



WELD COUNTY  
COLORADO STATE UNIVERSITY  
EXTENSION

# Dry Shade Planning & Planting

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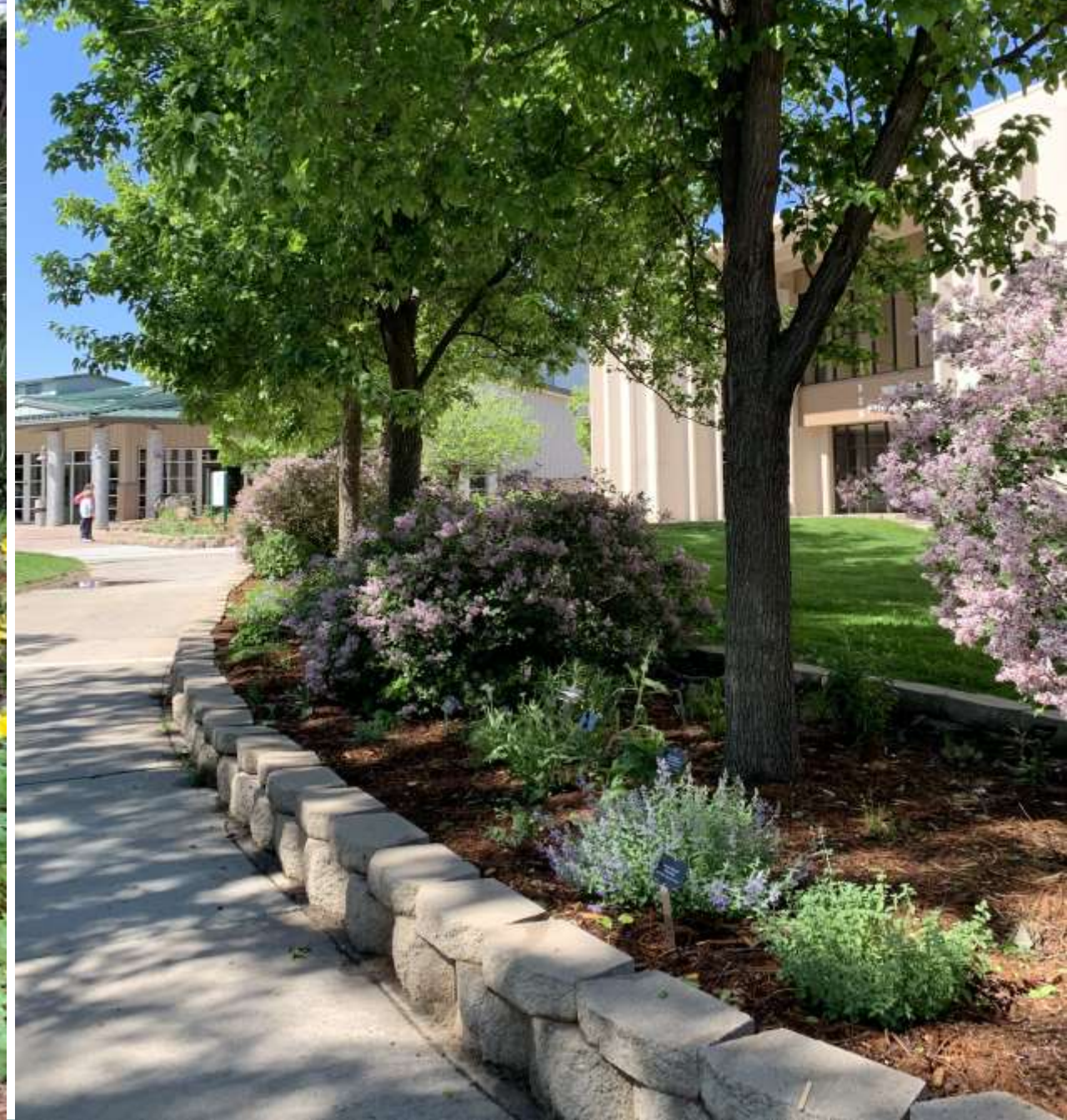


Photo: University of Washington Botanic Gardens



Photo: Norfolk Botanic Garden







# Lack of Water

## Average Annual Precipitation

- Gunnison: 10.1" per year
- Pueblo: 12.4" per year
- Greeley: 14.4" per year
- Colorado Springs: 17.5" per year
- Boulder: 19.7" per year
- Durango: 19.9" per year
- Steamboat Springs: 23.8" per year



# What exactly is shade?

Full Sun = 6 or more hours of direct summer sun per day

Light Shade = 3-5 hours of direct sun in the summer

- Sunny enough for some sun-loving plants that will grow with many shade plants

Partial Shade = at least 2 hours of direct sun, shaded at least half the day

- Consider time of day: morning sun is cooler than afternoon sun

Full Shade = less than 1 hour of direct sun each day or dappled shade most of the day

- Can be the result of trees or north side of buildings, fences

Deep Shade = no direct sun or little indirect light reaches the ground

- Under thick evergreen trees, under decks, passageway between houses
- Not many plant options for deep shade



# Dry Shade ...Planning!

1 INCH = 5 FEET

3/29/19

2 • LITTLE BLUESTEM GRASS

SPIGOT

3 • RED TWIG DOGWOOD OR RED BARBERRY

1 • FERNBRUSH

1 • DWARF BLUE RABBIT BRUSH

2 • BRUNNERA

4 • COLUMBINE

1 • RED LAKE OR/AND WILDER CURRANT

3 • PRAIRIE BUTTES SAND CHERRY

1 • DT PINK FLOWERING QUINCE

PATIO

WINDOW WELL

WINDOW WELL

FENCE w/ WIRE

3'x6'

