



# **TOWN OF MONUMENT LANDSCAPE GUIDELINES**

Updated October 2020

# GENERAL NOTES AND INFORMATION

## PURPOSE

The Town of Monument Landscape Guidelines are intended to supplement the Town's adopted landscape regulations found in the Town of Monument Zoning Ordinance Section 17.52. These formal regulations specify the required minimum square footage of landscaped area, minimum number of trees and shrubs, limitations on the use of turf area and non-living ornamental materials, minimum size of plant materials, required irrigation systems, parking lot landscaping standards, required landscaped maintenance, and landscape plan submittal requirements and review criteria.

The purpose of this supplemental document is to provide guidance to developers, business owners and homeowners in the preparation of acceptable landscape plans regarding overall design, selection of landscape materials, and proper methods of installation. These guidelines are not binding, but they are strongly related to the Town's adopted landscape plan review criteria and are thus worthy of careful consideration.

Much of the information presented herein is based upon water conserving landscape designs, plant materials and installation techniques. A bibliography of sources for recommended plant lists, water conservation principles, and a glossary of terms can be found at the end of this document.

## GENERAL DESIGN GUIDELINES

### Landscape/Planting Areas

- The water needs of plants should be a top consideration, with preference given to plants with little or no supplemental irrigation needed. Plants requiring 1/2" water a week or less are considered "water-wise".
- During plant selection, consider pollinator and/or bird-friendly varieties of flowers and shrubs. Many plant varieties look interesting when left standing in the winter months, providing habitat and forage for birds and beneficial insects.
- Landscaping should be designed as an integral part of the overall site design. Landscaped areas should enhance the building design, enhance public views, provide buffers and transitions and provide screenings.
- Landscaping along all street frontages should complement the existing or planned streetscape plantings. Where a corridor street program exists, street trees of a similar spacing and species should be used.
- Berms, plantings and/or low walls should be used to screen parking areas from view of public rights-of-way. Parking lot landscaping should incorporate trees capable of providing canopy and shade.

- Foundation plantings which provide a colorful landscape edge should be established at the base of buildings, except where it presents a fire hazard. Avoid extending pavement up to the base of structures.
- Where no yard or building setback is available or practical for landscaping, the use of raised planter boxes may be appropriate if not interfering with travel and maintenance along the adjacent sidewalk or other public rights-of-way.
- Flowering trees in informal groups can be used to provide color. The informal groupings of colorful shrubs and flowers are also encouraged to provide visual interest. Specimen trees and distinctive plants should be used as visual focus points within the landscaped area.
- In residential areas, buffer planting should be used along highways and major arterials to visually screen these uses and provide noise reduction.
- When non-living ornamental material is used, it should be in combination with live plants and should be limited to an accent feature.
- Where a site abuts a natural amenity such as a floodplain, trail corridor, park or other open space, the landscape plans should integrate with, and respect the natural integrity of the amenity as opposed to a design concept of stark contrast.
- Where landscaping is intended to serve as a buffer between uses, evergreen trees and shrubs should be used to provide a year-round screen. Plantings should be closely spaced and capable of reaching a minimum five-foot height at maturity.

## Trees

- Tree planting is one of the most effective and economical ways of beautifying a specific site and the overall community. Young, newly planted trees require periodic deep waterings during the first 2 to 3 years after planting. Additionally, it is important to water during dry winter months, **especially for young evergreen trees**.
- Trees and shrubs should be planted so that at maturity they do not interfere with service lines, sight triangles, or basic property rights of adjacent property owners.
- Trees to be planted in paved areas should have a minimum diameter of unpaved area around the trunk roughly equivalent to the canopy diameter at maturity. Protective tree grates should be used where there will be pedestrian traffic. Grates should be cast iron with a natural finish. Trees with deep root systems should be used.
- When planting a street tree on a public right-of-way, refer only to table 1. If the area between the street curb and the sidewalk measures less than 8 feet, a tree from section A. "Small Trees (30 feet or less)" must be used.
- Consider tree height and spread at maturity when designing landscape areas and selecting the appropriate types of trees. Generally, large trees require a 30-foot to 40-foot spacing. Trees planted near curbs and sidewalks should have deep root systems and be installed in such a manner as to prevent physical damage to the public improvement. Form is also important to consider. Some trees are columnar in shape while others are spreading.
- Trees selected should be long-lived, drought tolerant, insect and disease resistant, and require little maintenance. Very fast-growing trees are subject to limb breakage due to snow or wind. A growth rate of 12 inches to 24 inches per year is considered good.

- Trees should be planted in well-drained areas of the site. Xeric/water-wise trees are especially vulnerable to overwatering and should not be planted in a turf area.
- Evergreens or coniferous trees (e.g., pine, spruce, fir and juniper), provide the landscaped area with year-round beauty. They are also popular due to their drought tolerant nature and wide variety of sizes, shapes and colors.
- Evergreens should generally not be used as street or shade trees. Their dense, spreading foliage at the base of the tree presents a traffic hazard when placed near a street; their conical shape makes them poor shade trees. Evergreens are also shallow rooted and more likely to damage sidewalks if planted too closely.

