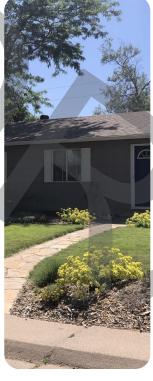
### City of Fort Collins Design Guide



















**Chapter 5: Parkway Strips April 2024** 

An Introduction to Diversifying Urban Landscapes in Fort Collins

### Acknowledgments

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### **Design Guide:**

An Introduction to Diversifying Urban Landscapes in Fort Collins

#### Introduction

#### Overview of the Guide

The purpose of this guide is to showcase a wide variety of diverse urban landscape options in Fort Collins. This guide will help you determine which landscape options are best for you, whether you are a homeowner, renter, business owner, school, developer, or part of a Homeowners Association. The overarching goal is to provide inspiration for your next dream landscape.

The examples in this guide apply to Northern Colorado Front Range ecosystems, however the context may be appropriate for projects in other regions, as well.

In this guide, you will find an introduction and the main considerations needed for installing each landscape option. Tips for design, installation, and maintenance are included in each chapter. In addition, each landscape option comes with its own curated plant list to help you select plants that will thrive in your landscape.

Thank you for creating diverse, beautiful, and resilient landscapes!

#### Why Diversify Landscapes?

Diverse landscapes are beautiful and resilient. They contain a variety of native and adapted species that provide important habitat and resources for wildlife and pollinators. They are naturally adapted to the Front Range's semi-arid climate and native soils, which translates to lower water and chemical inputs, and a better ability to withstand short- and long-term changes in climate. They invoke a Colorado landscape aesthetic and establish a sense of place. Spending time in them benefits our physical and mental health. In short, moving towards diverse landscapes is more sustainable and brings nature into the city, which provides considerable ecological, economic, and social benefits.

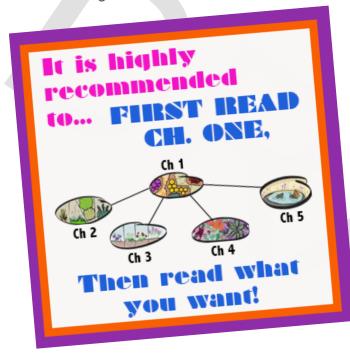
The use of plants that are native to Colorado is highly encouraged when you diversify your landscape. Native plants have evolved here and are adapted to our climate and soil types. In addition, our local pollinators and wildlife co-evolved with these plants and many are dependent on specific native plant species for survival. As such, native plants form the base of local food webs. However, it is also important to recognize that native plants may not be appropriate in all situations, e.g., your aesthetic preferences, the level of activity on site, HOA policies.





#### **Navigating the Guide**

This guide is broken into chapters (see Table of Contents), which primarily revolve around different landscape options (e.g., Pollinator Gardening, Lw Water Lawn). The guide also includes chapters on other relevant landscaping topics (e.g., Soil Amendment, Weed Management). It is highly recommended to start with Chapter One – Site Characteristics and Planning.



Within each chapter, you will find information on the following (when applicable):

- Overview of topic
- Physical requirements
- Design examples or case studies
- Irrigation
- Maintenance
- Plant list
- Additional resources
- Installation tips
- Fun fact!

#### FUN FACT

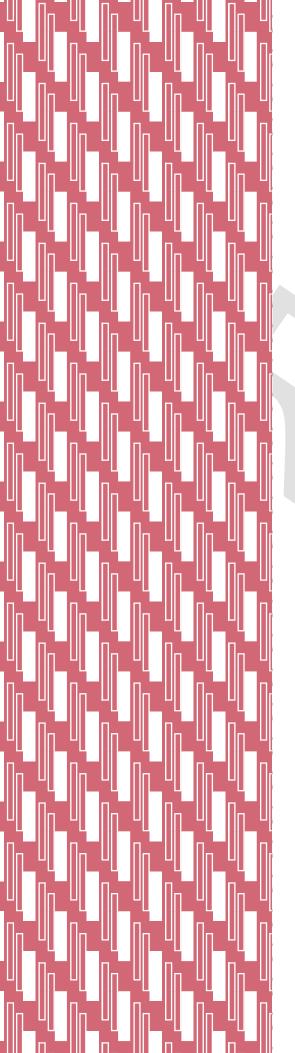
Converting your yard from turf to a xeriscape and or native garden is On TREND!

Over 390 residential projects in Fort Collins were granted Xeriscape Incentive Program (XIP) funding for a total of 462,100 square feet of converted landscape. That is 10 acres or approximately 7.5 football fields!



fcgov.com/xip

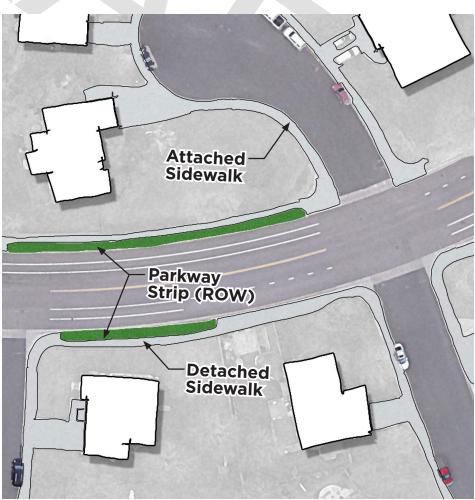
	Definitions
Adapted Species	Non-native species that grow well in a given habitat with human adjusted changes to the environment such as water or nutrients.
Aggregate	A material or structure formed from a loosely compacted mass of larger soil or rocks.
Aspect	The direction the land is facing. eg: north, south, northeast etc.
Cues to Care	(CTC) are landscape elements that are immediately recognizable as designed, and that signal continuing human presence to care for a landscape.
Complementary Colors	Colors opposite from each other on the color wheel. They have a strong contrast that increases how noticeable they are when placed close together.
Exotic Plants	Plants not native to the area where they are planted.
Forb	A herbaceous flowering plant that is not a grass.
Hydrozone	Areas where plants with similar water needs are grouped together - very low water, low water, medium water, and high water plants should be grouped by water needs.
Impervious Surface	A hard surface that does not let water soak into the ground, causing puddling or resulting in runoff.
Larval Host Plants	Plants required for the growth and development of insect larvae such as caterpillars.  Butterflies are often particular about the species where they host their eggs to support the larva.
Microclimate	Small areas that have a different climate than the overall climate of a site. They can be created by structures, topography, water, boulders, and impervious surfaces.
Native Plant	A plant species that grew in an area before colonization of that area.
Organic Matter	Any of the carbon-based compounds that exist in nature or material that comes from living things. This can include carbon-rich soils, manure, mulch, or compost.
Perennial	Any plant that persists for several years, usually with new herbaceous growth from a part that survives from growing season to growing season.
Permaculture	Permacultre stands for permanent agriculture. It uses whole systems thinking to create spaces for planting that encourages naturally flourishing ecosystems.
Pruning	Selective removal of certain parts of a plant such as branches, buds, or roots.
Resilient	Ability to bounce back after experiencing a setback.
Slope	A surface of which one end is at a higher level than the other; a rising for falling surface.
Soil Amendment	Anything that is added to a soil to improve water retention, nutrients, or drainage.
Xeriscape	Principles of sustainable design including use of low water plants, and sustainable gardening techniques.