3'x8'

3'x8'

3'x6'

VINE CROP OR ESPALIER APPLE

IRRIGATION ACCESS

FIRE PIT AREA

EASTERN REDBUD

BOSNIAN PINE 12'x8' H x W

ROCK BANK

DRB

3' or 2' SPLIT RAIL

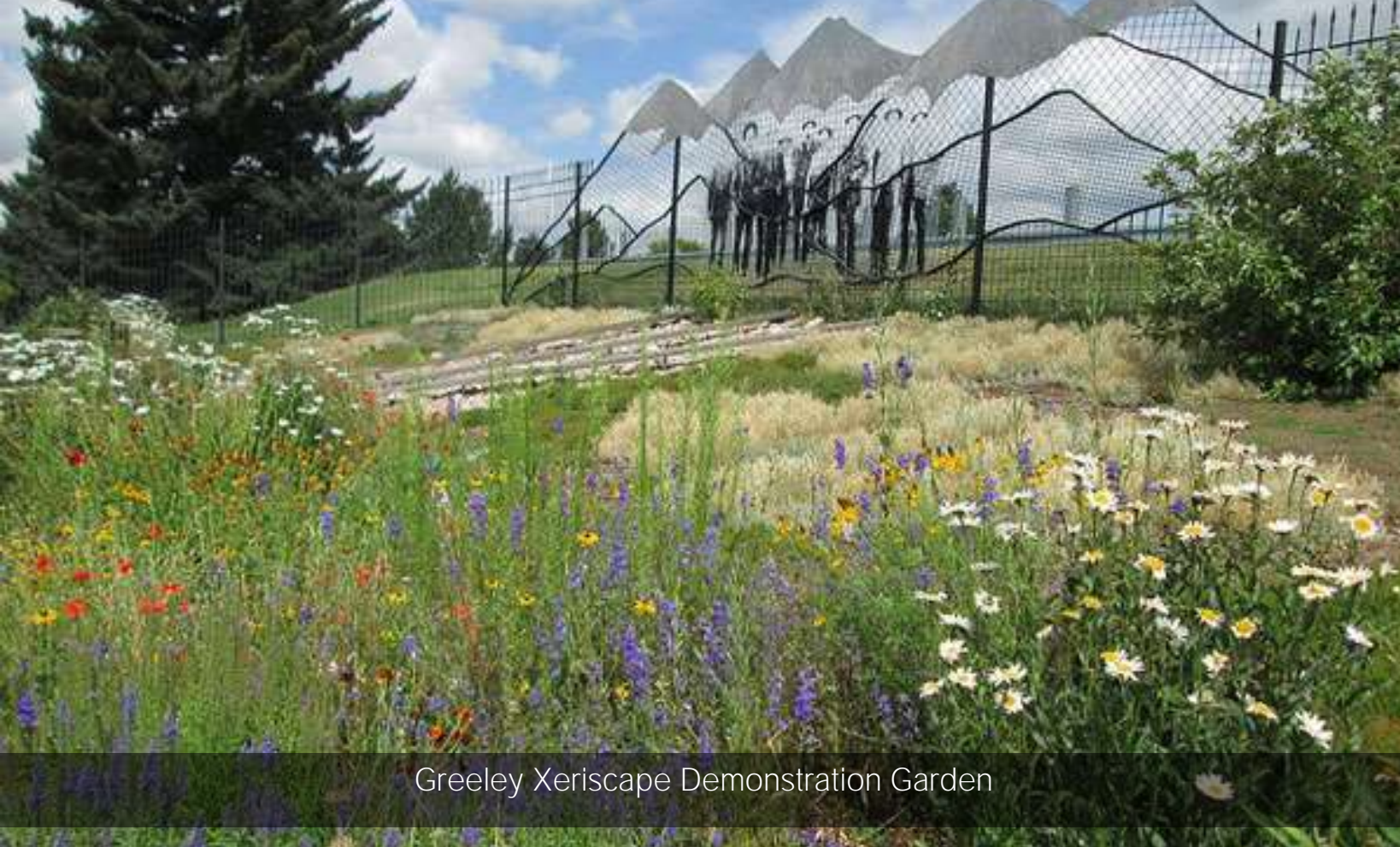
GARDEN

FENCE

- Start with a Plan
- Water Harvesting?
- How to create shade with proper tree selection
- What plants can I use?







Greeley Xeriscape Demonstration Garden

- 1- Plan Ahead
- 2- Improve the Soil
- 3- Limit Turf Areas
- 4- Irrigate Efficiently
- 5- Select Appropriate Plants
- 6- Use Mulch
- 7- Maintain It

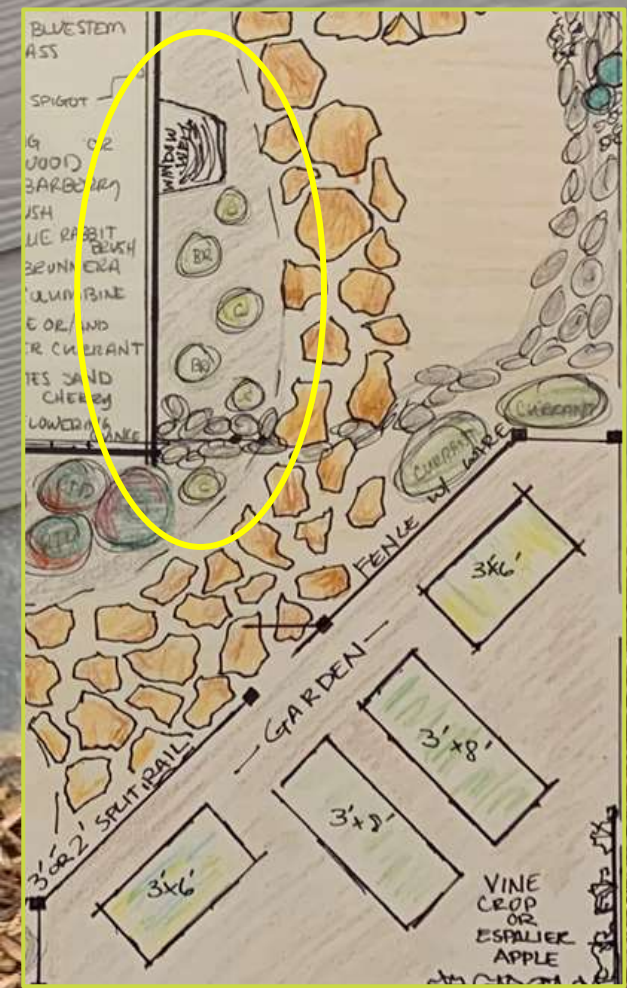
## How to Xeriscape Based on Sound Horticultural Practices