### Shrubs and Goundcovers

- Shrubs provide seasonal color and textural changes to the landscape. They are used to screen and divide areas, provide privacy or soften the edges of a building's foundation. Shrubs make an excellent "living" wall or border.
- Shrubs generally tolerate difficult growing site conditions better than other landscape plants. They can rejuvenate themselves after severe cold or breakage and also recover rapidly after pruning. They have few disease or insect problems.
- Mature height and form are important to consider in plant selection. Generally, shrubs should be spaced by two-thirds of the height, except low spreading shrubs which should be spaced at two-thirds of the plants ultimate spread. A shrub should not hang over or spread across a sidewalk at maturity.
- Some factors for consideration in shrub plant materials:
  - *Scale*. The size and coarseness of a plant should match the size of area to be landscaped with groundcover plantings.
  - *Exposure*. Many groundcovers will live in shade, where others will tolerate dry, hot and sunny sites. Refer to Table 3 section on shade tolerant plants for suggestions.
  - *Topography*. Groundcovers with fibrous root systems should be used on steep slopes. Densely planted groundcovers can reduce the potential for erosion. Check the Notes column in Table 3 for groundcovers that provide good erosion control.
  - *Soils*. Most groundcovers require well-drained soils.
  - *Foot Traffic*. Most groundcovers will not tolerate foot traffic. Stepping stones or walkways should be provided to accommodate pedestrians.
  - *Matting Quality*. Varieties which spread rapidly are desirable to create a dense cover. Edging material is recommended to keep groundcover plants from spreading into turf areas.
  - *Maintenance*. Consider the amount of weeding, pruning, and debris removal required.
  - *Visual Interest*. Table 3 lists shrubs and perennial plants that are tolerant of our elevation and climate. Varieties that are evergreen or provide winter interest are marked with a <sup>1</sup> and <sup>2</sup>.

## Turf Grasses

- Grass is one of the most appealing plants in the landscape due to its color, appearance and usability. Turf is very durable and never wears out if properly cared for. Good quality seed or sod, with the soil properly prepared is important to maximize this one-time investment.
- Planting turf from seed can be challenging and action is often required to prevent weed growth during establishment of a mature lawn. If planting grass seed, be sure the label lists 0 (zero) percent noxious weed content in the seed mix.
- Where irrigation is available, Kentucky Bluegrass produces the highest quality turf in Colorado. There are several bluegrass varieties and blends to choose from. Bluegrass is also fairly drought tolerant. The intensive water use associated with it and other turf varieties is that amount needed to keep the grass green throughout the season. For this reason, the Town encourages the use of only a limited amount of bluegrass in landscape areas.
- Where irrigation is limited or will not be used, or where a water conserving grass is desired, several native and drought tolerant turf varieties are available. Native grasses require up to 50% less water than bluegrasses and can get by on less commercial fertilizer. Maintenance is less intensive with less frequent or no mowing required. Generally, these grasses are used in large landscape tracts or at the edges of bluegrass sections as an extension of the turf area.
- In areas planned for heavy pedestrian traffic or recreational play, grass species must be carefully selected. Sod should be used, as opposed to seeding, for these areas.
- Prior to seeding and sodding turf, soils should be improved with a minimum of three cubic yards of organic plant matter per one thousand square feet, and ten pounds of triple super phosphate per one thousand square feet of lawn area close to planting time. These materials should be tilled to a depth of six to eight inches into the soil. Acceptable organic matters include aged compost, wood humus from soft non-toxic trees, sphagnum moss (excluding that from Colorado origin,) or aged, treated manures.

## **WATER CONSERVING DESIGN CONCEPTS**

Given the semi-arid climate and prevalence of heavy clay, sand or decomposed granite soils, water conserving (or Xeriscape) landscaping is recommended to ensure attractive landscaped areas which are most likely to survive and require the least amount of water possible. Another factor which recommends water conservative design is the Town's exclusive reliance on groundwater for its supply of municipal water. This non-renewable supply has forced the Town to implement water conservation policies such as a two-day watering restriction in the summer months, a water rate schedule favoring conservative water use, and public area water conservation regulations which require public entities to design and/or modify their landscaping to reduce water consumption.

Xeriscaping principles were developed in Colorado in response to our unique climate and geography. For this reason, the Town of Monument recommends this approach to landscape design. Xeriscape does not mean "zero-scape" or imply a total lack of turf or live plants. Xeriscape principles focus on an overall design that makes the most efficient use of water. High water demand plants and turf may be used but only in limited areas

and in appropriate combinations. Plant choices listed in Table 3 are all water-wise, unless stated otherwise in the notes. Table 4 Lists low water grass varieties.

The following are generally accepted design principles that will help to achieve water-efficient landscaping:

- Design landscaped areas as a whole, giving full attention to each element of the landscape design, considering use, required management, and visual impact.
- Create practical turf (lawn) areas of manageable sizes, shapes, and using appropriate grass species. There are water conserving turf types such as tall fescue and blue grama to consider. Design turf areas to have a separate irrigation zone from plants that will use drip irrigation or will be watered less frequently. Bedding plants with higher water needs can be placed in areas close to turf zones where they will receive sprinkler over-spray.
- Group plants according to water needs, with plants needing the least water in zones that dry out quickly or are difficult to irrigate. Trees and shrubs are best planted in beds or islands separate from the turf area. Refer to the diagram on Table 5 for an example of common watering and plant selection zones.
- Improve the soil with organic matter, such as compost to allow for better absorption of water and improved water holding capacity of the soil. In areas that are difficult to amend the soil, select plants that thrive in 'lean', nonamended soil. Generally, native varieties thrive in non-amended soil.
- Utilize mulch between plants to minimize evaporation, slow erosion and weed growth. Use natural mulch materials such as wood or gravel. The use of landscape or weed barrier fabric under mulch is not recommended.
- Irrigate efficiently with properly designed systems and by applying the right amount of water at the right time. Town ordinance sets forth a two-day watering schedule and specifies times of day when irrigation can be accomplished. Installing a rain sensor on your irrigation system, which will skip a watering session during a rain event, can save a lot of water and money. The Town currently offers water bill rebates for customers who install rain sensors.
- Maintain the landscape appropriately by mowing, pruning and fertilizing properly. This includes setting mower heights to at least 2 ½ inches and avoiding over-application of fertilizers.