### Chapter 5 Parkway Strip Gardening

#### What are Parkway Strips?

Parkway strips, also known as hellstrips or tree lawns, are the narrow planting areas found between the street and sidewalk. Parkway strips are City-owned right-of-ways, however the adjacent property owner or homeowner association (HOA) is responsible for maintaining these areas. The City of Fort Collins traditionally encouraged the use of turfgrass and trees in these spaces because they are easy to maintain, but parkways can also be great spaces for low-water pocket gardens composed of perennials and shrubs. Parkway gardens can create curb appeal for your home, reduce your water costs and increase wildlife habitat in your neighborhood. If you are thinking about landscaping your parkway strip, you will first need to read the City regulations associated with parkway strips, listed next, to learn more about the process. Once you have come up with a plan for the parkway strip, you can fill out the parkway amendment application and other necessary permits to get approval for your project before beginning installation.



#### City Regulations

#### **Parkway Landscape Amendment**

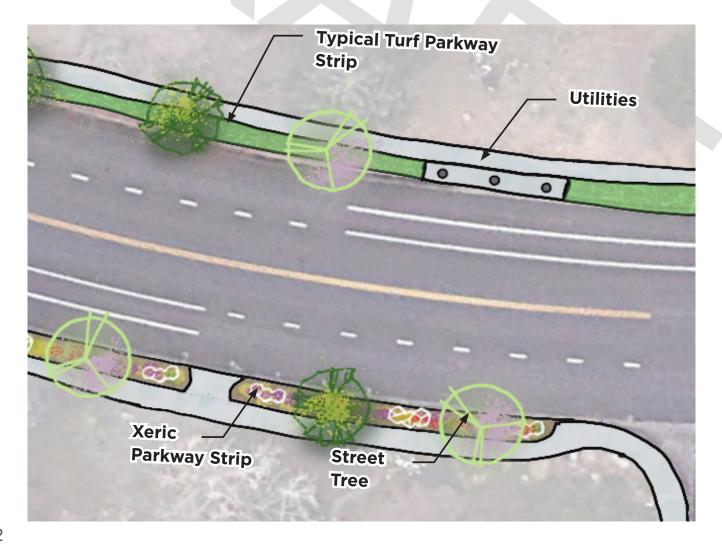
If you plan to landscape your parkway strip, you must first apply for a free Parkway Landscape Amendment. Copies of your landscape plan along with the amendment application are required. Share your plans with your HOA, if applicable, and give them a chance to comment. For information, contact Zoning at 970-416-2745 or fcgov.com/zoning.

#### **Turf Regulations**

City Code requires all turf grasses be kept to a maximum height of 6 inches, except for blue grama and buffalograss. These are drought-tolerant, native grasses that may be grown up to 12 inches. Blue grama and buffalograss are not suitable for areas with high traffic or shade and can be difficult to establish and keep free of weeds. Perennial bunchgrasses do not need to be kept under 12 inches but should be kept under 2-3 feet for visibility.

#### **Tree Regulations**

Before any trees are planted, pruned, or removed in the public right-of-way, a permit must be obtained from the City Forester. This includes zones between the sidewalk and curb, medians and other city property. A permit is also needed to approve the species and location of new trees to be planted. Failure to obtain a permit could result in a citation. Contact Forestry at: 970-221-6660 or forestry@fcgov.com for more information.



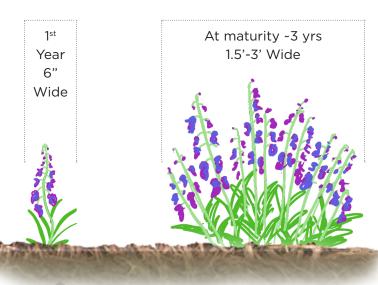
#### **Plant, Mulch, and Rock Regulations**

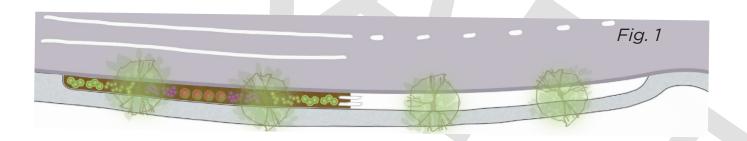
At least 50 percent of the area must be covered with live plant material at maturity (tree canopy does not count). No bare dirt or artificial plants. Plant materials must not obscure the line of sight for traffic or obstruct the sidewalk. Keep plants under 2 feet tall within 5 feet of a driveway and under 3 feet tall in other areas. When selecting plants, choose varieties that will be close to these heights at maturity in order to reduce the need for pruning.

Mulch and plant material must be kept off the street and sidewalk. Keep the soil surface 2-3 inches below the curb and sidewalk to keep mulch contained.

Boulders, if used, should not be taller than 1 foot in height and should be placed at least 5 ft away from tree trunks.