*Follow these steps for a water-wise, yet beautiful, landscape...*

*<https://greeleygov.com/services/ws/conservation/xeriscaping>*









# Improve the Soil?

- Many low-water or xeric plants actually prefer un-amended or only slightly amended native soil that is fairly low inorganic matter. Many native plants also prefer un-amended soil.
- Consider getting a soil test to determine nutrient content.
- *Choosing a Soil Amendment – CSU Fact Sheet #7.235*



Photo:  
Pikes  
Peak  
Area  
Garden  
Help





Photo: Jake's Designs

## Mulch for Water Conservation

- Improves soil
- Protects plants
- Helps inhibit weeds
- Can reduce irrigation needs by as much as 50%



Photo: Gulley Greenhouse

Even the  
lowest water-  
using  
Xeriscape  
needs  
supplemental  
water during  
extended  
hot, dry  
periods.





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VINE

PATIO

WINDOW  
WELL

WINDOW  
WELL

FENCE w/ WIRE

3'x6'

GARDEN

3'x8'

3'x8'

3'x6'

VINE  
CROP  
OR  
ESPALIER  
APPLE

IRRIGATION  
ACCESS

- FIRE -  
- PIT -  
- AREA -

EASTERN  
REDBUD

BOSNIAN  
PINE 12'x8'  
H W

ROCK  
BENCH

DRB

3' or 2' SPLIT RAIL

- Start with a Plan
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- How to create shade with proper tree selection
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# Water Harvesting

---

*Active  
and  
Passive*





- Storage container with sealable lid
- Located above ground, outside of a residential home
- Used for collecting precipitation from a downspout or rooftop
- Only single-family homes or multi-family units with up to 4 units
- Up to two rain barrels with a combined storage of 110 gallons MAX per building
- Water must be used on the same property that it is collected on and must be used outside

## Rain Barrels – Active Water Harvesting







- Water and money savings depends on several factors – total precipitation, size of rooftop, hydrology, water-use of plants, size of area to water
- 110 gallons of water will cover an area of 180 square feet with 1 inch of water
- Rainwater is a softer water, lower in salts and unchlorinated

## Rain Barrels – Active Water Harvesting

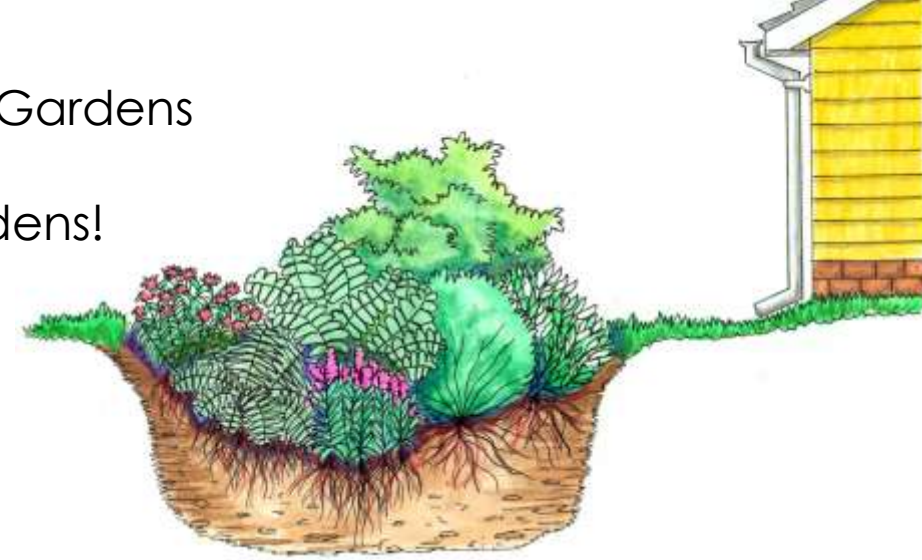




# Passive Rainwater Collection

- Passive = divert water overland to vegetated areas for *immediate* use
- “Slow it, spread it, sink it”
- Integrated into landscape
  - Swales – *spreads* horizontally on contours
  - Berms (microbasins)
  - French Drains
  - Bioinfiltration Gardens

Bioinfiltration Gardens  
=  
Rain Gardens!







## How to Plan Your Rain Garden

- Locate in an area where rainwater runoff naturally occurs
- Plan your garden like a river flows: *follow the path of least resistance*
  - Downspout
  - Driveway/sidewalk





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Passive  
Rainwater  
Collection





# Dry Shade ...Planning!

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- What plants can I use?





