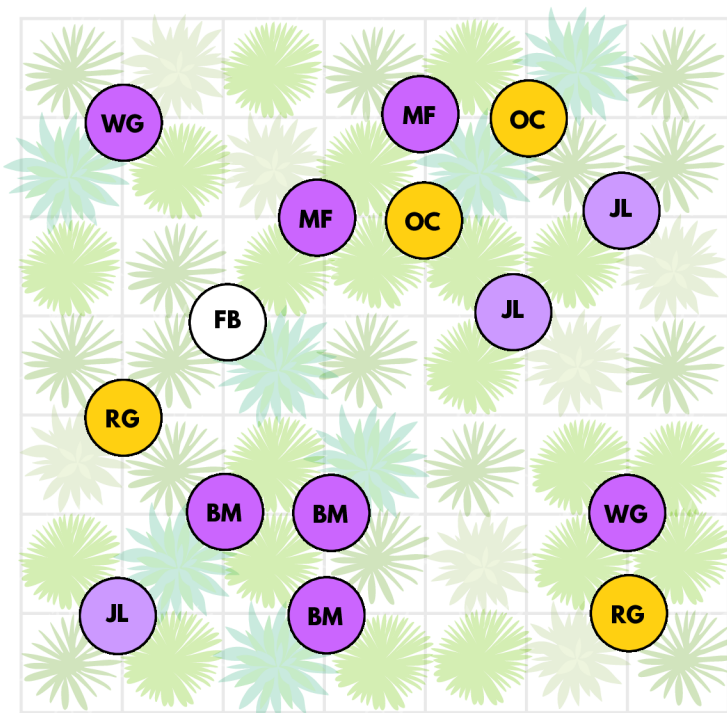
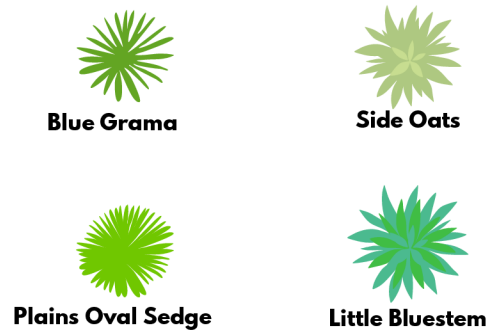
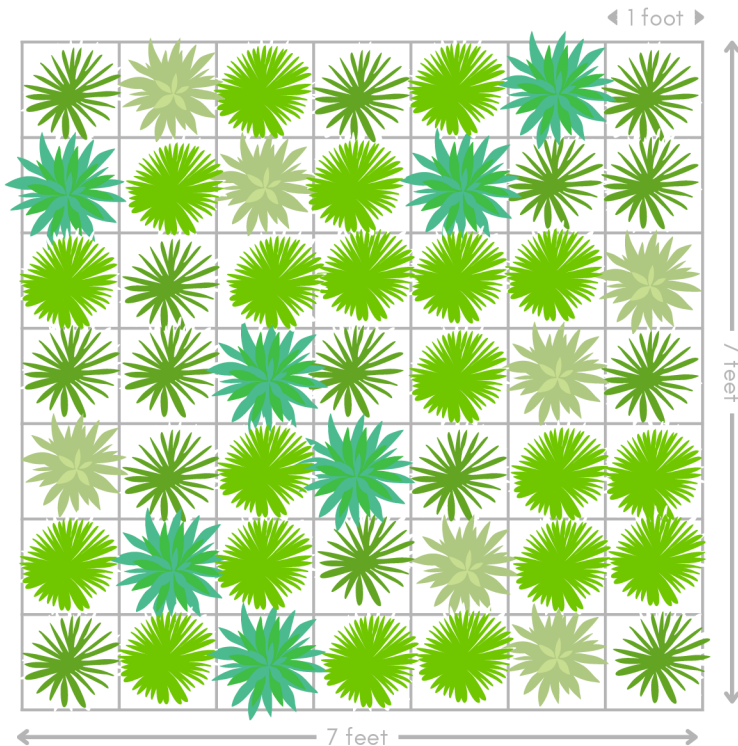


MATRIX PLANTING

Matrix garden design begins with an underlying layer (or matrix) of grasses and sedges which act as a living green mulch ground cover. Amongst that matrix, flowering plants are added to provide blooms throughout the year. This handout describes the steps used to install a matrix garden.

