

# CITY OF TUKWILA PREFERRED BIOPRESENTATION PLANTS

DRAFT - SEPTEMBER 15, 2016

Attachment B  
Staff Report L16-0050

# PLANTING ZONES for BIORETENTION CELLS

Plants in Zone 1 can tolerate moist soils and standing water. Zone 1 is the bottom of the bioretention cell.



Plants in Zone 2 can tolerate moist soils and occasional standing water. Zone 2 is typically side-slopes and banks.



Plants in Zone 3 can prefer drier planting conditions. Zone 3 is the highest point of the bioretention cell.

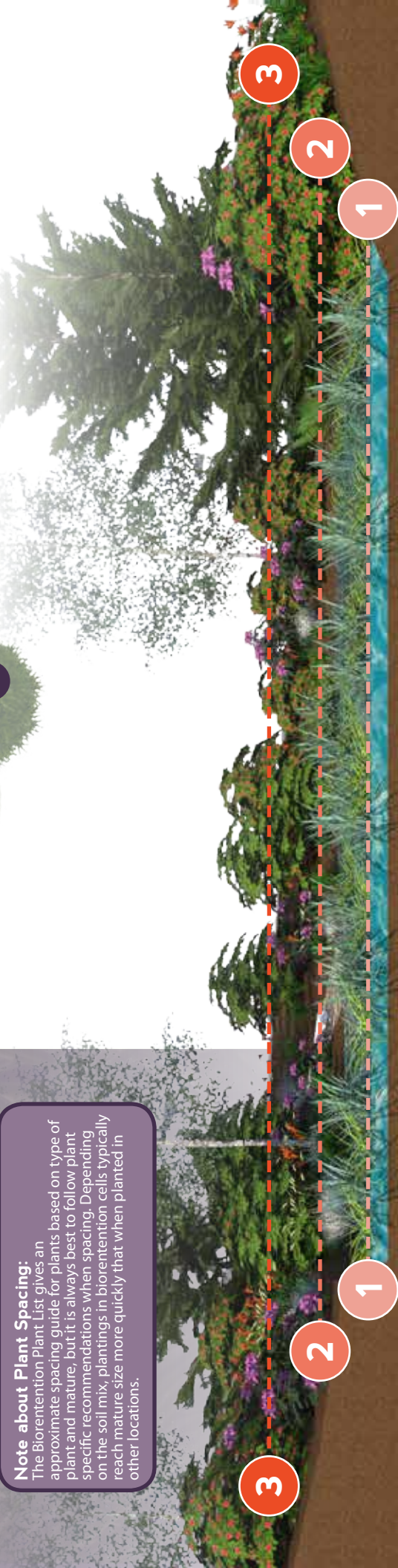






















**Note about Plant Spacing:**  
The Bioretention Plant List gives an approximate spacing guide for plants based on type of plant and mature, but it is always best to follow plant specific recommendations when spacing. Depending on the soil mix, plantings in bioretention cells typically reach mature size more quickly than when planted in other locations.








































## BIORETENTION CELL DIAGRAM



## BIORETENTION CELL SECTION











Scientific Name Common Name	Zone			Native	Sun Exposure			Mature Size		On Center Spacing	Fall Color	Bloom Time & Color	Characteristics
	1	2	3		Sun	Partial	Shade	Height	Spread				
<b>SEDGES AND RUSHES</b>													
 <b>Carex obnupta</b> Slough sedge	1	2					12"-36"	up to 48"	36"		Late Spring	Spreads quickly; excellent soil binder	
 <b>Carex oshimensis 'Evergold'</b> Variegated Japanese Sedge		2	3				12"-24"	24"-36"	28"		Late Spring - Early Summer	Variegated leaves with white band; great for planting along sidewalk edges	
 <b>Carex stipata</b> Sawbeak Sedge	1						24"-36"	24"-36"	28"		Spring	Spreads quickly; long, tapered foliage	
 <b>Juncus acuminatus</b> Taper-tipped Rush	1						6"-18"	12"-24"	18"		Spring - Summer	Red-brown flowers; delicate	
 <b>Juncus ensifolius</b> Dagger-lead Rush	1						6"-15"	6"-9"	6"		Summer	Pom-pom like flowers; adds interest to landscape	
 <b>Juncus tenuis</b> Slender Rush	1	2					6"-20"	6"-30"	22"		Late Spring to Late Summer	Bright green foliage	
 <b>Scirpus acutus</b> Hardstem Bulrush	1						10'	6'	4'		Summer	Gray-green to dark green foliage; dense	
 <b>Scirpus microcarpus</b> Small-fruited Bulrush	1						24"-36"	12"-24"	18"		Summer	Spreads quickly; excellent soil binder	





























