

Designing for the Future: Urban-Scaping

Water-wise Landscape Horticulture for Western Landscapes

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Rocky Mountain Land Use Institute: Western Places/Western Spaces Conference 2019

DENVER BOTANIC

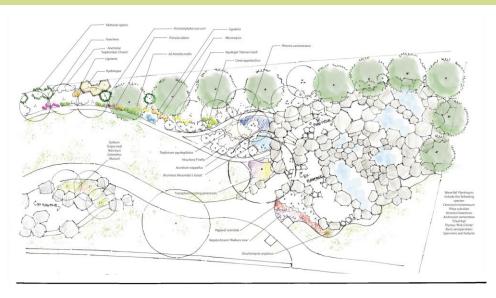
Horticulture Outreach Programs

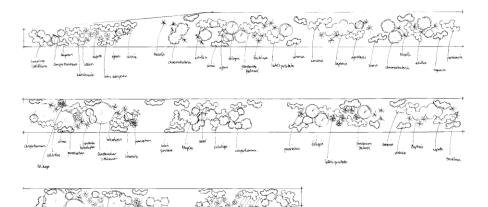
Services:

Planting designs, Project consultation on installation, plant selection, maintenance

Projects types:

Streetscapes/Medians, Public spaces/parks, Commercial properties, Community Gardens, Flood planning/water gardens, Greenroofs





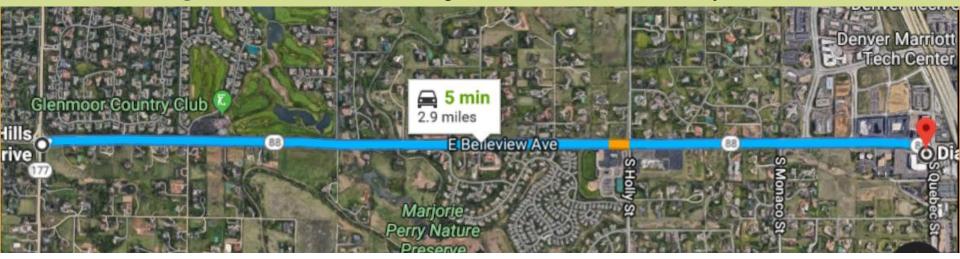


DENVERBOTANICHorticulture Outreach Programs:GARDENSCurrent Projects

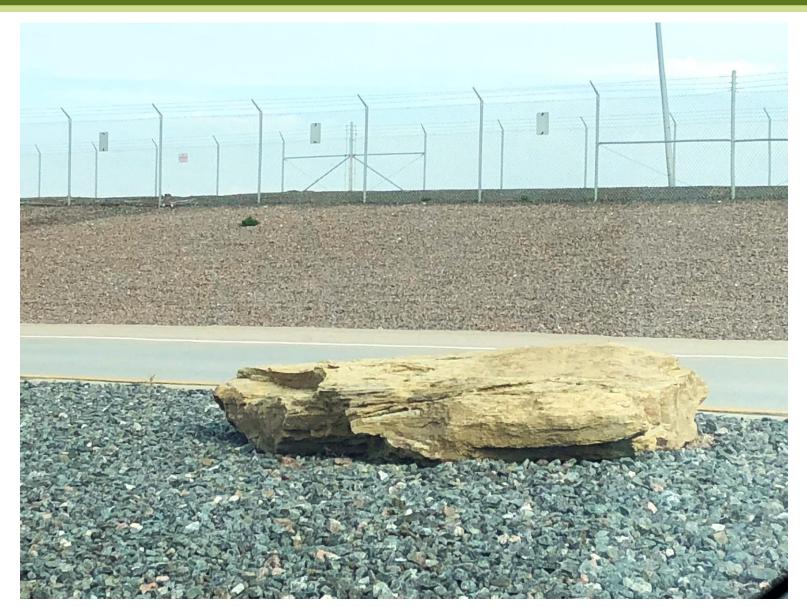
Lakewood, CO 1 mile median along Colfax from Kipling to Simms



Greenwood Village, CO 3 mile median along Belleview from University to I-25



Xeriscape = "Zero"scape



Xeriscape = dull



Denver Botanic Gardens: Roads Water-smart Garden



Lush, textured & colorful landscapes that require little maintenance

Denver, CO



Regional Ecology: Montane







Denver's front range is a steppe climate in the High Plains

GARBENS

High Plains Steppe Climate

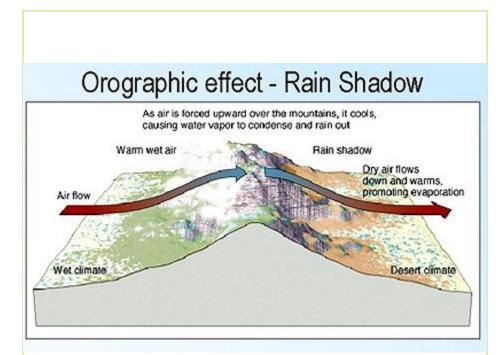


The Western portion of the Great Plains: Eastern SD, WY, Western NE, Eastern CO, Western KS, Northeastern NM, Western OK, Northwestern TX