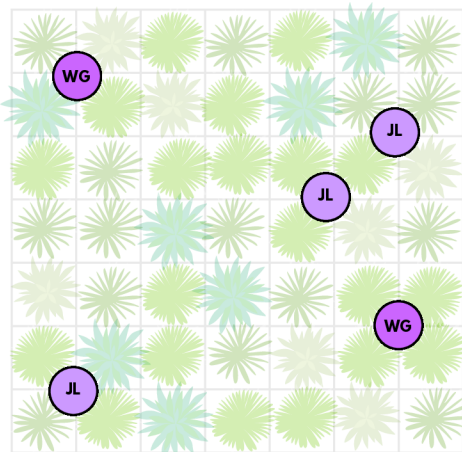
GREEN MATRIX LAYER

To get started, remove any existing turf grass from the area and add a layer of wood mulch to help mitigate weeds until the matrix fills in. Plan the grasses and sedges every 12 inches. After these are planted, you will add in the flowering plants.

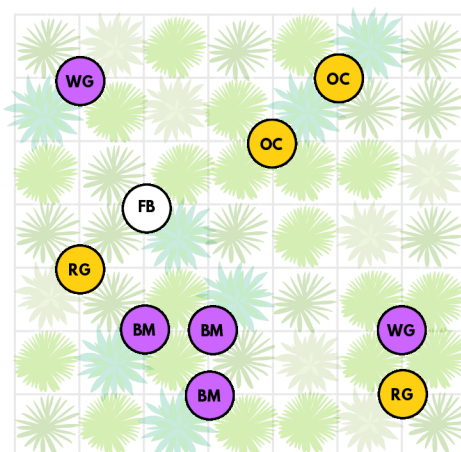


FLOWERING LAYER

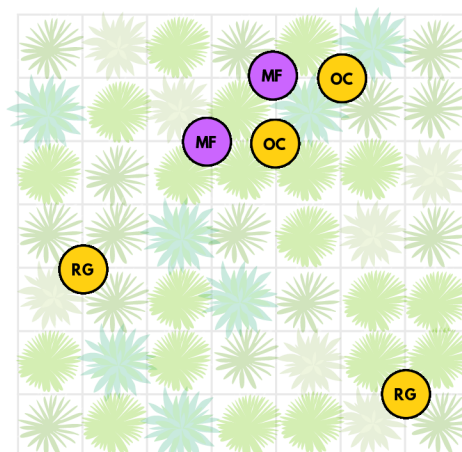
Next, add the flowering plants in between the sedges and grasses. It can help to make a table showing when things bloom so you can try to have something blooming throughout the year in different areas of your design - see an example for a part sun, medium soil moisture area left of here. It is important to choose plants that will do well in your specific sun, soil, and moisture conditions. Find additional species suggestions on the last page.