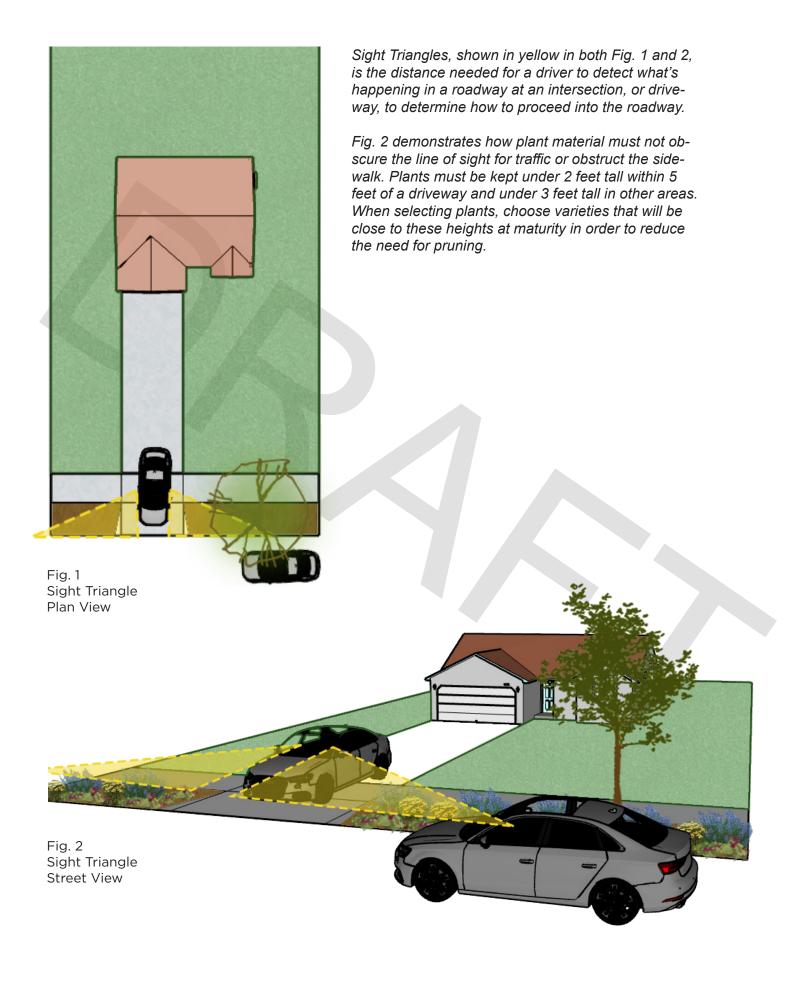
#### Rocky Mountain Penstemon Penstemon strictus







50% Coverage of live plant material is required. The first image shows 50% of the parkway strip planted. In reality, you're not going to plant only half of the parkway strip, but take those plants and spread them out as in Fig. 2. It can take up to three years for plants to reach full maturity so if your newly planting parkway strip seems a bit sparse, spreading native groundcover seed to help fill in the bigger gaps until your new plants reach maturity can help. Some native wildflower mixes can have plants blooming the same season you spread the seed. You can also always plant more plants than the 50% coverage minimum.



#### Factors to Consider When Selecting Plant Species

When choosing plants for your garden, you will want to consider the following: how much sunlight the site gets, the soil type, the site's aspect, drainage, and any microclimates within the space. Identifying the conditions of your site will help you choose plants that are well adapted to those conditions and so they can thrive in your prospective garden. See Chapter 1 for more information on Site Characteristics.

**Sun Requirements:** Parkway strips often have street trees present which can reduce the amount of sunlight your garden receives. If you live in a new neighborhood and your street trees are young, you should consider choosing part sun and full sun plants. If you live in an older neighborhood with mature street trees, you might choose part sun and full shade plants.

- Full Sun: 6+ hours of direct sunlight per day
- Part Sun: 3 6 hours of direct sunlight per day
- Shade: Less than 3 hours of direct sunlight per day

**Aspect:** The direction your parkway strip faces can affect the intensity of sunlight it receives and the temperature of the site. Parkway strips can have any aspect.

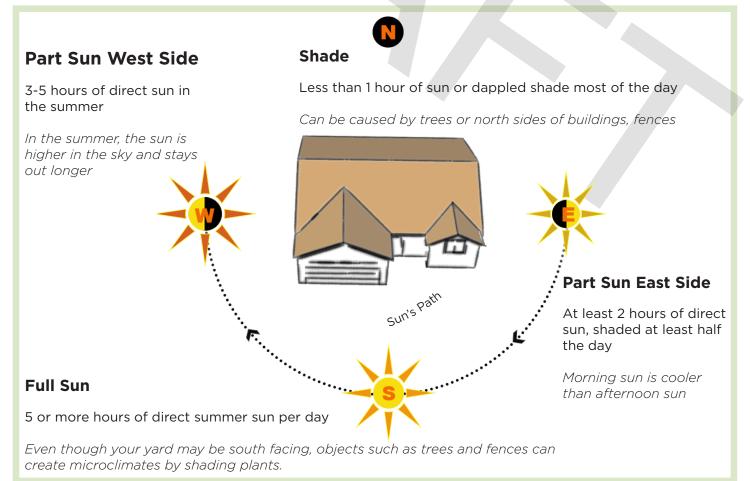
Water: Very Low to Low

**Microclimates:** Parkway strips can have hot or cold microclimates.

- Cold: Parkway strips often have large street trees that may create dense shade causing a colder microclimate. In these areas, you will want to plant species that prefer cooler conditions or shade.
- Hot: Parkway strips also often tend to be hot and dry because of their sun exposure and proximity to surfaces that absorb heat, like asphalt and concrete. In areas with hotter microclimates, plants that have low water needs will be most successful.

**Soil Type:** Parkway strips frequently have their soil disturbed during construction and may have particularly poor or compacted soil from foot traffic.

**Drainage:** Parkway strips may have poor drainage due to compacted soils or because they are boxed in by impervious surfaces. They can get additional water from snow piled up in the winter and water runoff from surrounding impervious surfaces. These areas can also be high in slat or other chemicals used to melt snow.



#### Designing Your Parkway Pocket Garden

#### **Planning Your Garden and Getting Started**

- Call 811 and have them mark any utilities that may be buried. It's better to have this done early in the process, so you can design around any obstacles. This step is extremely important and a great place to start your design.
- Talk to your neighbors about your plans to make sure they are on board. They may even want to design their parkway strip too. Review all city regulations around parkway strips.
- Plan pathways or stepping stones for pedestrians to get from the sidewalk to street.
- Incorporate plants or structural elements from your house or garden so that the parkway feels like a continuation of your yard. You can use some of the same plants, color schemas or stones that are visible in your front yard.
- Think about incorporating low growing, spreading perennial groundcovers that can act as a mulch, fill in small spaces and add color.