## **RECOMMENDED PLANT MATERIAL**

The following lists include species and varieties of trees, shrubs, perennial plants, groundcovers, and grass types which the Town specifically recommends for use due to their tolerance of our elevation and precipitation. The lists are not all encompassing and there may be other species that would be acceptable as well. Pollinator friendly plants and trees are preferred over non-blooming ornamental and exotic species. Pollinator friendly varieties are marked with a <sup>3</sup> on plant lists. It is the responsibility of the property owner to avoid planting anything listed as a noxious weed by the state of Colorado. Refer to the Colorado Department of Agriculture's Noxious Weed List for current information.

**Table 1 Street ROW and Parking Lot Trees** provides a list of recommended trees that are well suited for planting along street rights-of-way and in parking lots. The trees listed are good shade trees with a variety of attractive features. Some of the trees listed are particularly drought tolerant.

<b>Table 1. Street, R.O.W., and Parking Lot Trees</b>		
<b>Small Trees (thirty (30) feet or less)</b>		
Scientific Name	Common Name, Variety or Cultivar	Notes
<i>Acer ginnala</i>	Amur/Ginnala Maple - 'Flame'	Drought tolerant
<i>Acer grandidentatum</i>	Bigtooth Maple, Wasatch Maple	Drought tolerant
<i>Acer tataricum</i>	Tatarian Maple - 'Hot Wings'®, 'Pattern Perfect'™	Drought tolerant
<i>Amelanchier alnifolia</i>	Serviceberry- Saskatoon	
<i>Amelanchier canadensis</i>	Serviceberry - Shadblow	
<i>Catalpa occidentalis</i>	Western Hackberry	
<i>Catalpa ovata</i>	Chinese Catalpa	
<i>Crataegus ambigua</i>	Russian Hawthorn	Depending on pruning, this can be a large shrub or a small tree
<i>Crataegus crusgalli</i>	Cockspur var. inemis	Depending on pruning, this can be a large shrub or a small tree
<i>Forestiera neomexicana</i>	Desert Olive, New Mexico Privet	Depending on pruning, this can be a large shrub or a small tree, Extremely drought tolerant
<i>Koelreuteria paniculata</i>	Goldenrain Tree	Drought tolerant
<i>Malus 'Dolgo'</i>	'Dolgo' Crabapple	
<i>Malus 'Indian Magic'</i>	'Indian Magic' Crabapple	
<i>Malus 'Profusion', 'Radiant'</i>	'Profusion', 'Radiant' Crabapple	
<i>Malus 'Spring Snow'</i>	'Spring Snow' Crabapple	
<i>Malus x 'Centzam'</i>	'Centurion'® Crabapple	
<i>Prunus x cistena</i>	Purpleleaf Sand Cherry	Nicely Cold-hardy but not drought tolerant
<i>Quercus gamelii</i>	Gambel Oak	Drought tolerant
<i>Quercus undulata</i>	Wavyleaf Oak	Drought tolerant
<b>Large Trees (Thirty (30) feet and larger)</b>		
<i>Catalpa speciosa</i>	Northern/Western Catalpa	Drought tolerant
<i>Celtis occidentalis</i>	Common Hackberry	
<i>Gleditsia triacanthos v. inermis</i>	Thornless Common Honeylocust- 'Northern Acclaim'®	Drought tolerant
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	

**Table 2 Other Recommended Trees** provides a list of recommended trees that are well suited for the area and can be planted in a variety of situations other than within a street corridor, parking lot island or public right-of-way.