# Trees are an investment!



- Choose the correct trees for dry locations
- Provide irrigation for trees, especially to get them established
- Plan for the future shade your tree will provide



# Trees to Create Dry Shade in a Xeriscape

## Bur Oak

*Quercus macrocarpa*

- Large shade tree; adaptable to high pH soils
- 70' H x 60' W
- Interesting acorn fruits
- Provide additional irrigation





# Trees to Create Dry Shade in a Xeriscape

## Kentucky Coffeetree *Gymnocladus dioica*

- Large, spreading crown at maturity
- 55' H x 35' W
- Nice fall color
- Can tolerate a wide range of sites





# Trees to Create Dry Shade in a Xeriscape

## Goldenrain Tree *Koelreuteria paniculata*

- Small to Medium, good for smaller locations
- 30' H x 30' W
- Nice yellow flowers in summer
- Interesting lantern-like fruits





# Trees to Create Dry Shade in a Xeriscape



## Tatarian Maple *Acer tataricum*

- Good for smaller locations
- 20' H x 20' W
- Single or multi-stemmed
- Interesting and bright red samara fruits
- Red fall color





# Other Deciduous Shade Trees for Dry Sites

- **'Bigtooth' Maple**
- Common Hackberry
- Western Catalpa
- Thornless Honeylocust
- Purple Robe Locust
- **Sensation Boxelder**
- Apricot
- Ussurian pear
- Gambel Oak
- Hawthorns





# Trees to Create Dry Shade in a Xeriscape

## Ponderosa Pine

*Pinus ponderosa*

- Native evergreen
- 60' H x 30' W
- Long needles in bundles of 2-3
- Interesting cinnamon colored plate-like bark
- Creates a large area of dappled shade





# Other Evergreen Trees for Dry Sites

- **Bristlecone Pine**
- **Pinyon Pine**
- Arizona Cypress
- One Seeded Juniper
- Utah Juniper

## **Avoid:**

- Colorado Blue Spruce
- White Fir





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# Selecting Appropriate Plants



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Greeley Xeriscape Demonstration Garden -  
Reservoir Road

Photo:  
Amy Lentz,  
CSU

Photo: Greeley Tribune





# Dry Shade ...Planting!





# Dry Shade

## ...Shrubs

### Viburnum species

*Viburnum spp.*

- Full sun to full shade
- Many types available
  - ‘Mini Man’
  - Wayfaring Tree
  - Leatherleaf/Allegheny
- 12 H x 10’ W (*depends on type*)
- White flowers
- Thick leaves with deep-set veins





# Dry Shade

## ...Shrubs

### Smooth Sumac

*Rhus glabra cismontana*

- Full sun to part shade, will tolerate shade
- Understory species
- 6' H x 6' W
- Tropical tree-like look
- Suckering shrub - will fill in and spread
- Nice orange to red fall color and fuzzy maroon persistent fruit





# Dry Shade

## ...Shrubs



## Rabbitbrush

*Chrysothamnus spp.*

- Full sun to part shade (to shade)
- Dwarf type: 'Baby Blue'
- 6' H x 6' W; BB = 2' H x 2' W
- Native
- Yellow blooms at the end of the season
- Pollinator plant





# Dry Shade

## ...Shrubs



## Rock spirea

*Holodiscus dumosus*

- Full sun to part shade to full shade
- 4' H x 4' W
- Native
- Prolific flowering in full sun
- Decent fall color
- Fruit and exfoliating bark for winter interest





# Dry Shade

## ...Shrubs



## Japanese Barberry

*Berberis thunbergii*

- Full sun to part shade, will tolerate shade
- Dwarf and purple leaf forms available
- 3' H x 5' W
- Single spines
- Red, persistent fruit
- Plants will be thinner in shade, not a rich color on purple types





# Dry Shade

## ...Shrubs



## Oregon Grapeholly

*Mahonia aquifolium*

- One of the few evergreens that can tolerate shade
- 6' H x 6' W
- Broadleaf evergreen leaves, look like holly
- Yellow flowers
- Nice fall color and attractive fruit (*not edible*)
- More open habit in shade





# Dry Shade

## ...Shrubs

### Carol Macke Daphne

*Daphne x burkwoodii* 'Carol Macke'

- Grows best in part sun, will tolerate shade
- Semi evergreen
- 4' H x 4' W
- Broadleaf semi-evergreen leaves, variegated
- Pink flowers
- Likes a protected location
- Does not transplant well





# Dry Shade

## ...Perennials

### Denver Gold Columbine

*Aquilegia chrysantha* 'Denver Gold<sup>®</sup>'

- Sun, part shade, shade
- 24" H x 24" W
- Attractive yellow flowers
- Blooms June through September, longer than blue and red columbines
- Cut blooms periodically to extend bloomtime
- Native to southwest
- Plant Select<sup>®</sup>





# Dry Shade

## ...Perennials

### Remembrance® Columbine

*Aquilegia* 'Swan Violet and White'

- Part Sun to part shade
- 18" H x 18" W
- Hybrid derived from the Colorado state flower
- Striking flowers
- Benefits from some moisture
- Plant Select®





# Dry Shade

## ...Perennials

### Bellflower, Harebell

*Campanula rotundifolia*

- Sun, part shade, shade
- 18" H x 18"W
- Attractive blue-purple bell shaped flowers
- Blooms June through September
- Native
- Good for semi-shaded slopes
- Can be used in rock gardens





# Dry Shade

## ...Perennials

### Hardy Plumbago

*Ceratostigma plumbaginoides*

- Shade
- 18" H x 18" W
- Plant in the spring to establish root system
- Prefers average soils and low water once established
- Upright stems with a woody base
- Blooms late summer and fall
- Red fall color
- Also called Leadwort