Steppe Climate

Steppe Climate Characteristics

- Semi-Arid = low humidity, little precipitation (10-20 inches/year)
- High Elevation 1500 7800' allows for warm winter temps and freezing spring temps
- ✓ Wide temperature swings
- ✓ Drought years
- 🗸 Hail
- ✓ Frequent high, drying winds



East of the Rocky Mountains: the mountains essentially prevent much of the rain from reaching the plains east of the range

High and Dry

Installation & Maintenance

Unique Approach

- Soil amendments critical provide drainage, often little to no organic material needed
- Preventative approach to weed management
- Aim to shut off irrigation after plants are established



Plant Selection

Barriers

- Lack knowledge of western plants
- Unaware of regional climate
- No plant palette specific for CO and western region
- Lack sources (wholesalers) for western plants



DENVER BOTANICUse Native plantsGARDENSUse Native to CO & Western States)

Use of Native Plants = Reduced Costs

- Minimize soil amendments
- Reduce water consumption
- Lower maintenance requirements

Use of Native Plants =

Environmental Responsibility

- Once established, drought resistant
- Increase native bees & pollinator populations
- Provides texture, color and lush thriving garden



Optional distinct regional character

Use Native Cultivated Varieties (Native to CO & Western US)







Cultivated variety or hybrid

Use Native Species (Native to CO & Western States)



Echinacea angustifolia

Liatris punctata

Recommended Trees: Native



Foresteria neomexicana New Mexican Privet

Recommended Trees: Non Native



Acer tartaricum 'Hot Wings'

Recommended Shrubs







Dwarf Rabbitbrush

Recommended Genus





Penstemon

Agastache

Recommended Grasses



Bouteloua 'Blonde Ambition'



Schizachyrium



Sporobolus heterolepsis

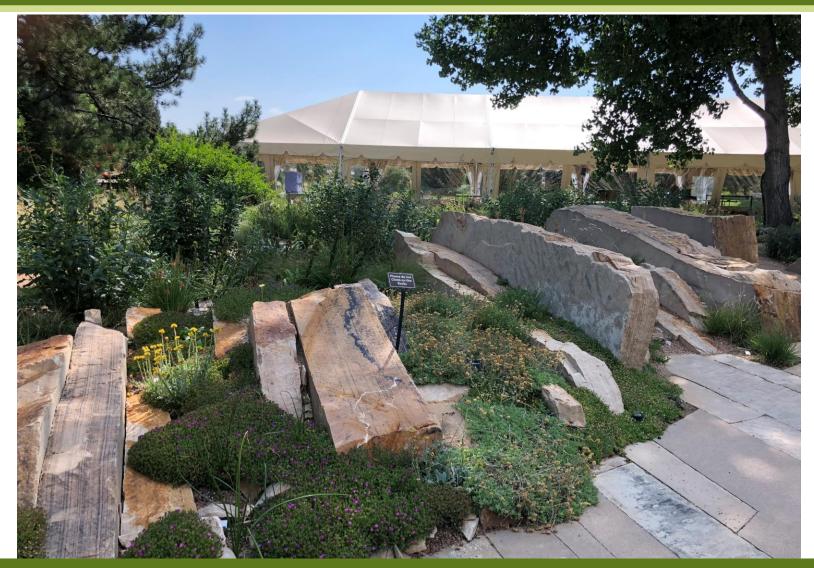
Use Plant Select[®] plants





- Easy way to select tough plants for our region
- Tested for several years to thrive in broad range of conditions
- Criteria for testing includes attractiveness as well as toughness
 - Available at many local retailers & wholesalers in WY, TX, CO, ID, MT, NE, SD
- Over 130 plants including annuals, perennials, groundcovers, vines, trees and shrubs (evergreen and deciduous)

Plants from other Steppe climates



Visit Denver Botanic Gardens to see Steppe Gardens

Plants from other Steppe climates



Kniphofia



Diascia 'Coral Canyon'

Plant Selection for Small Scale Plantings

- Soil is typically disturbed from site construction
- Smaller spaces mean smaller, tidier plants
- Highway traffic is 40 mph or less -visually things are seen in masses
- Traffic stops allow for closer inspection of landscape
- Well defined planting areas meaning formal and or intentional designs
- Irrigation and maintenance may be provided



Plant selection will be different for small and large scale sites

Plant Selection for Large Scale Plantings

- Native and naturalized aesthetic appropriate
- Visual impact best in masses
- Slope and drainage may vary, allowing for mixed plantings
- Minimal maintenance and irrigation



Plant selection will be different for small and large scale sites



Online - Plant Select.org, Local and County extension offices Visit – Denver Botanic Gardens: Roads water-smart garden & Birds and Bees Garden, Kendrick Lake (Lakewood, CO), Aurora Xeriscape, CO Springs Utilities Handout - Plant list

Questions: annie.barrow@botanicgardens.org