<b>Table 2 Other Recommended Trees</b>		
<b>Small Trees (Thirty (30) feet or less)</b>		
<b>Scientific Name</b>	<b>Common Name, Variety or Cultivar</b>	<b>Notes</b>
<i>Acer ginnala</i>	Amur/Ginnala Maple - 'Flame'	Drought tolerant
<i>Acer grandidentatum</i>	Bigtooth Maple, Wasatch Maple	Drought tolerant
<i>Acer tataricum</i>	Tatarian Maple - 'Hot Wings'®, 'Pattern Perfect'™	Drought tolerant
<i>Amelanchier alnifolia</i>	Serviceberry- Saskatoon	
<i>Amelanchier canadensis</i>	Serviceberry - Shadblow	
<i>Catalpa ovata</i>	Chinese Catalpa	
<i>Cornus mas</i>	Cornelian Cherry Dogwood	
<i>Crataegus ambigua</i>	Russian Hawthorn	Depending on pruning, this can be a large shrub or a small tree
<i>Crataegus crusgalli</i>	Cockspur var. inemis	Depending on pruning, this can be a large shrub or a small tree
<i>Forestiera neomexicana</i>	Desert Olive, New Mexico Privet	Depending on pruning, this can be a large shrub or a small tree, Extremely drought tolerant
<i>Juniperus chinensis</i>	Chinese Juniper -'Hetzi columnaris'	
<i>Juniperus monosperma</i>	One-seed Juniper	Xeric, Do not overwater
<i>Juniperus osteosperma</i>	Utah Juniper	Xeric, Do not overwater
<i>Juniperus scopulorum</i>	Rocky Mountain Juniper - 'Welchii', 'Gray Gleam', 'Cologreen', 'Sky Rocket', 'Wichita Blue', 'Moonglow', 'Medora'	
<i>Juniperus virginiana</i>	Eastern Red Cedar, Eastern Red -'Hillspire', 'Idyllwild', 'Blue Arrow', 'Taylor', 'Manhattan Blue'	Will not tolerate windy sites
<i>Koeleruteria paniculata</i>	Goldenrain Tree	Drought tolerant
<i>Malus 'Dolgo'</i>	'Dolgo' Crabapple	
<i>Malus 'Indian Magic'</i>	'Indian Magic' Crabapple	
<i>Malus 'Profusion', 'Radiant'</i>	'Profusion', 'Radiant' Crabapple	
<i>Malus 'Spring Snow'</i>	Spring Snow Crabapple	
<i>Malus 'Thunderchild'</i>	'Thunderchild' Crabapple	
<i>Picea pungens</i>	Hoopsii Spruce, 'Lundeby's Dwarf', 'Sester Dwarf'	Needs moderate water
<i>Pinus aristata</i>	Bristlecone Pine	Xeric, Do not overwater, slow growing
<i>Pinus mugo</i>	Mugo - 'Big Tuna', 'Tannenbaum'	Drought tolerant
<i>Pinus strobiformis</i>	Southwestern White Pine	
<i>Prunus armeniaca</i>	Cinese Apricot - 'Moongold', 'Moorpark'	
<i>Prunus sibirica</i>	Siberian Apricot	Fruit inedible
<i>Prunus x cistena</i>	Purpleleaf Sand Cherry	Cold-hardy but not drought tolerant
<i>Prunus virginiana melanocarpa</i>	Native Chokecherry	
<i>Quercus gambelii</i>	Gambel Oak	Drought tolerant
<i>Quercus undulata</i>	Wavyleaf Oak	Drought tolerant
<i>Syringa vulgaris</i>	Common Purple Lilac	
<b>Table 2 Other Recommended Trees</b>		
<b>Medium - Large Trees (over thirty (30) feet)</b>		
<i>Abies concolor</i>	White fir	
<i>Catalpa speciosa</i>	Northern/Western Catalpa	Drought tolerant
<i>Celtis occidentalis</i>	Common Hackberry	
<i>Gleditsia triacanthos v. inermis</i>	Thornless Common Honeylocust- 'Northern Acclaim'®	Drought tolerant, other honeylocust varieties not as hardy
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	
<i>Picea engelmannii</i>	Engelmann Spruce	
<i>Picea glauca</i>	Black Hills Spruce 'Densata', Compact White Spruce 'North Star', Weeping White Spruce 'Pendula'	Needs moderate water, other glauca varieties not as hardy
<i>Picea pungens</i>	Colorado Blue Spruce - 'Baby Blue eyes', 'Bakeri', 'Fastigiata', 'Fat Albert', Hoopsii, 'Colorado Weeping',	Needs moderate water
<i>Pinus edulis</i>	Pinion or Pinyon Pine	Xeric- Do not overwater
<i>Pinus Flexilis</i>	Limber Pine, 'Vanderwolf's Pyramid'	
<i>Pinus nigra</i>	Austrian Pine	
<i>Pinus strobiformis</i>	Southwestern White	
<i>Populus tremuloides</i>	Quaking Aspen	Not recommended to plant individually, better in groups, inspect often for disease and insect problems
<i>Prunus padus</i>	European Birdcherry	



**Table 3 Shrubs and Groundcovers** provides a list of recommended shrubs, perennial plants, and groundcovers, which are known to grow well in our region.