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	1	2	3		Sun	Partial	Shade	Height	Spread				
<b>ORNAMENTAL PLANTS</b>													
 <b>Aster chilensis</b> California Aster	2	3	3					24"-36"	18"-36"	18"-28"		Late Summer 	Low-growing plant; shear when blooming ceases in the autumn, returns in the spring
 <b>Aquilegia formosa</b> Western Columbine	2	3	3					12"-36"	12"-36"	18"-28"		Spring 	Excellent in woodland areas; attracts pollinators; tolerant of shallow flooding
 <b>Arctostaphylos uva-ursi</b> Kinnikinnick or Bearberry	2	3	3					6" - 12"	24"-36"	18"-28"		Spring - Summer 	Glossy, leathery leaves; low-growing ground cover; easy-care once established; bell-shaped flowers; red berries
 <b>Asarum caudatum</b> Wild ginger	2	3	3					4"-6"	36"	18"-28"		Late Spring 	Glossy leaves that exude the fragrance of ginger when crushed
 <b>Athyrium filix-femina</b> Lady fern	1	2	3					36"-60"	24"	12"-18"			Fast-growing; tolerant of shallow flooding
 <b>Blechnum spicant</b> Deer fern	1	2	3					12"-36"	24"	12"-18"		Late Spring 	Dark, glossy leaves with a crinkled texture; tolerant of shallow flooding
 <b>Camassia leichtlinii</b> Leichtlin's camass	2	3	3					36"-48"	12"-24"	12"-18"		Late Spring 	Linear foliage; flowers range in color from white, cream, blue or purple; excellent fresh-cut flower
 <b>Camassia quamash</b> Common camass	2	3	3					18"	12"	6"-9"		Late Spring 	Distinct clusters of flowers make this plant attractive in mass plantings; best when planted in the autumn after weather cools

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	1	2	3		Sun	Partial	Shade	Height	Spread				
<b>ORNAMENTAL PLANTS</b>													
 <i>Cornus canadensis</i> Bunchberry	2	3	3					6"-9"	6"-9"	4.5"-7"		Late Spring 	Performs best in full shade; excellent complement to rhododendrons or ferns
 <i>Dicentra formosa</i> Pacific Bleeding Heart	2	3	3					12"	24"	12"-18"		Spring 	Delicate foliage; distinct spring-time flowers
 <i>Deschampsia cespitosa</i> Tufted hair grass	2	3	3					6" - 12"	24"	12"-18"		Spring 	Stunning grassy foliage with creamy white variegation that turns pink in winter; spring-time inflorescence can make plant 4'-tall
 <i>Fragaria chiloensis</i> Beach Strawberry	2	3	3					10"	36"	18"-28"		Summer 	Forms a lush, compact groundcover; cut back in the early spring to prompt new growth and prevent stem build-up; ornamental berries
 <i>Fragaria vesca</i> Alpine Strawberry	2	3	3					10"	36"	18"-28"			Bears tiny, fragrant (and edible) berries in the summer months; attracts butterflies; likes some afternoon shade
 <i>Festuca idahoensis</i> Idaho Fescue			3					24"	24"	12"-18"		Summer 	Dense plant; gray-green foliage; excellent when planted alongside sidewalks or used as a ground-cover
 <i>Hemerocallis</i> Daylily	2	2	2					24"-48"	24"	12"-18"		Spring-Summer 	Attracts pollinators; flower color dependent on cultivar (pink, red, orange, purple, yellow)
 <i>Heuchera varieties</i> Alumroot	2	3	3					24"-36"	18"	9"-14"		Spring-Summer 	Many cultivars available; distinct foliage and flower colors of chartreuse, white, and scarlet

