# Dry Shade

## ...Perennials

### Johnson's Blue Cranesbill

*Geranium 'Johnson's Blue'*

- Full sun to Full Shade
- 14" H x 18" W
- Blooms late spring through early fall
- Periwinkle blue flowers
- Finely cut, divided leaves
- Red to orange fall color
- Prefers normal to sandy soil





# Dry Shade

## ...Perennials

### Coral Bells

*Heuchera spp.*

- Sun to full shade, tolerates dry shade
- 12' H x 12' W, flower sits up to 18' H
- Attractive leaves, lots of variety and colors
- Flowers ranging in color from white to amber to purple
- Cut flowers periodically to extend bloom period
- Easy to grow, adaptable





# Dry Shade

## ...Perennials

### Lenten Rose

*Hellebore orientalis*

- Part to full shade
- 2' H x 2' W
- Basal leaves, 5-11 sharply toothed
- Flowers - pinks, greens, creams or purples
- Prefer richer soils
- Easy to transplant
- Some varieties reseed readily
- Extremely cold hardy and drought tolerant once established





# Dry Shade

## ...Perennials



## Siberian Bugloss

*Brunnera macrophylla*

- Part to full shade
- 12" H x 24" W
- Large, heart-shaped leaves
- Flowers - tiny blue forget-me-not type blooms
- Blooms spring and summer
- Very hardy
- 'Jack Frost' - silver with green veining





# Dry Shade

## ...Groundcovers

### Sweet Woodruff

*Galium odoratum*

- Part shade to full shade
- 12" H x 12" W
- Spreading, low-growing ground cover
- Small, white star-like flowers
- Fragrant
- Moderate water requirements
- Hardy to -20 F





# Dry Shade

## ...Groundcovers



## Creeping Mahonia

*Mahonia repens*

- Full sun to full shade
- 18" H x 24-36" W
- Evergreen native groundcover
- Larger, shrubby groundcover
- Similar to Mahonia aquifolium with yellow flowers, blue fruits, red fall color
- Deer and rabbit resistant
- Prefers xeric conditions once established





# Dry Shade

## ...Groundcovers



## Kinnikinnick

*Arctostaphylos uva-ursi*

- Part sun to full shade
- 8" H x 15" W
- Very cold hardy, evergreen groundcover
- Autumn foliage has reddish-gold color
- Can be used in rock gardens
- Related to the manzanitas
- 'Massachusetts' Bearberry





# Dry Shade

## ...Groundcovers

### Plantain lily

*Hosta spp.*

- Part to full shade
- 18" H x 15" W, depends on type
- Large spade or heart shaped leaves
- More drought tolerant with good soil and more shade
- Better with some moisture
- Not deer resistant
- Many varieties available, small leaved types best for lower water situations





# Dry Shade

## ...Grasses

Most prefer light shade or more water

- Blue Fescues - partial shade
- Avena, Blue Oat Grass - light shade
- Little Bluestem - tolerates light shade
- Prairie Dropseed - tolerates light shade
- Korean Feather and Overdam Reed Grass





# Selecting Appropriate Plants



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Greeley Xeriscape Demonstration Garden -  
Reservoir Road