<b>Table 3 Shrubs, Perennial Plants, and Ground Covers</b>		
<b>(all plants listed can be considered water-wise unless otherwise noted)</b>		
<b>Scientific Name</b>	<b>Common Name, Variety, or Cultivar</b>	<b>Notes</b>
<b>Shrubs and Shrublike Perennials</b>		
<i>Achillea filipendulina</i>	'Coronation Gold', 'Red Velvet', 'Moonshine'	Will not reseed and spread, ensure a sterile variety is selected
<i>Agastache rupestris</i> <sup>3</sup>	Sunset Hyssop	Other Agastache varieties are short-lived at this altitude
<i>Agastache blue hybrids</i> <sup>3</sup>	Agastache 'Blue Fortune'	Other Agastache varieties are short-lived at this altitude
<i>Allium 'Millenium'</i> <sup>2 3</sup>	Ornamental Allium	tough plant, best planted in groups
<i>Amorpha canescens</i> <sup>3</sup>	Lead Plant	
<i>Anthemis marschalliana</i>	Filigree daisy	Could serve as a groundcover if mass planted
<i>Arctostaphylos patula</i>	Manzanita, Bearberry	Slowly spreading growth habit
<i>Artemesia tridentata</i>	Big Sage	Depending on pruning, this can be a large shrub or a small tree
<i>Artemisia cana</i>	Silver Sage	
<i>Artemisia versicolor</i> <sup>1,2</sup>	'Sea Foam' Sage	
<i>Atriplex canescens</i>	Fourwing Saltbrush	
<i>Baptisia australis</i>	False Indigo	
<i>Buddleia alternifolia</i> <sup>3</sup>	Silver Fountain Butterflybush	Can grow up to 10 feet tall, other Buddleias will occasionally be damaged by deer and require more water
<i>Caragana arborescens</i>	Siberian peashrub	Can grow up to 12 feet tall
<i>Caryopteris x clandonensis</i> <sup>3</sup>	Spirea, 'Blue Mist', 'Dark Knight', 'First Choice'	Lower water needs and harder than Spiraea sp. (unrelated)
<i>Ceanothus fendleri</i> <sup>3</sup>	Fendler's Ceanothus, Buckbrush, Mountain Lilac	
<i>Centranthus ruber</i> <sup>3</sup>	Red Valerian, Jupiter's Beard	Xeric once established
<i>Cercocarpus intricatus</i>	Littleleaf Mountain Mahogany	Can grow up to 8 feet tall
<i>Cercocarpus ledifolius</i>	Curlleaf Mountain Mahogany	Depending on pruning, this can be a large shrub or a small tree
<i>Chamaebatiaria millifolium</i> <sup>2,3</sup>	Fernbush	
<i>Coreopsis auriculata</i>	Dwarf Coreopsis	Deer will occasionally eat the blooms of double varieties
<i>Coreopsis grandiflora</i>	Dwarf Double Coreopsis	Deer will occasionally eat the blooms of double varieties
<i>Coreopsis verticillata</i>	Fernleaf Coreopsis	
<i>Cotoneaster lucidus (C. acutifolius)</i> <sup>3</sup>	Peking or Hedge Cotoneaster	
<i>Cotoneaster racemiflorus var. soongoricus</i> <sup>3</sup>	Sungari Redbead Cotoneaster	Can grow up to 8 feet tall
<i>Crataegus ambigua</i> <sup>3</sup>	Russian Hawthorn	Depending on pruning, this can be a large shrub or a small tree
<i>Cytisus purgans</i>	Spanish Gold® Broom	
<i>Daphne x burkwoodii</i> <sup>2</sup>	'Carol Mackie' Daphne	
<i>Echium Amoenum</i> <sup>3</sup>	Red Feathers	
<i>Echinacea purpurea</i> <sup>3</sup>	Purple Coneflower	Native variety is hardiest, hybrids and double varieties require more water
<i>Ericameria nauseosa</i> <sup>3</sup>	Rabbitbrush	
<i>Epilobium canum garrettii</i> <sup>3</sup>	Orange Carpet® Hummingbird Trumpet	The only Epilobium that thrives here, Gently spreading
<i>Erigonum umbellatum</i> <sup>1,2 3</sup>	Sulphur Flower, Sulphur buckwheat, 'Gentle Giant'	Foliage turns purple-red in winter, Gently spreading
<i>Erigonum umbellatum</i> <sup>1,2 3</sup>	Sulfur Flower, Kannah Creek®, 'Poncha Pass Red'	Foliage turns purple-red in winter, Gently spreading
<i>Euonymus alatus</i>	Burning Bush	
<i>Euphorbia polychroma</i>	Cushion Spurge	Do not confuse with Euphorbia cyparissias, Euphorbia esula, and Euphorbia myrsinites which are designated as noxious weeds
<i>Fallugia paradoxa</i> <sup>3</sup>	Apache Plume, Ponil	
<i>Fendlera rupicola</i> <sup>3</sup>	Cliff Fendlerbrush, False Mockorange	
<i>Forsythia x hybrida</i>	Forsythia, 'Meadowlark', 'Northern Gold', 'Northern Sun'	Not xeric
<i>Gaillardia aristata</i> <sup>3</sup>	Native Blanket flower	Native variety does well at this elevation, hybrid varieties are not hardy and require more water
<i>Geum triflorum</i> <sup>3</sup>	Prairie Smoke	Not xeric
<i>Hemerocallis spp.</i>	Daylily	The blooms of some varieties will be browsed by deer, but never the leaves
<i>Holodiscus dumosus</i> <sup>3</sup>	Rock Spirea	
<i>Iris hybrids</i>	Iris	Many varieties, Avoid Yellow Flag Iris
<i>Jamesia americana</i> <sup>3</sup>	Cliff Jamesia	
<i>Juniperus spp.</i>	Juniper sabina, Juniperus x medina, Juniperus communis, Juniperus procumbens, Juniperus horizontalis	Many varieties
<i>Kniphofia caulescens</i> <sup>3</sup>	Regal Torch Lily	
<i>Lavandula angustifolia</i> <sup>3</sup>	English Lavender, 'Hidcote', 'Munstead'	Benefits from a sheltered location
<i>Liatris punctata</i> <sup>3</sup>	Gayfeather, Prairie Blazing Star	Deer will sometimes eat the blooms
<i>Ligustrum vulgare 'Cheyanne'</i>	Cheyenne Privet	Can grow up to 10 feet tall
<i>Lonicera involucrata</i> <sup>3</sup>	Twinberry Honeysuckle	Deer will sometimes damage young plants if placed near open spaces or wildlife corridors
<i>Lonicera korolkowii</i> <sup>3</sup>	Blueleaf Honeysuckle	Deer will sometimes damage young plants if placed near open spaces or wildlife corridors
<i>Mirabilis multiflora</i> <sup>3</sup>	Desert Four o' Clock	Tough plant, grows better with no supplemental irrigation
<i>Monarda spp.</i> <sup>3</sup>	Monarda, Bee Balm, 'Jacob Cline'	Native Monarda fistulosa is the only waterwise variety, ornamental red and purple varieties require moderate water
<i>Nepeta spp.</i> <sup>3</sup>	Catmint, 'Six Hills Giant', 'Walker's Low', Little Trudy®	These listed varieties have sterile seeds and are non-invasive