Scientific Name Common Name	Zone			Sun Exposure			Mature Size		On Center Spacing	Fall Color	Bloom Time & Color	Characteristics	
	1	2	3	Native	Sun	Partial	Shade	Height					Spread
	50% - 75% of Mature Spread												
<b><i>Iris douglasiana</i></b> Douglas Iris	1	2	3					24"	24"	12"-18"	Early Spring 	Clumping foliage; beautiful purple flowers are nice color addition to planting scheme	
<b><i>Iris tenax</i></b> Oregon Iris	1	2	3					18"	12"	6"-9"	Late Spring 	Beautiful blue and purple flowers; nice color addition to any planting scheme	
<b><i>Lillium columbianum</i></b> Tiger Lily	2	3						5'-6'	36"	18"-28"	Mid-Summer 	Produces one to six unscented blooms per stem; attracts butterflies	
<b><i>Lupinus varieties</i></b> Lupine			3					18"-48"	24"-30"	15"-22"	Summer 	Attracts butterflies and caterpillars; many cultivars available	
<b><i>Nothochelone nemorosa</i></b> Turtlehead			3					up to 40"	up to 40"	20"-30"	Summer 	Flowers continuously throughout the summer	
<b><i>Ophiopogon planiscarpus</i></b> Black Mondo grass			3					12"	12"	6"-9"	Spring/Summer 	Black foliage makes this an excellent accent when used with brightly flowering plants; maintains color	
<b><i>Penstemon varieties</i></b> Penstemon			3					4"-24" (varies)	12"-24" (varies)	12"-18" (Varies)	Summer (varies) 	Beautiful blue and purple flowers, depending on variant; nice color addition to planting scheme; attracts hummingbirds	
<b><i>Polystichum munitum</i></b> Western Sword Fern		2	3					36"-48"	36"-60"	30"-45"		Beautiful foliage and size allows this plant to stand out in planting schemes	































ORNAMENTAL PLANTS













































Scientific Name Common Name	Zone			Sun Exposure			Mature Size		On Center Spacing	Fall Color	Bloom Time & Color	Characteristics
	1	2	3	Native	Sun	Partial	Shade	Height				
<b>ORNAMENTAL PLANTS</b>												
 <b>Sedum varieties</b> Sedum		3					4"-6" (varies)	8"-12" (varies)	6"-9" (varies)		Spring-Summer 	Spoon-shaped blue-green foliage, depending on variant; trailing stems; excellent as a groundcover
 <b>Sidalcea varieties</b> Checker mallows, Cherckerblossoms	1						36"-48" (varies)	24"-36" (varies)	18"-28" (varies)		Summer 	Fast-growing; many cultivars are appropriate for bioretention cells, including <i>S. hendersonii</i>
 <b>Smilacina racemosa</b> Solomon's Plume		2	3				12"-36"	12"-36"	18"-28"		Spring 	Creamy spring-time blossoms are followed by yellow-green berries that turn to red; attracts birds; fragrant flowers
 <b>Solidago canadensis</b> Goldenrod		2	3				36"	24"	12"-18"		Late Summer 	Small bright-yellow flowers make a lively addition to any planting scheme; narrow lance-shaped leaves
 <b>Tellima grandiflora</b> Fringecup		2	3				12"	12"	6"-9"		Spring 	Foliage maintains appearance throughout the winter
 <b>Tiarella trifoliata</b> Western Foamflower		2	3				12"	12"	6"-9"		Summer 	Dense; foliage maintains appearance throughout the winter
 <b>Trillium ovatum</b> Western Trillium		2	3				18"	12"	6"-9"		Spring 	Unique flower to add to any planting scheme
 <b>Vancouveria hexandra</b> Duck's Foot		2	3				12"	12"-36"	18"-28"		Spring 	Foliage maintains appearance throughout the winter



