Photo:  
Amy Lentz,  
CSU

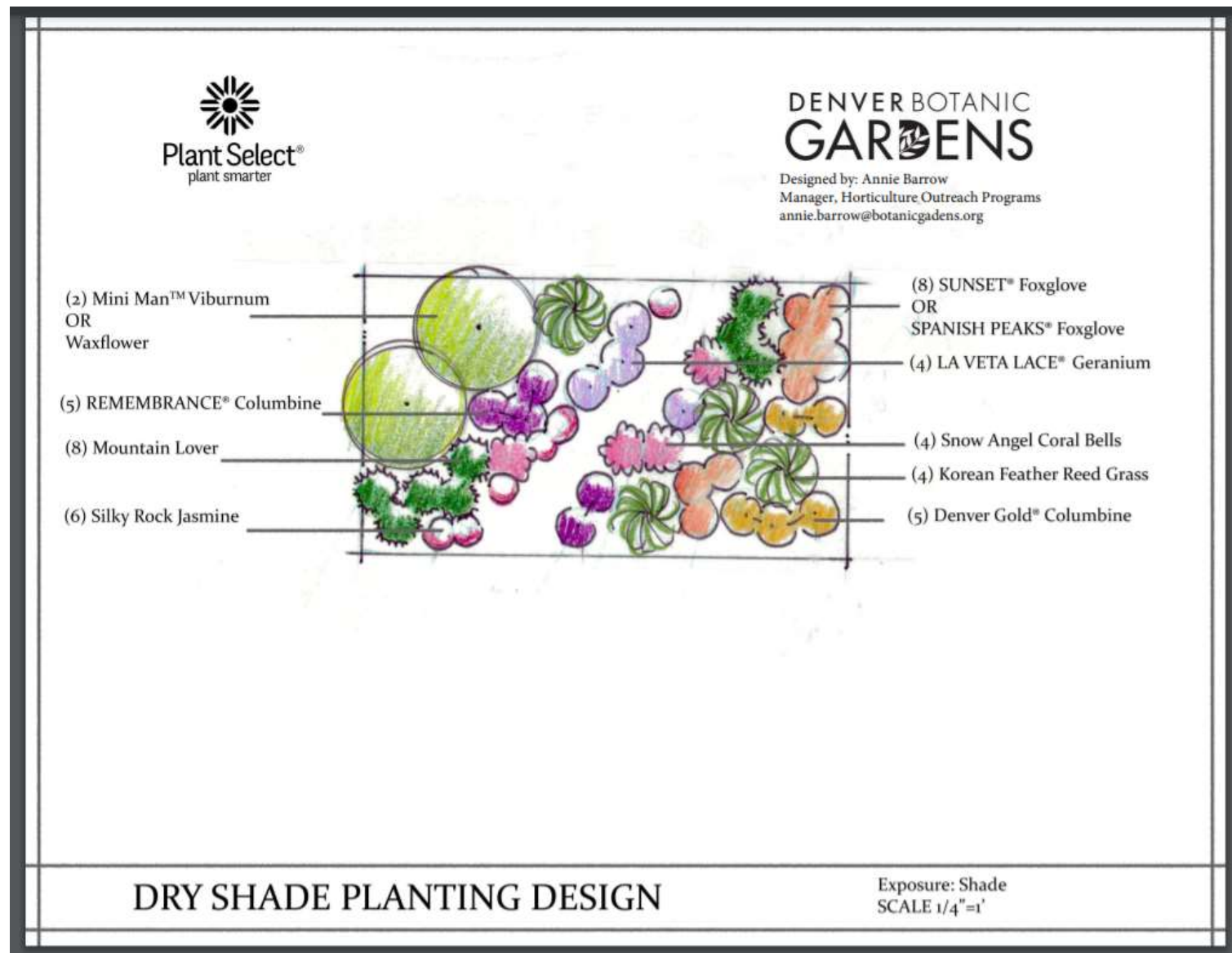
Photo: Greeley Tribune





# Dry Shade ...Resources

## Designs from Plant Select®

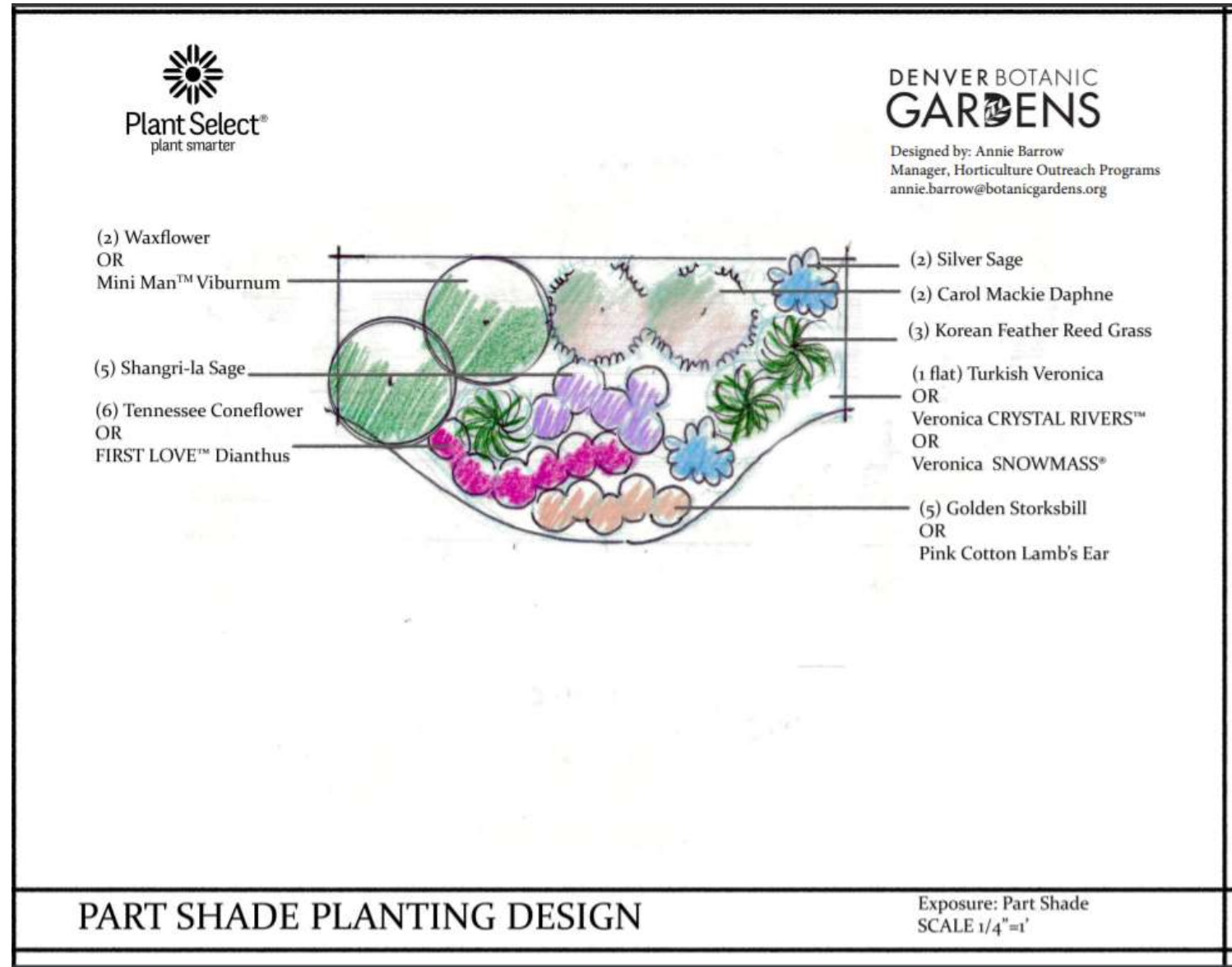




# Dry Shade

## ...Resources

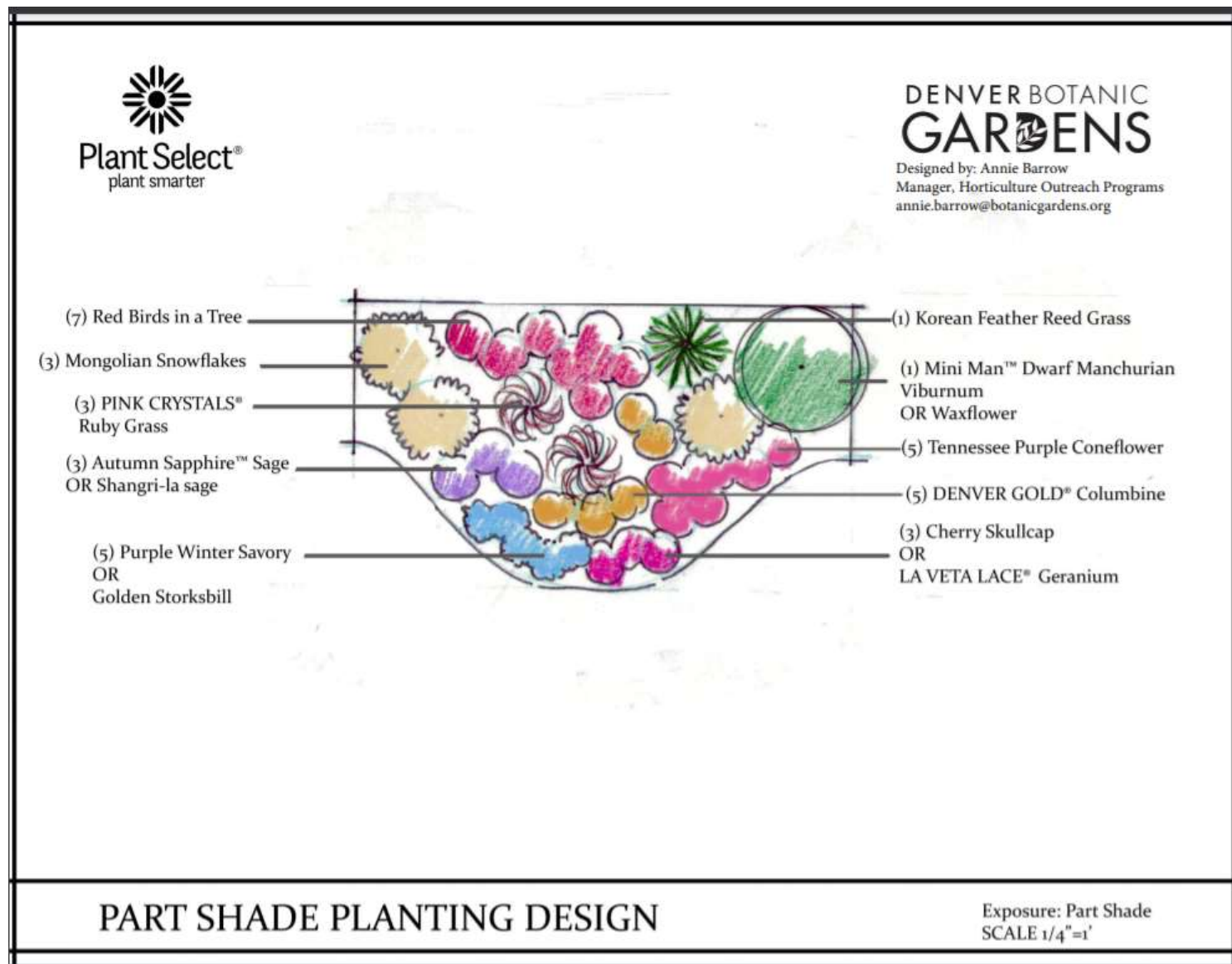
### Designs from Plant Select®





# Dry Shade ...Resources

## Designs from Plant Select®





# Dry Shade ...Resources


# Garden-in-a-Box from Resource Central

2021 GARDEN IN A BOX: GARDEN INFO SHEET

**Painted Shade**

Resource central  
CONSERVATION MADE EASY

Designed by Alison Peck of Mabris Gardens




Add splashes of color to the shaded areas of your landscape with the Painted Shade garden. These low maintenance plants are adorned by beautiful shades of blue and accents of elegant red blossoms. From the vibrant Red Avenas in the spring time to the delicate Blue Pincushion Flower that blossoms in summer, watch your landscape transform before your eyes. This garden will keep your landscape buzzing all summer long with these 28 versatile plants.

- Partial shade exposure (requires only 4 hrs. of direct or indirect sun)
- Planting map covers 100 sq ft
- Blooms early spring to fall
- Xeric (low water)
- Hardiness maximum of 6,000 ft

**Individual Plant Information**

**ADRIATIC BLUE BELLS - *Campanula poscharskyana***




A charming and vigorous ground cover that is valued for its star-shaped, lilac-blue blooms that adorn its lush green foliage throughout late spring and early summer.

- Mature height 6-8"
- Mature spread 18-24"
- Blooms late spring to early summer
- Full sun to filtered shade
- Attracts bees
- Medium water needs

**CARE:** This Bellflower is best when planted in average well-draining soils. Provide shade and regular moisture in warmer climates.

**BLUE CRANESBILL - *Geranium 'Johnson's Blue'***




Large, grayish-green leaves create a broad, rounded clump that casts violet-blue, wide-faced flowers with white centers.

- Mature height 18-24"
- Mature spread 2-3'
- Blooms early summer
- Adaptable
- Attracts bees, butterflies
- Medium water needs
- Resists deer, rabbits

**CARE:** Although this variety tolerates drought, it appreciates moist, well-drained soils year-round.

**BLUE CREEPING PHLOX - *Phlox subulata 'Emerald Cushion Blue'***




Blue-lavender flowers cover a low spreading cushion of dark green needle-like foliage in late spring. Phlox is vigorous and creates a nice ground cover.