**Table 3 Shrubs, Perennial Plants, and Ground Covers**

**(CONTINUED)**

<i>Penstemon spp.</i> <sup>2</sup>	Rocky Mountain Penstemon, Beardtongue, Pineleaf Penstemon	Many varieties and colors, most grow well here, do not overwater, likes gravel mulch, prefers native soil, avoid varieties from lower southwest
<i>Philadelphus microphyllus</i> <sup>3</sup>	Littleleaf Mock-orange	
<i>Physocarpus opulifolius</i> <sup>3</sup>	Common Ninebark	Many varieties, elevation limit 7,500'
<i>Physocarpus monogynus</i> <sup>3</sup>	Native Ninebark	Native variety is more tolerant of our elevation
<i>Pinus mugo</i>	Mugo Pine	Many varieties, some are shrub-like
<i>Potentilla fruticosa</i> <sup>3</sup>	Cinquefoil, Potentilla	
<i>Prunus pumila besseyi</i> <sup>3</sup>	Sand Cherry, Creeping Western Sand Cherry 'Pawnee Buttes'	
<i>Prunus tomentosa</i> <sup>3</sup>	Nanking Cherry	Deer will sometimes damage young plants if placed near open spaces or wildlife corridors
<i>Purshia tridentata</i> <sup>3</sup>	Antelope bitterbrush, Antelope-brush	
<i>Rhus aromatica</i> 'Gro-Low' <sup>3</sup>	Dwarf Fragrant Sumac 'Gro-Low'	
<i>Rhus glabra cismontana</i> <sup>3</sup>	Smooth Sumac	
<i>Rhus trilobata</i>	Threeleaf Sumac, Creeping Three-leaf Sumac 'Autumn Amber'	
<i>Ribes spp.</i>	Currant, Yellow Flowering Currant, 'Gwen's Buffalo', Alpine Currant, Wax Currant, 'Green Mound'	Most varieties of Currant grow well here. They are deer resistant and waterwise
<i>Rosa woodsii</i> <sup>2,3</sup>	Woods Rose, Wild Rose	Spiny, Thicket-forming
<i>Rosa foetida</i> <sup>2,3</sup>	Persian Yellow Rose, Austrian Copper	foetida varieties are extra spiny and successfully fend off deer
<i>Rubus deliciosus</i> <sup>3</sup>	Boulder Raspberry, Thimbleberry	Thornless and non-suckering, Deer will sometimes damage young plants if placed near open spaces or wildlife corridors
<i>Rudbeckia fulgida</i>	Black-eyed susan, Coneflower, 'Goldstrum'	Requires more water than the native biennial variety
<i>Salvia spp.</i> <sup>3</sup>	Savlia nemorosa, Salvia x sylvestris 'Blue Hill', 'May Night', 'Rose Queen', 'Caradonna'	Many varieties, most do well here, avoid varieties from the lower southwest, benefits from moderate irrigation
<i>Saponaria x lembergii</i> 'Max Frei' <sup>3</sup>	Soapwort 'Max Frei'	Large long-blooming variety, Deer will occasionally browse
<i>Scrophularia macrantha</i>	Red Birds in a Tree	Benefits from placement in a sheltered location, ideal planted in groups of three
<i>Shepherdia argentea</i> <sup>3</sup>	Silver Buffaloberry	
<i>Spiraea spp.</i> <sup>3</sup>	Vanhoutte Spiraea, Spiraea japonica	Less hardy than Caryopteris x clandonensis (unrelated), requires moderate water
<i>Stachys byzantina</i>	Lamb's Ears, 'Helene von Stein', 'Silver Carpet'	'Helene von Stein' does not spread and maintains a tidy mounded shape
<i>Symphoricarpos spp.</i> <sup>3</sup>	Snowberry, Coralberry	Most varieties are hardy enough for our elevation
<i>Veronica spp.</i>	<i>V. spicata</i> 'Red Fox' 'Blue Charm', <i>V. x</i> 'Sunny Border Blue'	
<i>Viburnum spp.</i> <sup>3</sup>	Wayfaring Tree, Nannyberry, Cranberrybush	Some varieties can grow very large, most are hardy enough for our elevation, avoid <i>Viburnum plicatum tomentosum</i> , some varieties need moderate water
<b>Ornamental Grasses</b>		
<i>Achnatherum hymenoides</i> ( <i>Oryzopsis hymenoides</i> <i>synonymous</i> )	Indian Rice Grass, 'Nezpar'	
<i>Andropogon gerardii</i> <sup>2</sup>	Big Bluestem Grass, Windwalker®, 'Rain Dance'	Retains a maroon color through winter
<i>Bouteloua curtipendula</i>	Sideoats Grama Grass	
<i>Bouteloua gracilis</i> <sup>2</sup>	Blue Grama Grass, 'Blond Ambition'	Blond ambition holds its seed heads through winter
<i>Calamagrostis acutiflora</i> <sup>2</sup>	Feather Reed Grass	Because our elevation is at this plant's hardiness limit, consider placing it in sheltered positions in the landscape
<i>Deschampsia cespitosa</i>	Tufted Hair Grass, 'Northern Lights'	Moderate water needs
<i>Festuca arizona</i>	Arizona Fescue	
<i>Festuca cinerea</i> , <i>F. glauca</i>	Blue Fescue, 'Sea Urchin', 'Boulder Blue', 'Elijah Blue'	
<i>Festuca idahoensis</i>	Idaho Fescue, 'Siskiyou Blue'	Moderate water needs
<i>Helictotrichon sempervirens</i>	Blue Oat Grass, Blue Avena Grass	
<i>Koeleria macrantha</i> ( <i>K. cristata</i> <i>synonymous</i> )	June Grass	Moderate water needs
<i>Melica ciliata</i>	Silky Spike Melic Grass	Moderate water needs
<i>Miscanthus sinensis</i> <sup>2</sup>	Maiden or Silver Grass	elevation is at this plant's hardiness limit, consider
<i>Miscanthus sinensis gracillimus</i> <sup>2</sup>	Maiden Hair Grass 'Gracillimus'	Seems to be the hardiest of the Miscanthus
<i>Panicum virgatum</i> <sup>2</sup>	Switch Grass, 'Shenandoah', 'Heavy Metal', 'Prairie Sky', 'Cloud Nine'	Xeric once established
<i>Phalaris arundinacea</i> 'Picta'	Ribbon Grass	Moderate water needs, Aggressively spreading, Use for mass planting or as a ground cover
<i>Schizachyrium scoparium</i> <sup>2</sup>	Little Bluestem, 'Blaze', 'Cimmaron', 'The Blues',	
<i>Sorghastrum nutans</i>	Indiangrass, Thin Man, 'Bluebird', 'Holt', 'Sioux Blue'	Newer cultivars are not as hardy as the original
<i>Sporobolus heterolepis</i> <sup>2</sup>	Prairie Dropseed	
<i>Sporobolus wrightii</i>	Giant Sacaton	Can grow up to 10 feet tall

