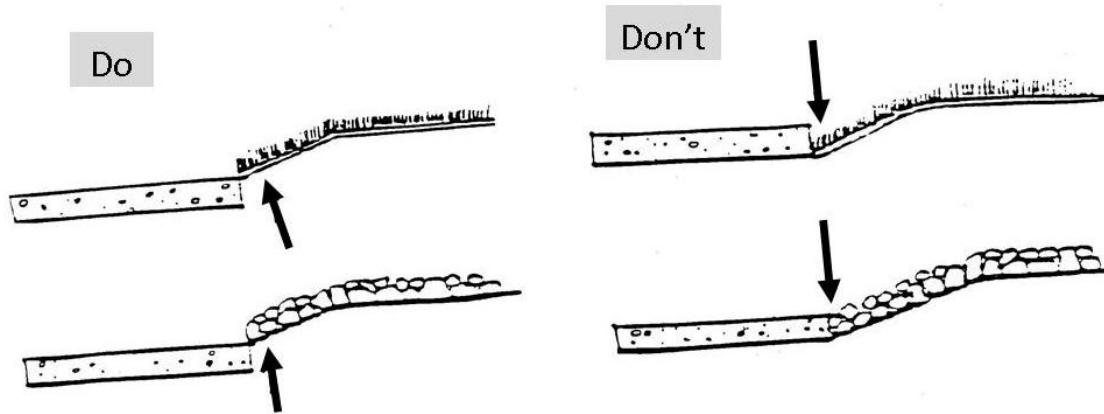
Low Moisture

Don't



High Moisture

I. Landscape Installation Adjacent to a Sidewalk or Driveway. Blocking drainage by lowering the ground line adjacent to sidewalks or driveways can cause severe damage to these improvements. Install sod, bark, rock, etc. such that the bottom of the material matches the top of the walk or driveway. This will provide a positive route for drainage to pass over the improvement.



J. Landscape Materials. Deciduous trees such as ash and evergreen trees such as pinyon pines provide summer shade or can be used as a windbreak. Evergreens provide good backdrops for displaying ornamental trees and contrasting flowers as well as providing a visual screen. Columnar evergreens could be used as a screen in lieu of a fence.

Shrubs such as junipers may be used as specimens or in masses. Shrubs can also be used in combination with trees as windbreaks or to add color and texture to the landscape. Low-growing, spreading shrubs may be used as a groundcover treatment and present an attractive method of reducing water consumption.

Ornamental trees such as flowering crabapples provide accent, color, and additional interest to the residential landscape and may be a more appropriate scale for small areas of a lot.

Shade trees should be placed relatively close to the house where they can shade walls or outdoor activity areas. For example, broad-leaved deciduous trees screen out the intense summer sun, but allow winter warmth to penetrate. Trees and shrubs in general should not be planted within existing drainage swale to avoid blocking designated drainage patterns. In addition, trees and shrubs will not tolerate the water which drainage swales carry.

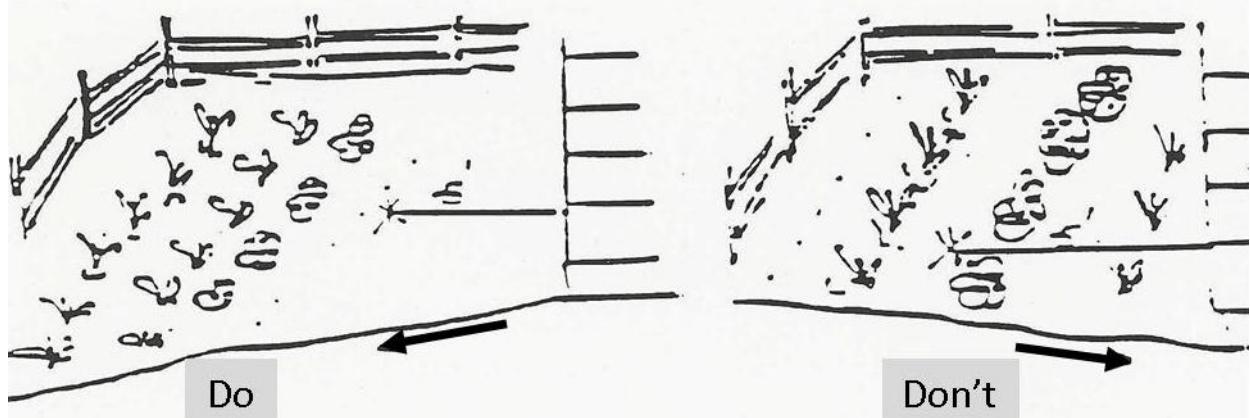
Groundcovers such as creeping mahonia play an important role in consolidating the surface of fine-grained soils to prevent erosion and sedimentation. They may be useful in place of a lawn, especially on steep banks where they will also require less water than turfgrass.