- Mature height 4-6"
- Mature spread 12-18"
- Blooms early spring
- Full sun to filtered shade
- Attracts butterflies
- Low water needs
- Resists deer

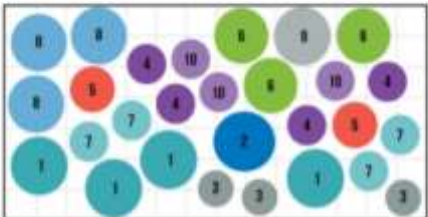
**CARE:** Requires good drainage. It may need a little shelter from the afternoon heat, so place accordingly in your garden. Drought tolerant, once established.

QTY: 3

**Plant by Number Design Suggestions**



10' x 10' square  
SUGGESTED FRONT SIDE OF GARDEN



10' x 7' rectangle  
SUGGESTED FRONT SIDE OF GARDEN

**Key:**

- Adriatic Blue Bells (Qty: 4)
- Blue Cranesbill (Qty: 2)
- Blue Creeping Phlox (Qty: 6)
- Blue Pincushion (Qty: 4)
- Crimson Scablock (Qty: 2)
- Common Feather-Need Grass (Qty: 4)
- Palmer Purple Coral Bells (Qty: 4)
- Phlox (Qty: 6)
- Red Avena (Qty: 2)
- White Columbine (Qty: 2)

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# Dry Shade ...Resources


# Garden-in-a-Box from Resource Central

2021 GARDEN IN A BOX: GARDEN INFO SHEET

**Mountain Medley**

Resource Central  
FORESTWATER MASS 01917


Designed by Chris Woods of Matrix Gardens



Bring a medley of color to your yard's canopy-covered corners with this charming shade tolerant garden. Let your shaded areas inspire you to kick back and relax as you find reprieve from the hot summer's sun. Boasting 10 varieties and 15 plants, the 60 square foot Mountain Medley garden will lighten up those shaded areas of your yard with decorative foliage and delightful bursts of red, purple, pink, and blue.

- Partial shade exposure (requires only 4 hrs. of direct or indirect sun)
- Planting map covers 60 sq ft
- Blooms early spring to fall
- Xeric (low-medium water)
- Hardiness maximum of 6,000 ft

**Plant by Number Design Suggestions**



12' x 11' triangle  
SUGGESTED FRONT SIDE OF GARDEN


**Key:**

- A. Blue Balloon Flower (2x 1)
- B. Corsican Violet (2x 2)
- C. Crystal River Speedwell (2x 2)
- D. Polar Forget Me Not (2x 1)
- E. Holes Purple Coral Bells (2x 2)
- F. Purple Dragon Hatter (2x 2)
- G. Red Aconite (2x 1)
- H. Red Coral Bells (2x 1)
- I. Variegated Heather Reed Grass (2x 1)
- J. White Woodflower (2x 1)

2.000111 Garden Box

**Individual Plant Information**

**BLUE BALLOON FLOWER - *Platycodon grandiflorus* 'Mariesii'**




This long lived and reliable bloomer has large deep blue "balloons" that inflate and then burst open into bell-shaped blossoms.

- Mature height 18-24"
- Mature spread 13-18"
- Blooms summer
- Sun to filtered shade
- Attracts birds
- Medium water needs
- Resists deer

**CARE:** This plant is easy trouble-free, and tolerates neglect. Division is not recommended due to the disturbance of this plant's root system.

**CORSICAN VIOLET - *Violeta corsica***




Prolific purplish-blue flowers hang over a low growing tuft of rich green foliage. Corsican Violets can self-seed over time to create a river of purple blooms.

- Mature height 6-8"
- Mature spread 6-8"
- Blooms early spring to late summer
- Adaptabilis
- Attracts bees
- Medium water needs

**CARE:** This plant will self-seed when the conditions of it. More reliably perennials than most other pansies, it is drought and shade tolerant. Corsican violets do enjoy compost enriched soil. They will also do well in sun to partial shade exposure.

**CRYSTAL RIVER SPEEDWELL - *Veronica x reavis* 'Crystal River'**



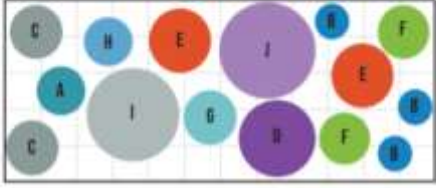
Masses of tiny, blue flowers bloom in spring almost completely covering the plant, and later recur lightly sprinkled amongst the foliage throughout the summer.

- Mature height 3-3"
- Mature spread 20-30"
- Blooms spring
- Sun to part shade
- Attracts butterflies
- Low water needs
- Resists deer

**CARE:** This plant is low maintenance and grows best in full sun to partial shade.

Qty: 2

**Plant by Number Design Suggestions**



12' x 5' rectangle  
SUGGESTED FRONT SIDE OF GARDEN





COLORADO STATE UNIVERSITY  
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# CSU Extension FREE Garden Webinars

Classes held Fridays at 12:00

- March 19 - Seed Starting
- March 26 - Garden Insects: Friends & Foes
- April 2 - Spring Lawn Care
- April 9 - Summer-Flowering Bulbs
- April 16 - Success with Trees along the Front Range
- April 23 - Cut Flower Gardening
- April 30 - Protecting Gardens from Animals
- May 7 - Container Vegetable Gardening
- May 14 - Things Mom Taught Me: Gardening  
Wisdom (or not)

Registration Required: [csuhort.blogspot.com](http://csuhort.blogspot.com)  
Click on "Gardening Webinars"



More Learning  
Opportunities  
from  
CSU Extension

Register at  
[CSUHort.blogspot.com](http://CSUHort.blogspot.com)





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# Dry Shade QUESTIONS???

Amy Lentz  
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