- Consider how you will irrigate this space until plants are established. Drought tolerant plants can be hand watered until they are established, or your existing irrigation can run under the sidewalk with the help of a professional.
- Parkway strips can be hot, dry, difficult to irrigate and are a small space to work within. Selecting low water species that will fit within the space requirements is important for long term success. Find which plants work best in parkway strips by using the plant list on page 18 or by searching the City of Fort Collins Vegetation Database<sup>1</sup>.
- No fences or thorny/spiny plant material.
- To avoid clutter, do not add edging, timbers, concrete blocks, etc. If edging is needed to separate turf and mulch, it should span the parkway and not divide it into thinner strips. Edging should be installed so it can't be seen.



#### **Special Considerations for Designing around Trees**

- If you plan to install a new tree in your parkway, modify irrigation for an existing tree, or make any changes to a tree in the right-of-way, you will need to first contact Forestry at: 970-221-6660 or forestry@fcgov.com for more information on permitting.
- A permit is needed to plant new trees. For a list of tree species approved for right-of-way plantings, see the parkway tree list on pg. 18.
- Mulch each tree with an organic mulch ring 3-4 feet wide and 4 inches deep.
- Tree roots need oxygen and adding a significant amount of soil on top could reduce the tree's ability to breathe. You can add 2" of plant-based compost on top of your soil to amend it.
- When you install your garden, avoid disturbing the soil directly under tree canopies as much as possible.
- Do not use a sod cutter in the critical root zone of the tree.
- Never cut tree roots that are more than 2" wide and don't cut more than 25 % of a tree's root system.

- Remove existing turf by hand digging, spraying it with tree safe herbicides, or sheet mulching.
- Hand dig plant holes and choose the smallest plants available to minimize disturbance to the tree root system.



CRITICAL Root Zone (CRZ) 12' radius

# CRI (CR ) IN Zo Dis work im pos

### INTERIOR Critical Root Zone (ICRZ)

Disturbance in this area would cause significant impact to the tree, and is potentially life threatening.

### PERIMETER Critical Root Zone (PCRZ)

The greater the disturbance in this area, the greater post care treatment is needed.

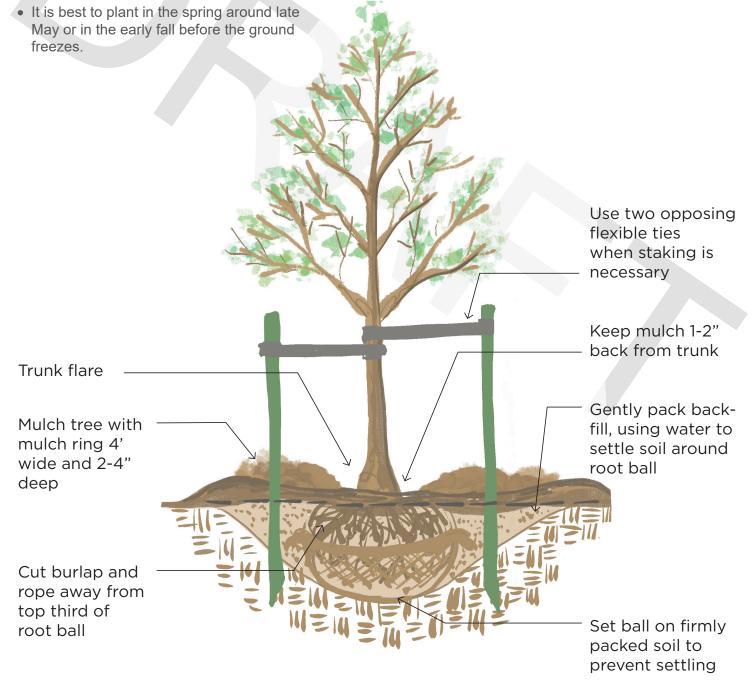
Critical Root Zone (CRZ) is the distance from the trunk that equals one foot for every inch of the tree's diameter at chest height. For Example; if the tree has a 12 inch diameter, the CRZ would be a 12 foot radius around the tree. If digging in this area, hand digging is optimal. This graphic modified from City of Fort Collins municipal code regarding Tree Protection Specifications.

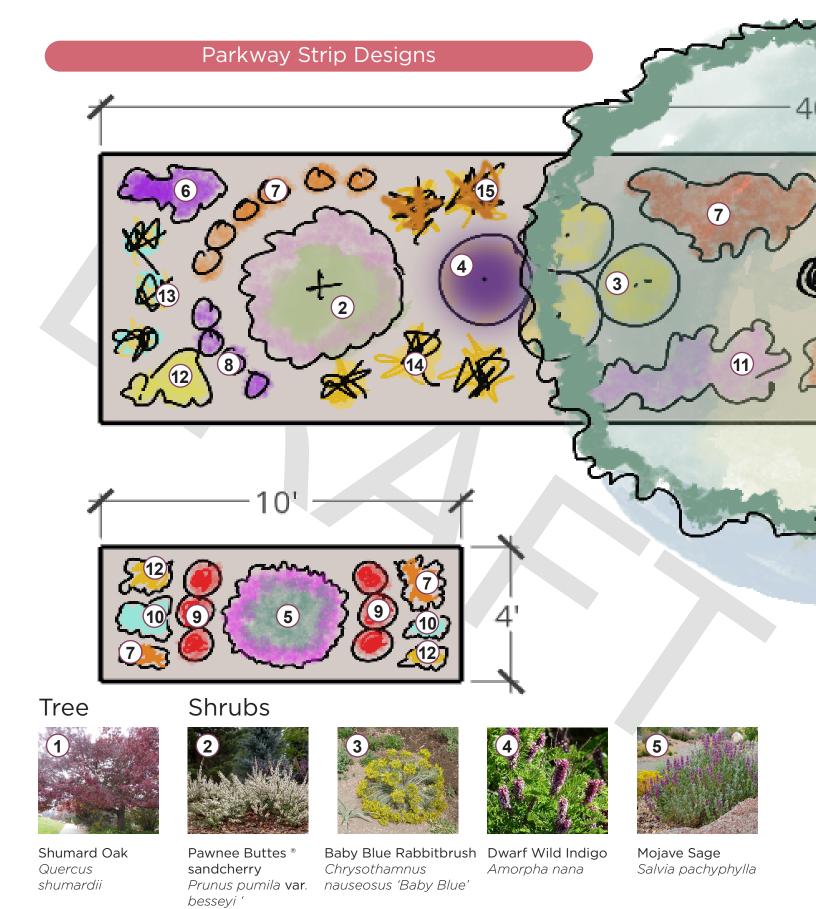
Tree Trunk 12" diameter

#### Installation

Timing and water are important to consider when planning your garden installation. Other important considerations for planting your new garden:

- Call 811 to locate where underground utilities are before digging.
- Before planting, consider getting a soil test done.
   You may need to amend your soil before planting so that it can support your plants.
- Plant in the morning or evening; avoid planting during the hottest part of the day as this will stress your plants. Similarly, try to avoid planting during peak heat months, such as July and August.
- Water your plants before you put them in the ground and again after you put them in.
   Transplanting is stressful and they will do better if they are well hydrated.
- The width and depth of the hole you are planting will vary depending on what you are planting. In general, you should dig a hole twice the width and the same depth of the pot your plant is in. The exception to this is trees, which should be 2-3 times the width of the root ball and 1-3 inches shorter than the root ball. Learn more about tree planting on the forestry website.<sup>2</sup>







#### **Perennials**



Leadwort Ceratostigma plumbaginoides



Butterfly Weed Asclepias tuberosa



Rocky Mountain Penstemon Penstemon strictus



Firecracker Penstemon Penstemon eatonii



Wallowa Mountain Arenaria 'Wallowa Mountain'

#### Groundcovers



Purple
Poppymallow,
Winecups
Callirhoe
1i0 volucrata



Sulphur Flower Eriogonum umbellatum



Blue Fescue Festuca glauca



Blonde Ambition Blue Grama Bouteloua gracilis 'Blonde Ambition'



Little Bluestem Schizachyrium scoparium

#### Fort Collins Gardens On Spring Creek Parkway







#### **Pictured Plants**



May Night Salvia Salvia nemorosa 'May Night'



Variegated Iris *Iris pallida* sp.



Paprika Yarrow Achillea millefolium 'Paprika'



Sticky Purple Geranium Geranium viscosissimum



Pineleaf Penstemon Penstemon pinifolius



Dwarf Wild Indigo Amorpha nana

#### Irrigation and Water Conservation

Parkway gardens are typically composed of low water plants and require less water than conventional landscaping. However, all plants need water to get established for the first growing season. To avoid over-watering your garden, it is best to create and stick to an irrigation plan. Overwatering can kill low water plants by rotting their roots. A good irrigation plan outlines how much to water and provides a timeline to help you cut back on watering at the appropriate time. Once plants are established, watering should be infrequent and deep. The simplest way to water is using a hose, but you can also install drip irrigation to save time and reduce the amount of evaporation.

Even the best laid plans cannot address all contingencies, like excessive drought or heavy/ prolonged rains. Therefore, the focus should be on results – if your plants are healthy above and below ground then your watering is likely appropriate. Frequent monitoring is key. Soil moisture monitoring devices are available to provide feedback but getting your fingers in the soil is an effective and easy way to monitor moisture levels. It is important to check the soil moisture between watering and each time you water, to ensure you are not over or underwatering.



Is the ground moist 6 inches below the surface or only at the surface? It is best to water infrequently and deeply, soaking the soil 6 inches down. Deep, less frequent watering will encourage plants to root deeply and become more drought tolerant.

Example Irrigati	on Plan for Establishment o	f a Dry Shade Perennial Bed*
	FREQUENCY	DURATION
Caring and Fall Blanting	Once every 2-3 days	First 2-3 months
Spring and Fall Planting	Once every 7 days	As needed through growing season
	Once a day	Through peak heat
Summer Planting	Once every 2-3 days	Until the fall
	Once every week	Until the end of growing season

Plants should receive roughly the same volume of water as the size of the pot the plant came in, per watering event.

<sup>\*</sup> Adjust as necessary given precipitation, microclimate, and condition of plants.

#### Maintenance

Parkway gardens tend to be constrained to a small space, also in a very public place, so regular maintenance is important. Choosing species that are low water and will stay within the bounds of your garden space at their mature size can help minimize the amount of pruning, watering, and plant replacement required.

- Regularly prune plants to keep them under 2-3 ft. Make sure plants don't block road visibility or sidewalk access.
- Weed frequently to prevent weeds from going to seed.
- In the spring, remove debris that has collected and cut out old, dead growth as new growth begins to sprout from the base.

### Weed and Integrated Pest Management

Weeds and other garden pests can be managed in the landscape using Integrated Pest Management (IPM). IPM is a holistic approach to managing pests which can include insects, weeds, and diseases. IPM uses a variety of tools to prevent and control pest infestations using the least toxic methods possible. Reducing our use of chemicals helps prevent pesticide resistance and protects the health of humans and ecosystems. Refer to chapter 7 for more information on how to implement IPM.

In small gardens, the use of pesticides is discouraged. Hand weeding, mulching, and mowing weeds are more sustainable options for managing weeds in small gardens. To keep weeds from multiplying in future years it is important to remove weeds before they go to seed. If weeds go to seed, they should not be composted at home as home compost systems typically are not hot enough to kill weed seeds. When treating weeds with herbicide, it is important to properly identify each plant, so you know when you should spray and what herbicide you should use. The Larimer County Weed District can provide advice on weed identification, management, and pesticides.

#### Mulching

Mulching is a critical practice for gardening to decrease soil temperature, suppress weeds, and conserve soil moisture. Mulch in parkway gardens should be under 2 inches in diameter to prevent tripping hazards and contained within the garden so that it does not spill or blow out onto the sidewalk. When adding mulch to new or existing plants, leave a buffer between the base of plants and mulch. This practice keeps the stems of plants dry and prevents rot. Learn more about the different types of mulch in the Site Characteristics and Planning Chapter.

Weed barrier is not recommended, as it has a negative effect on soil quality and wildlife habitat. Weed barrier will also begin to degrade over time allowing weeds to root through it and become difficult to remove and is unsightly.

Keep in mind that many native pollinators are ground-nesting species and require some patches of bare and/or minimally covered soil. You can help them out by not mulching (or only mulching to a depth of 1 inch) in a 6-12 inch circle around the trunk or stems of some plants.



#### Additional Resources

City of Fort Collins Parkway Landscaping Brochure

Fort Collins Native Plants

**Low Water Front Range Natives** 

Plant Selection and Grouping: XIP video

Fort Collins Streetscape Standards

<u>Denver Gardener: Design Example by CSU Denver Extension</u>

Hellstrip Gardening by Evelyn Hadden: book with local examples

#### FUN FACT

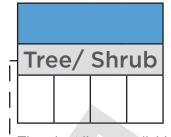
The parkway strip is referred to as a "hell-strip" because it is notoriously difficult to plant due to heat from the surrounding pavement, foot traffic, lack of soil and water retention. The term is most often attributed to garden writer Lauren Springer, who popularized the practice of planting tough, drought-tolerant plants (including cactus) on hell strips.