Vines may be used as a groundcover or as a shading element over a trellis or as a screen when planted adjacent to a fence.

Garden flowers may be used as elements of seasonal color. Annuals, perennials, and biennials should be considered.

Vegetable gardens may be integrated with planting beds and used ornamentally. It is suggested that tall stalks be removed during the off-season.

Gardens are perhaps one of the higher moisture requiring features which you will install in your lot. Locate these garden areas, whether vegetable or flower, away from the foundation and away from drainage swales. If you have a slope in your lot, a terrace style garden is not only an excellent slope treatment, but also moves the drainage problem away from your foundation. Selection of garden spot is critical and should be done with consideration to surroundings.



K. Recommended Grass Applications-Turf grass areas, either sodded or planted will require permanent irrigation and regular mowing. Some suggested mixes are:

- Tall Fescue 90%/Blue Grass 10% (more drought tolerant)
- Blue Grass with 3 or 4 Blended Blue Grass Varieties
- Blue, Rye, Fine Fescue Combination
- 100% Tall Fescue Blend, 3-4 Dwarf Type Tall Fescue (seed only - not available in sod -- also drought tolerant)

The following information has been developed by the Architectural Committee in order to clarify what is an acceptable form of native grass and what is the proper maintenance for it.

Natural Native Grass: Natural native grass is that which exists on the lot and has not been impacted by overlot grading during construction. In addition, native grasses are just that – “grasses.” Areas that have excessive weeds (sunflowers, dandelions, thistles, milkweed, etc.) should have these weeds cleared and should be reseeded in order to promote the native grass appearance.

New Native Grass: Areas which have been impacted by grading, if left alone through time, will eventually become native grass. However, this may take 6 to 10 years. The Committee recommends that in order to expedite this process, the following method

should be followed:

Impacted areas which are to be "native" shall be seeded with grass seed, usually in the early spring (Feb/Mar) or in the fall (after Sept.). The perennial sod-forming grasses are Western Wheat, Streambank Wheat, or Blue Gramma. Native flowers may be mixed in with the native grass seed. This seed mix will spread rather than grow in clumps as other native grasses do.

The following native grass mix for non-irrigated areas is one of the more common mixes used in the Denver area. You may wish to contact your landscape architect or nursery for other mixes which they have developed.

		<u>lb/1000 sq. ft.</u>
Common Bluegrass	10%	1/4
Creeping Red Fescue	26%	1/2
Western Wheat	32%	3/4
Smooth Brome	32%	3/4
	100%	2 1/4 lb.

The seeded area needs to be mowed at least 3 times annually for a minimum of 3 years. This promotes the native grasses by discouraging weed growth. The grass should be mowed no higher than 6" and not lower than 4". If mowed lower than 4", it will harm the native grass. If possible, give the new native grass water for at least the first 3 years. This will assist in better establishing its growth. Cutting back the wildflowers after bloom and allowing the seed heads to fall to the ground will promote more plants for the next year.

Once the native grasses are established, there will be spotty areas of weeds. These areas should be periodically cut, pulled, and/or sprayed in order to get a more uniform native grass appearance. In conclusion, the native grass areas are "not" maintenance free, but rather minimal maintenance once they are established.

L. Xeriscape. As an alternative to traditional landscaping, xeriscaping is water conservation planning through creative landscaping. Please remember that xeriscaping requires as much or more maintenance as traditional landscaping. The following is a six step program (taken from a flyer written and produced by the Front Range Xeriscape Task Force and printed by the Denver Water Department) to help you save water.

1. **Planning & Design** - Whether you are renovating an existing landscape or installing a new one, planning is a must. Many people create their own designs with excellent results. Landscape professionals can also serve as helpful resources. They can provide advice, offer critique or can develop original plans for you. Remember that you can install your xeriscape landscape in phases to minimize initial expense.
2. **Soil Improvements** - Soil improvement allows for better absorption of water and improved water-holding capacity of the soil. Soils that contain organic matter also release beneficial nutrients to plants. Improve soils prior to the

installation of any irrigation system.