SPRING BLOOMS



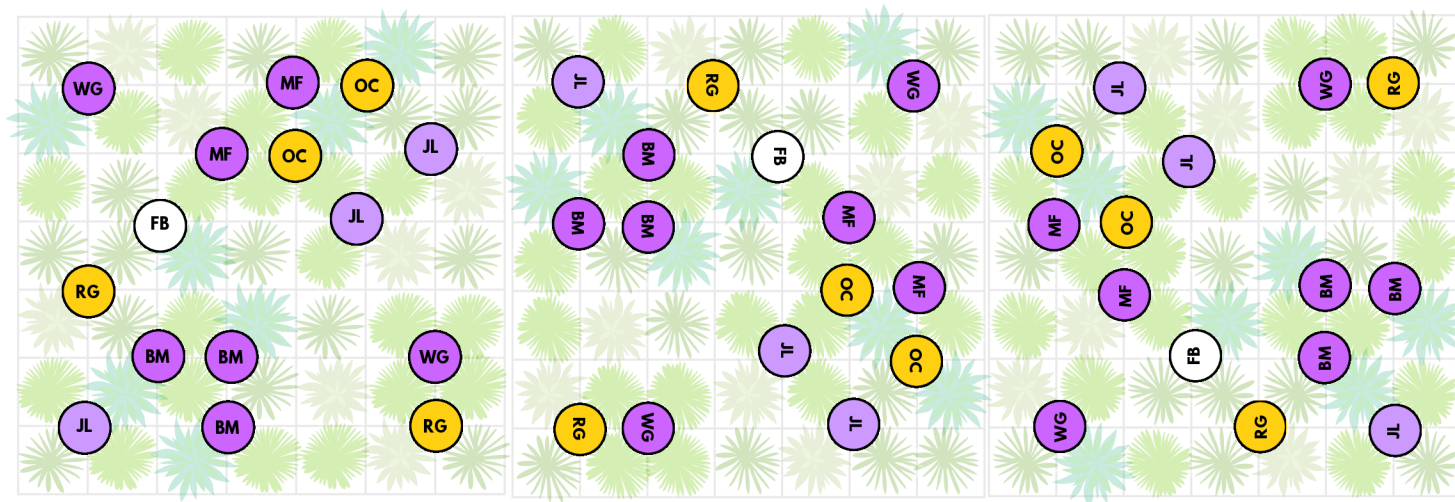
SUMMER BLOOMS



FALL BLOOMS

Code	Species	#	April	May	June	July	Aug	Sept	Oct
	Blue Grama	15							
	Little Bluestem	7							
	Plains Oval Sedge	20							
	Side Oats	7							
JL	Jacobs Ladder	3							
WG	Wild Geranium	2							
FB	Foxglove Beardtongue	1							
BM	Bradbury's Monarda	3							
OC	Orange Coneflower	2							
RG	Riddell's Goldenrod	2							
MF	Mistflower	2							

To fill a larger area, you can simply copy and rotate (optional) the design.



RECOMMENDED PLANTS FOR MATRIX DESIGN

These plant lists are from the book “Prairie Up” by Benjamin Vogt which also has example planting layouts. It is not an exhaustive list of species options.

Full Sun								Dry Soil						
			SOIL MOISTURE					BLOOM MONTH + COLOR						
COMMON NAME	SCIENTIFIC NAME	HT	Wet		Med		Dry	A	M	J	J	A	S	O
Side Oats	<i>Bouteloua curtipendula</i>	2'			●	●	●	MATRIX LAYER						
Little Bluestem	<i>Schyzachyrium scoparium</i>	2.5'			●	●	●							
Blue Grama	<i>Bouteloua gracilis</i>	1'				●	●							
Prairie Alumroot	<i>Heuchera richardsonii</i>	2'		●	●	●	●		■	■	■			
Pale Purple Coneflower	<i>Echinacea pallida</i>	3'			●	●	●			■	■			
Purple Poppy Mallow	<i>Callirhoe involucrata</i>	0.5'				●	●			■	■	■		
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	2'		●	●	●	●							
Black-eyed Susan	<i>Rudbeckia hirta</i>	2'		●	●	●	●			■	■	■	■	■
Rough Blazing Star	<i>Liatris aspera</i>	3'			●	●	●			■	■	■	■	■
Nodding Onion	<i>Allium cernuum</i>	1.5'		●	●	●	●				■	■		
Purple Prairie Clover	<i>Dalea purpurea</i>	2'			●	●	●				■	■	■	
Rattlesnake Master	<i>Eryngium yuccifolium</i>	4'		●	●	●	●							
Aromatic Aster	<i>Symphyotrichum oblongifolium</i>	2'				●	●					■	■	■