Source: Urban Dictionary

The resources found in this chapter will help you convert your hell strip into a lovely garden feature.



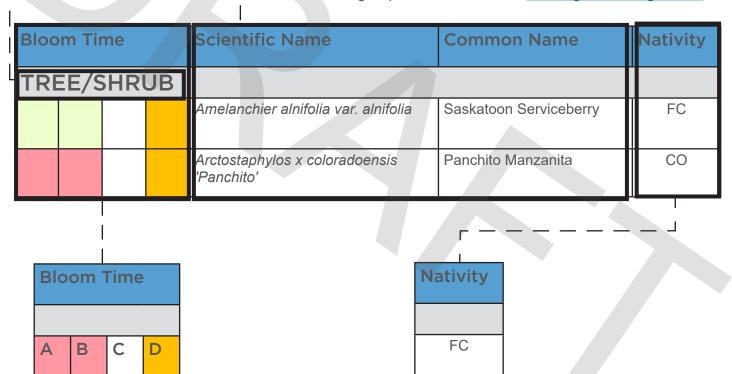
#### **How to use the Plant Lists**



The plant lists are divided by plant types shown in the grey bar. They include Trees, Shrubs, Perennials, Groundcovers, and Grasses.

Scientific Name	Common Name
Amelanchier alnifolia var. alnifolia	Saskatoon Serviceberry

Scientific names include the genus, species, and sometimes subspecies or variety of the plant. These are listed to help identify exact species. Some common names can be used for multiple species with different characteristics such as bloom color, size, or habitat value. If you would like to learn more about a plant listed in a chapter, find the common or scientific name in the plant list to learn more about how it grows. For more information on plants that grow in Northern Colorado check out the digital plant database here: <a href="https://www.fcgov.com/vegetation/">www.fcgov.com/vegetation/</a>



The Bloom Time information is split into 4 columns, each showing the main color of the plant as it blooms throughout the year. Column A is early spring, exact timing depends on temperatures and precipitation of that year, but usually around April and May. Column B is the main plant color in early summer, late May and June. Column C represents the plant color in the heat of summer, July and August. Column D indicates the color in fall, typically September and October.

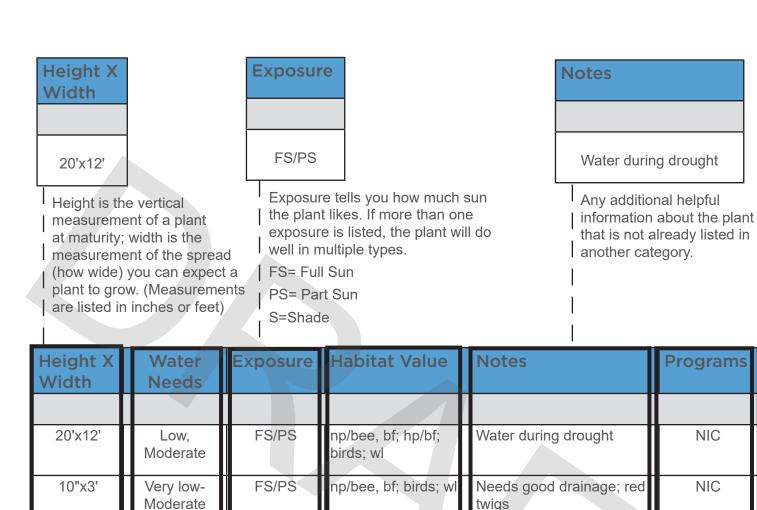
Nativity describes the closest location to Fort Collins where the plant grows natively.

**FC= Fort Collins**-(these plants grow native in Fort Collins).

**CO= Colorado** (these plants grow native somewhere in Colorado, but not Fort Collins).

**US= United States** (these plants grow native somewhere in the United States, but not Colorado).

**Not Native=** These plants are not native in the United States.



Water Needs Low,

Moderate

**Very Low-** indicates a plant that requires 3 gallons of water per square foot per season in addition to precipitation.

**Low-** indicates a plant that requires 8 gallons of water per square foot per season in addition to precipitation.

**Moderate-** indicates a plant that requires 14 gallons of water per square foot per season in addition to precipitation.

**High-** indicates a plant that requires 18 gallons per square foot per season in addition to precipitation.

#### **Habitat Value**

np/bee, bf; hp/bf; birds: wl

Habitat value comes in many forms. Below is a key to describe what habitat values the plant provides. Sometimes a specific animal or insect type is described in the list such as "bee"or "bird".

np = nectar/pollen

**bf** = butterfly

**hb** = hummingbird

s = seeds

**frt** = fruit

hp = host plant

wl= wildlife

#### **Programs**

NIC

Programs hosted by the City of Fort Collins include Nature in the City (NIC) and the Xeriscape Incentive Program (XIP). Nature in the City focuses on plants native to Colorado and Fort Collins where XIP focuses on water savings. Plants listed with both XIP and NIC are supported by both programs.

great for parkway strips. You can find more information about plants suitable to our area on the City of Fort Collins Vegetation Database. is to help you get started - some of these plants may not be appropriate for your space and there are many more plants than these that are sun (PS) and full sun (FS). The colors on the lefthand side signify what color bloom or foliage this plant offers through the seasons. This list type (i.e., shrub, grass, tree, perennial). Pay attention to the exposure column where you'll find plants that can handle full shade (S), part When selecting plants, make sure that they are appropriate for your space and conditions. The following is a list of plants, sorted by plant 🗅