3. **Limited Turf Areas** - Locate turf only in areas where it provides functional benefits. Turf is best separated from plantings of trees, shrubs, groundcovers and flowers so it can be watered separately. Often, turf can be replaced with other less water demanding materials such as groundcovers and mulches.

4. **Efficient Irrigation** - Well planned sprinkler systems can save water. For efficient water use, plan to irrigate turf areas separately from other plantings. Landscape plantings should also be grouped according to similar water needs. Turf areas are best watered with sprinklers. Trees, shrubs, garden flowers and groundcovers can be watered efficiently with low volume, drip, spray or bubbler emitters. Regular adjustments of your irrigation system will save you water and money. Watering may also be economically accomplished with the use of a hand set sprinkler. Make sure that you apply only as much water as the soil can absorb to avoid wasteful runoff. This requires an attentive person who is willing to spend the time to closely monitor watering progress.

5. **Use Mulches** - Mulched planting beds are an ideal replacement for turf areas and help provide landscape interest. Mulches modify the extremes of soil temperature, improve soil by producing humus, reduce evaporation loss, reduce weed growth and slow erosion. Organic mulches are typically bark chips, wood grindings or pole peelings. The suggested minimum depth for mulches is 3". Place mulch directly on the soil or on breathable fabric. Avoid using sheet plastic in planting areas. The most attractive xeriscapes will have 60% or more of mulch areas covered with plants, typically shrubs and groundcover beds. Inorganic mulches include rock and various gravel products. Suitable aggregate of dark, earth-tone colors may be used as an alternative mulch material.

6. **Appropriate Maintenance** - Regular maintenance preserves the intended beauty of your landscape and saves water. A well designed xeriscape saves maintenance costs. Pruning, weeding, proper fertilization, pest control and irrigation system adjustments stretch water savings. Always water according to plant needs and current soil moisture conditions.

If you need more information, please call the Colorado State University Extension at Jefferson County Office at 303-271-6620.

III. **Landscape Maintenance**. Good, consistent maintenance is essential for healthy plant materials. The following are some suggested maintenance considerations and ways of minimizing maintenance problems:

- Plant with regard to Ken-Caryl Ranch's climate. Consider ultimate size, shape, and growth rate of species.

- Locate plants and irrigation heads out of the way of pedestrian/bicycle traffic and car bumpers.
- Provide simple guying systems for trees for a minimum of 2 years and wrap trees most susceptible to sun scald with burlap or paper during fall and winter months.
- Make provisions for efficient irrigation; drain and service sprinkler systems on a regular basis and conduct operational checks on a weekly basis to insure proper performance of the system.
- Provide good soil mixes with sufficient organic material (in the top 6" is desirable).
- Use mulch at least 3" deep to hold soil moisture and to help prevent weeds and soil compaction.
- Provide fertilization, weed and pest controls, etc., as required for optimum plant growth.
- Prune woody plants when needed.
- Space groves of trees or single trees to allow for efficient mowing.
- Locate plants with similar water, sun, and space requirements together.

All lots shall be kept free from plants infected with noxious insects or plant diseases which in the opinion of the Architectural Committee are likely to spread to other properties. All lots shall be kept free from weeds.

IV. References on Landscaping:

1. Rocky Mountain Horticulture by George Kelly.
2. A Complete Guide to Rocky Mountain Gardening by Herb Gundell (1985).
3. Home Landscaping and Maintenance on Swelling Soils by Candace L. Jochim (1981)

V. Xeriscape Information from the Colorado State University Extension at Jefferson County

ANNUALS - With some soil preparation and no more than one hand-watering a week, almost all annuals commonly sold will do well in xeriscape gardens. For the hot, dry exposures, the most reliable include: marigolds, zinnias, cockscomb, sweet alyssum and bachelor's button. Where soils are shaded and cooler, use annuals such as lobelia, pansy and forget-me-not.

BULBS - Most bulbs do best in full sun, but they must have well-drained soils. Spring-flowering bulbs are well-suited for xeriscape plantings because they are drought-evaders; that is, they grow in the cooler, more moist periods of spring and fall and lie dormant underground during the hot summer months.

XERISCAPE PLANT LIST - A list of plants, trees and shrubs for xeriscaping compiled and published by the Colorado State University Extension at Jefferson County is available at www.ext.colostate.edu.

This Guidebook has been provided for informational purposes. If you have questions, please contact the Ken-Caryl Ranch Master Association Office at 303-979-1876. If you have concerns regarding specific drainage problems you should consult a qualified engineer.