**Table 3 Shrubs, Perennial Plants, and Ground Covers**

**(CONTINUED)**

**Shade Tolerant Plants (these plants also tolerate sun)**

<i>Aegopodium podagraria</i>	Bishop's Weed	Spreading groundcover, aggressive and requires containment, great for erosion control, not xeric
<i>Arctostaphylos uva-ursi</i>	Kinnick-kinnick	Xeric once established
<i>Campanula carpatica</i>	Carpathian Harebell	Not xeric
<i>Ceratostigma plumbaginoides</i> <sup>2 3</sup>	Hardy Plumbago	
<i>Delosperma spp.</i> <sup>1,2</sup>	Ice Plant	Groundcover, will bloom little in the shade
<i>Galium odoratum</i>	Sweet Woodruff	Not xeric, can be aggressive and requires containment
<i>Juniperus communis montana</i>	Common Juniper	Xeric once established
<i>Lonicera japonica 'Halliana'</i> <sup>3</sup>	Half's Honeysuckle	Xeric once established
<i>Mahonia repens</i> <sup>3</sup>	Creeping Oregon Grape-holly	Xeric once established
<i>Prunella grandiflora</i>	Self Heal, 'Bella Blue'	
<i>Stachys byzantina</i>	Silver Carpet' Lamb's Ear	Groundcover
<i>Euonymus fortunei</i> <sup>2</sup>	Common Winter Creeper, 'Coloratus', Purple Wintercreeper	good for erosion control
<i>Vinca minor</i>	Periwinkle, Creeping Vinca	Spreading groundcover, aggressive and requires containment, great for erosion control, xeric once established

**Ground Covers**

<i>Antennaria parvifolia</i>	Dwarf Pussytoes 'McClintock'	Tough, very low growing, good for rocky areas
<i>Arctostaphylos x coloradensis</i>	Mock Bearberry Manzanita	slowly spreading groundcover shrub
<i>Atriplex corrugata</i>	Mat Saltbrush	tolerates salty soils
<i>Cerastium tomentosum</i>	Snow in Summer	Aggressive spreader, give this plant plenty of space, great for erosion control
<i>Delosperma sp.</i> <sup>1,2</sup>	Ice Plant	Endless varieties, all grow well here
<i>Heterotheca jonesii</i> <sup>1,3</sup>	Creeping Goldenaster	
<i>Juniperus horizontalis</i>	Creeping Juniper	
<i>Penstemon caespitosus</i> or <i>Penstemon crandallii</i>	Creeping Penstemon	Gently spreading groundcover, will grow in very poor soil
<i>Persicaria affinis</i> or <i>Bistorta affinis</i>	Himalayan Border Jewel, Fleece Flower	Can be aggressive if watered moderately
<i>Phlox subulata</i>	Creeping Phlox	
<i>Potentilla neumanniana</i> <sup>3</sup>	Creeping Cinqufoil	
<i>Prunus besseyi 'P011S'</i> <sup>3</sup>	Sand Cherry Pawnee Buttes®	
<i>Pterocephalus depressus</i> <sup>1,3</sup>	Carpeting Pincushion Flower	
<i>Rhus aromatica 'Gro-Low'</i> <sup>3</sup>	Dwarf Fragrant Sumac 'Gro-Low'	
<i>Sedum acre</i> <sup>1</sup>	Goldmoss Stonecrop	
<i>Sedum</i> <sup>1,2</sup>	Stonecrop	Many varieties, most grow well here, deer will sometimes browse plants, but not to the point of killing the plant
<i>Sempervivum sp.</i>	Hen and Chicks	Gently spreading groundcover, will grow in very poor soil
<i>Symphoricarpos x chenaultii</i> <sup>3</sup>	Hancock Corralberry	
<i>Thymus spp.</i> <sup>3</sup>	Thyme, Creeping Thyme, Woolly Thyme	
<i>Veronica livanensis</i> <sup>1</sup>	Turkish Veronica, Turkish Speedwell	
<i>Veronica oltensis</i>	Thyme Leaf Speedwell	
<i>Veronica rupestris</i>	Creeping Veronica	Not Xeric, does well at our high altitude
<i>Veronica 'Reavis'</i> <sup>1</sup>	Crystal River® Veronica	
<i>Epilobium canum garrettii</i>	Orange Carpet® Hummingbird Trumpet	The only Epilobium that thrives here, Gently spreading