														CITY OF F	Bloom S Time
Ulmus sp	Tilia x flavescens	Tilia x euchlora	Tilia cordata	Tilia americana	Quercus shumardi	Quercus robur	Quercus muehlenbergii	Quercus macrocarpa	Quercus buckleyi	Gymnocladus dioicus	Gleditsia triancanthos f. inermis	Celtis occidentalis	Catalpa speciosa	FORT COLLINS APP	Scientific Name
Accolade Elm	Glenleven Linden	Redmond Linden	Littleleaf Linden	American Linden	Shumard Oak	English Oak	Chinkapin Oak	Bur Oak	Texas Red Oak	Kentucky Coffeetree	Honeylocust	Northern Hackberry	Northern Catalpa	APPROVED PARK	Common Name
Not Native	Not Native	Not Native	Not Native	US	US	Not Native	US	US	US	SN	Not Native	SN	Sn	PARKWAYTREES	Nativity
30'x20'	30'x30'	40'x20'	50'x20'	60'x30'	40'x30'	40'x40'	40'x60'	60'x60'	30'x30'	40'x60'	40'x30'	40'x40'	60'x40'	5	Height X Width
Low-	Moderate	Moderate	Moderate	Moderate	Low- Moderate	Low- Moderate	Low- Moderate	Low- Moderate	Moderate	Moderate	Moderate	Moderate- High	Moderate- High		Water Needs
FS	FS/PS	FS/PS	FS/PS	FS/PS	FS	FS	FS	FS	FS	FS	FS	FS, PS	FS, PS		Exposure
	np/bees	np/bees	np/bees	np/bees	Seeds/birds, wl; p/bees	seeds/birds, wl; p/bees	seeds/birds, wl; p/bees	wl; seed/birds	wl; seed/birds	n/hb; p/bees	wl; seed/birds	frt/birds; p/ bees;	p/bees		Habitat Value
													showy flowers		Notes

XIP		np/bees, bf	FS	Low	2'x2'	SU	Mojave Sage	Salvia pachyphylla	
NIC, XIP		n/hb; np/ bees; frt/ birds, wl	FS/PS/S	Very Low	2'x4'	СО	Wax Currant	Ribes cereum	
NIC, XIP	Fall color	p/bee; frt/ birds, wl	FS	Very Low, Low	10"x6'	FC	Autumn Amber Sumac	Rhus trilobata 'Autumn Amber'	
XIP	Fall color, Wildlife tolerant	np/bee, bf; birds	FS/PS	Very Low, Low	1.5'x6'	FC	Gro-Low Sumac	Rhus aromatica 'Gro-Low'	
NIC, XIP	np/bees; frt/birds, wl		FS	Low	2'x4'	FC	Pawnee Buttes ® SandCherry	Prunus pumila var. besseyi 'Pawnee Buttes' ® Sandcherry	
NIC		p/bee; wl; seeds/ birds	FS/PS	Low, Moderate	2'x3'	СО	Shrub Potentilla	Potentilla fruticosa	
XIP			PS/S	Moderate	6"x1"	Not Native	Rose Daphne	Daphne cneorum	
XIP	Showy red fruit		FS/PS	Low	2'x5'	Not Native	Cranberry Cotoneaster	Cotoneaster apiculatus	
NIC, XIP	Important larval food	np/bee, bf; seeds/wl, birds	FS	Very Low	2'x3'	CO	Baby Blue Rabbitbrush	Chrysothamnus nauseosus 'Baby Blue"	
XIP		np/bee	FS	Low	3'x2'	Not Native	Blue Mist Spirea	Caryopteris × clandonensis	
NIC	Nitrogen fixer, deer tolerant	np/bee, bf	FS/PS	Very low, Low	2'x2'	CO	Dwarf Wild Indigo, Leadplant	Amorpha nana	
								DECIDUOUS SHRUBS	DECID
Programs	Notes	Habitat Value	Exposure	Water Needs	Height X Width	Nativity	Common Name	Scientific Name	Bloom Time

									PER					EVE	Bloom Time
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Coreopsis tinctoria	Callirhoe involucrata	Berlandiera lyrata	Asclepias tuberosa	Artemisia ludoviciana	Artemisia frigida	Pulsatilla nuttalliana	Achillea 'Moonshine'	Agastache rupestris	PERENNIALS & BIENNIALS (ANNUALS)	Juniperus horizontalis	Euonymus fortunei	Arctostaphylos uva-ursi	Arctostaphylos x coloradoensis 'Panchito'	EVERGREEN SHRUBS	Scientific Name
Golden tickseed	Purple Poppymallow,	Chocolate Flower	Butterfly Weed	Prairie Sage	Fringed Sage	Pasque flower	Moonshine Yarrow	Sunset Hyssop	ALS (ANNUA	Creeping Juniper	Purpleleaf Wintercreeper	Kinnikinnick	Panchito Manzanita		Common Name
CO	FC	CO	SN	FC	FC	co	Not Native	SN	(S)	SN	Not Native	FC	CO		Nativity
1'x4"	8"x4'	1'X1'	1"X1'	8"x1.5'	1'x1.5'	6"x8"	2'x1'	1.5'x1.5'		1'x8'	3'x4'	6"x6"	2' x 5'		Height X Width
Low	Low	Low	Low	Very low	Very low	Very Low	Low	Low		Low	Moderate	Moderate	Moderate		Water Needs
FS	FS/PS	FS	FS/PS	FS	FS	FS/PS	FS	FS/PS		FS	FS/PS/S	FS/PS	FS/PS		Exposure
np/bee	np/bee, bf; n/hb	np/bee	np/bee, bf; n/hb; hp/bf	p/bee; s/ birds; wl	p/bee; s/ birds	np/bee, bf	np/bee	np/bee, bf; n/hb				seeds/ birds, wl; np/bees			Habitat Value
	Readily seeds		Long blooming, deer tolerant										Requires excellent drainage		Notes
NIC	NIC, XIP	NIC, XIP	XIP	NIC	NIC	NIC	XIP	XIP		XIP	XIP	NIC	NIC		Programs