Full to Part Sun								Medium Moisture Soil						
			SOIL MOISTURE					BLOOM MONTH + COLOR						
COMMON NAME	SCIENTIFIC NAME	HT	Wet		Med		Dry	A	M	J	J	A	S	O
Common Wood Sedge	<i>Carex blanda</i>	1'	●	●	●	●		MATRIX LAYER						
Long-beaked Sedge	<i>Carex sprengelii</i>	2'		●	●	●	●							
Switchgrass	<i>Panicum virgatum</i>	4'		●	●	●	●							
Jacob's Ladder	<i>Polemonium reptans</i>	1'		●	●	●		■	■	■				
Mountain Mint	<i>Pycnanthemum virginianum</i>	3'	●	●	●	●								
Prairie Blazing Star	<i>Liatris pycnostachya</i>	4'	●	●	●					■	■	■	■	
White Wild Indigo	<i>Baptisia alba</i>	4'		●	●	●	●							
Boneset	<i>Eupatorium perfoliatum</i>	4'	●	●										
Purple Coneflower	<i>Echinacea purpurea</i>	3.5'		●	●	●					■	■	■	
Rattlesnake Master	<i>Eryngium yuccifolium</i>	4'		●	●	●	●							
Riddell's Goldenrod	<i>Oligoneuron riddellii</i>	3'	●	●	●							■	■	■
Calico Aster	<i>Symphyotrichum lateriflorum</i>	5'		●	●	●	●							
Mistflower	<i>Conoclinium coelestinum</i>	2'		●	●	●	●						■	■

Full to Part Sun - Slope								Medium to Dry Soil						
			SOIL MOISTURE					BLOOM MONTH + COLOR						
COMMON NAME	SCIENTIFIC NAME	HT	Wet		Med		Dry	A	M	J	J	A	S	O
Side Oats	<i>Bouteloua curtipendula</i>	2'			●	●	●	MATRIX LAYER						
Little Bluestem	<i>Schyzachyrium scoparium</i>	2.5'			●	●	●							
Copper-shouldered Oval Sedge	<i>Carex bicknellii</i>	3'		●	●	●	●							
Golden Alexanders	<i>Zizia aurea</i>	3'		●	●	●								
Pale Purple Coneflower	<i>Echinacea pallida</i>	3'			●	●	●							
Slender Mountain Mint	<i>Pycnanthemum tenuifolium</i>	2'		●	●	●	●							
Prairie Coreopsis	<i>Coreopsis palmata</i>	2'			●	●	●							
Leadplant	<i>Amorpha canescens</i>	3'			●	●	●							
Black-eyed Susan	<i>Rudbeckia hirta</i>	2'		●	●	●	●							
Dotted Blazing Star	<i>Liatris punctata</i>	2'			●	●	●							
Aromatic Aster	<i>Symphotrichum oblongifolium</i>	2'				●	●							
Showy Goldenrod	<i>Solidago speciosa</i>	5'			●	●	●							

Shade								Medium to Dry Soil						
			SOIL MOISTURE					BLOOM MONTH + COLOR						
COMMON NAME	SCIENTIFIC NAME	HT	Wet		Med		Dry	A	M	J	J	A	S	O
White-tinged Sedge	Carex albicans	1'			●	●	●	MATRIX LAYER						
Long-beaked Sedge	Carex sprengelii	2'		●	●	●	●							
Curly-styled Wood Sedge	Carex rosea	1'		●	●	●	●							
Early Meadow Rue	Thalictrum dioicum	2'		●	●	●	●	■	■	■	■	■	■	■
Columbine	Aquilegia canadensis	2'			●	●	●	■	■	■	■	■	■	■
Wild Blue Phlox	Phlox divaricata	1'		●	●	●	●	■	■	■	■	■	■	■
Wild Geranium	Geranium maculatum	1'			●	●		■	■	■	■	■	■	■
Solomon's Seal	Polygonatum biflorum	4'			●	●		■	■	■	■	■	■	■
Tall Thimbleweed	Anemone virginiana	3'				●	●	■	■	■	■	■	■	■
Zig Zag Goldenrod	Solidago flexicaulis	3'		●	●	●		■	■	■	■	■	■	■
Calico Aster	Symphytotrichum lateriflorum	2'		●	●	●		■	■	■	■	■	■	■
Heart-leaved Aster	Symphytotrichum cordifolium	3'			●	●		■	■	■	■	■	■	■

ADDITIONAL RESOURCES

- <https://prairieup.com/lets-design/>
- <https://prairieup.com/matrix-design-101/>
- "Matrix Landscape Design" webinar: <https://www.youtube.com/watch?v=UsZ7X3Vf26c>