<sup>1</sup> Evergreen Foliage

<sup>2</sup> Winter color or interest

<sup>3</sup> Beneficial to pollinators

**Table 4 Turf** provides a list of recommended water conserving turf and native grass varieties.

<b>Table 4</b>		
<b>Turf Grasses</b>		
<b>Scientific Name</b>	<b>Common Name, Variety, or Cultivar</b>	<b>Notes</b>
<i>Bouteloua gracilis</i> <sup>1</sup>	Blue Grama	The most drought tolerant turf option, Other Gramas, including Buffalograss, are not tolerant of our altitude
<i>Puccinellia distans</i>	Alkaligrass	Used in situations where soil is too salty for other turf grasses
<i>Lolium perenne</i>	Perennial ryegrass	
<i>Festuca ssp.</i>	Tall fescue, Fine fescue	
<i>Poa pratensis</i>	Kentucky bluegrass	
<i>Puccinellia distans</i>	Alkaligrass	Used in situations where soil is too salty for other turf grasses
<b>Native Grasses<sup>1</sup></b>		
<i>Pascopyrum smithii</i>	Western wheatgrass	
<i>Elymus trachycaulus ssp. trachycaulus</i>	Slender wheatgrass	
<i>Bouteloua gracilis</i>	Blue Grama	Other Gramas, including Buffalograss, are not tolerant of our altitude
<i>Hesperostipa comata ssp. comata</i>	Needle and Thread	
<i>Nassella viridula</i>	Green Needlegrass	
<i>Festuca arizonica</i>	Arizona fescue	
<i>Bromus marginatus</i>	Mountain brome	
<i>Koeleria macrantha</i>	Prairie junegrass	
<i>Poa secunda ssp. sandbergii</i>	Sandberg bluegrass	
<i>Schizachyrium scoparium</i>	Little bluestem	
<i>Andropogon hallii</i>	Sand bluestem	

<sup>1</sup> Xeric/Water-wise once established

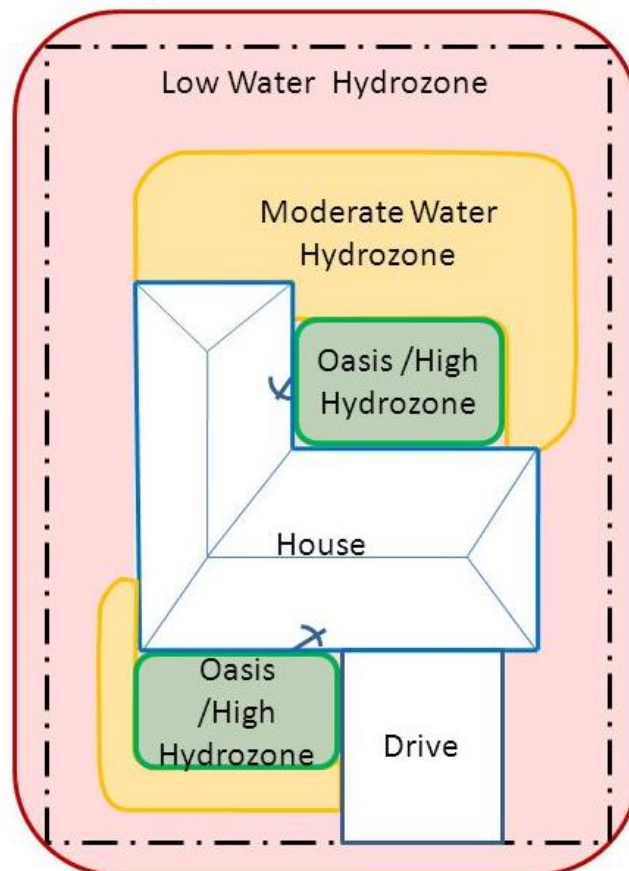
**Table 5** *Irrigation and Plant Variety Zones* provides a diagrammatic example of a water-wise home landscape design.

**Table 5 Irrigation and Plant Variety Sample Design**

Watered daily or 2-3x a week, most often with overhead spray irrigation. Ideal for turf grass and bedding plants requiring the most water. Could let overspray from lawn irrigation water flower beds. This is the area that is used and/or seen the most often.

Watered 1-2x a week via a drip system. Plants are hardier with less required maintenance. Safer zone for pollinator-friendly plants. Spreading groundcovers and perennial plants surrounded by mulched ground are ideal for this area.

Watered 1-2x a month, if at all. Could be on a drip system or hand watered as needed. Generally anything planted in this zone will need periodic irrigation only while plants' roots are getting established, then can rely on natural precipitation alone. If property is sloped, this zone may receive adequate water by runoff alone (after establishment). Native grasses or shrubs are ideal for this area. Some may choose not to plant anything at all in this zone and landscape solely with mulch or stone.



## GLOSSARY OF TERMS

**Organic** – materials which are not man made; sourced from nature

**Xeriscape** - a style of landscape design requiring little or no irrigation or other maintenance, used in arid regions

**xeric** - (of an environment or habitat) containing little moisture; very dry.

**Drought tolerant** – A plant that, **once established**, can survive long periods without irrigation.

**Pollinator** - animals such as birds, bees, bats, butterflies, moths, and beetles responsible for the transfer of pollen in and between flowers of the same species which leads to fertilization, and successful seed and fruit production for plants. Pollination ensures that a plant will produce full-bodied fruit and a full set of viable seeds. Pollinating species are extremely important to agricultural industry and the health of Colorado's natural landscapes.

**Pollinator friendly** – plant species that provide food (forage) and/or nesting habitat for pollinators.

**Right-of-way (R.O.W.)** - all streets, roadways, sidewalks, alleys and all other areas reserved for present or future use by the public as a matter of right, for the purpose of vehicular or pedestrian travel.

**Mature coverage**- measured by the diameter of the spread of a fully- grown plant.

## SOURCES

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