Bloom Time	Scientific Name	Common Name	Nativity	Height X Width	Water Needs	Exposure	Habitat Value	Notes	Programs
PERENNIALS		& BIENNIALS (ANNUALS) Continued	\LS) Cor	ntinued					
	Campanula rotundifolia	Bluebell, Harebell	FC	4"x8"	Low	FS/PS	np/bee, bf; n/hb	Rock garden, deer tolerant	NIC, XIP
	Dalea purpurea	Purple Prairie Clover	FC	1' × 1'	Very low	FS	np/bee; seeds/ birds; wl		NIC, XIP
	Engelmannia peristenia	Engelmans's Daisy	CO	2'x1'	Very low	FS/PS	np/bee, bf	Readily seeds	NIC, XIP
	Erigeron speciosus	Aspen Fleabane	FC	6"x1.5'	Very low, Low	FS/PS/S	np/bee, bf; hp/bee, bf	Can handle variable soil	NIC, XIP
	Erigeron vetensis	Early Bluetop Fleabane	FC	4"x4"	Low	FS	np/bee, bf; hp/bf	Important host plant	NIC, XIP
	Gaillardia aristata	Blanketflower	FC	1'x1.5'	Very Low	FS	np/bee, bf	Long blooming, fall color	NIC, XIP
	Gazania linearis	Colorado Gold Gazania	Not Native	6"x6"	Low	FS/PS			
	Geranium viscosissimum	Sticky Purple Geranium	US	1'x1.5'	Very low	FS/PS	np/bee, bf	Long blooming, fall color	XIP
	Geum triflorum	Prairie Smoke	CO	4"x4"	Very low, Low	FS/PS	np/bee, bf; wl	Readily seeds	NIC, XIP
	Heterotheca villosa	Hairy goldenaster	FC	4"x2'	Very low	FS	np/bee; s/ birds; wl	Long blooming	NIC, XIP
	lpomopsis aggregata	Scarlet Gilia**	CO	3' x 1.5'	Very low	FS	n/hb	Readily reseeds; long blooming	XIP
	Liatris punctata	Gayfeather	FC	1.5'X6"	Very low	FS	n/hb; s/ birds; wl		NIC, XIP
	Mentzelia decapetala	Ten petal mentzelia**	FC	1'x1.5'	Very low	FS	np/moth	showy flowers	NIC, XIP
	Penstemon eatonii	Firecracker Penstemon	CO	1'X1'	Very low	FS/PS	np/bee, bf; n/hb	Handles rocky,sandy soil	NIC, XIP

											PE	Bloom Time
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	Symphyotrichum ericoides	Sphaeralcea coccinea	Santolina chamaecyparissus	Rudbeckia hirta***	Ratibida columnifera	Penstemon virens	Penstemon strictus	Penstemon secundiflorus	Penstemon pinifolius	Penstemon grandiflorus	PERENNIALS & BIENNIALS (ANNUALS) Continued	Scientific Name
	White Aster	Scarlet Globemallow	Lavender Cotton	Blackeyed Susan	Prairie Coneflower	Blue Mist Penstemon	Rocky Mountain Penstemon	Sidebells Penstemon	Pineleaf Penstemon	Large penstemon	S (ANNUA	Common Name
	FC	FC	Not Native	Sn	FC	FC	FC	FC	US	CO	LS) Con	Nativity
	1'X1'	1'x1'	1'x3'	1'x1'	2'x2'	1'x1.5'	1'x3'	1'x6"	6"x1'	1.5'x1'	tinued	Height X Width
	Very low	Very low	Very low	Low	Very low	Very low	Very low	Very low	Low	Very low		Water Needs
	S∃	FS	FS	FS/PS	FS	FS/PS	FS/PS	FS	FS	FS		Exposure
	np/bees; seeds/ birds, wl	np/bees, wl	p/bees	np/bee, bf; s/ birds; wl	p/bees; seeds/ birds	np/bees; n/hb; seeds/ birds	np/bees; n/hb	np/bees; hp/bf; n/hb; seeds/ birds	n/hb	np/bees, n/hb		Habitat Value
			not reliably winter hardy	biennial, long blooming, deer tolerant		Important larval host plant	Important larval host plant	Important larval host plant		Short lived, but reseeds		Notes
	NIC, XIP	NIC, XIP	XIP	XIP	NIC	NIC	NIC	NIC	XIP	NIC, XIP		Programs

Time	Z Z	GROUNDCOVERS  Arenaria 'Wallowa Mountain'  Artemisia versicolor 'Sea Foam'  Ceratesticma	Name Name Wallowa Mountain Desert Moss Sea Foam Sage	0	Height X Width  1"x8"  1'x3'	Wa Nee	Exposure FS/PS FS/PS		No data  No data  Evergintered toleran
		Artemisia versicolor 'Sea Foam' Ceratostigma plumbaginoides Delosperma spp.	Sea Foam Sage Leadwort Hardy Iceplant	Native Native Not Native	1'x3' 8"x1.5" 2"x1.5'	2 2 2 3		Moderate  Low  For Low	Low FS/PS/S  Low FS/PS  Low FS/PS
Eric um	Eric	Eriogonum umbellatum	Sulphur flower	SN	1'x2'	< e	Very Low	ry Low FS/PS	FS/PS np/bees, bf; s/ birds, wl
		Oenothera caespitosa	Tufted Evening Primrose	SN	1'x2'	Ver	Very Low	y Low FS	
		Nepeta 'Psfike'	Catmint	Not Native	1'x1'	Ve	Very Low	ry Low FS/PS	
		Penstemon caespitosus	Mat Penstemon	CO	4"x1'	Ve	Very Low	ry Low FS/PS	
		Thymus pseudolanuginosus	Wooly Thyme	Not Native	4"x1"	M	Moderate	oderate FS	
		Veronica spp. "Reavis'	Veronica	Not Native	2"x1.5'	N	Low, Moderate	Low, FS/PS loderate	

Bloom	Contito Name		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Teight × Water	אַלע\/	TYDOSITE T	I o o i	70:00	
		(		1 0 9 1 5 2	440101	Lypopulo	ומטונמנ	NOtes	Flogialis
Time		Name		Width	Needs		Value		
GRASSES	ES								
	Festuca glauca	Blue Fescue	Not Native	10"x6"	Low, Moderate	FS/PS	No data	Bluish color, needs well drained soil	
	Bouteloua curtipendula	Sideoats Grama	FC	3'x2'	Very Low	S	s/birds, wl; p/bees	Important larval food source for native	XIP, NIC
								invertebrates.	
	Bouteloua gracilis	Blonde	Native	2.5'x2.5'	Very low	S	s/birds;	Host plant for	dIX
	'Blonde Ambition'	Ambition Blue					hp/bf,	skippers, deer	
		Grama					moths	tolerant	
	Muhlenbergia	Undaunted ®	Not	1.5'x2'	Low	FS	lw/s		AIX
	reverchonii	Ruby Muhly	Native						
	Pennisetum	Fountain	Not	2'x1.5'	Low	FS	s/birds		XIP
	alopecuroides	grass	Native						
	'Hameln'								
	Schizachyrium	Little	СО	2'x1'	Low	FS	bee, bf;	Host plant for	XIP
	scoparium	Bluestem					birds; wl	skippers, deer	
								tolerant	