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	1	2	3	Sun	Partial	Shade	Height	Spread				
<b>SMALL-TO-MEDIUM SHRUBS</b>												
 <b>Cistus salvifolius</b> <b>'Prostratus'</b> Sageleaf Rockrose		3					2'	6'	3'-4.5'		Spring-Summer 	Evergreen; excellent for erosion control on banks; light gray-green leaves
		3					6'	6'	3'-4.5'		Summer 	Stunning red stems in the winter months; beautiful addition to bioretention cell for winter interest
 <b>Cornus sanguinea</b> Bloodtwig Dogwood		3					3'-8'	3'-5'	2.5'-4'		Summer 	Many cultivars available, including 'Flavimera' and 'Kelsey'; stunning colored stems in the winter months
		3					5'	5'	2.5'-4'		Spring 	Fast-growing when planted in shaded areas, otherwise difficult to establish
 <b>Holodiscus discolor</b> Cream Bush		3					8'	15'	7.5'-12'		Summer 	Attracts pollinators; excellent soil binder
		3					6'-10'	5'	2.5'-4'		Spring 	Attracts pollinators; blue and black berries
 <b>Mahonia aquifolium</b> Oregon Grape		3					6'-10'	8'-12'	6'-9'		Spring 	Leathery, glossy dark-green foliage; excellent when used as a hedge; tolerant of many soils
		3					5'-20'	7'-20'	10'-15'		Spring 	Evergreen; dark green leaves with tubular flowers; year-round interest



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	1	2	3		Sun	Partial	Shade	Height	Spread				
<b>SMALL-TO-MEDIUM SHRUBS</b>													
 <b>Philadelphus lewisii</b> Mock-Orange	2	3	3					5'-10'	5'-10'	5'-7.5'		Summer 	Fountain-shaped plant; aromatic flowers
	1	2	3					5'-10'	5'-10'	5'-7.5'		Late Spring 	Dense clusters of flowers; plants resemble spirea; rejuvenate old plantings by cutting to ground
 <b>Physocarpus opulifolius</b> Common Ninebark	2	3	3					5'-10'	3'-6'	3'-4.5'		Late Spring 	Dense clusters of flowers; plants resemble spirea; rejuvenate old plantings by cutting to ground
			3					4'	5'	2.5'-4'		Late Spring	Low-growing; performs well, but variable in growing habit; great as an anchor plant
 <b>Pinus mugo-mugo</b> Dwarf Mugo Pine			3					10' (varies)	10' (varies)	5'-7.5' (varies)		Spring-Summer (varies)	Many cultivars that vary in bloomtime, size, and color; leathery leafed with stunning flowers
		2	3					5'-12'	10'	5'-7.5'		Spring 	Produces drooping clusters of flowers
 <b>Ribes sanguineum</b> Red-Flowering Currant	2	3	3					5'	1'-2'	1'-1.5'		Spring-Summer 	Fast-growing to 3'; slender; small rose with delicate stems and flowers; stems are bristled
	1	2	3					10'	3'-6'	3'-4.5'		Spring - Fall 	Unique among roses given its preference for wet, almost swampy conditions; stems have thorns

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	1	2	3		Sun	Partial	Shade	Height	Spread				
<b>SMALL-TO-MEDIUM SHRUBS</b>													
 <b>Rosa nutkana</b> Nootka Rose	2	3	3				6'	4'	2'-3'		Spring 	Arching stems with gray-green leaves	
 <b>Rubus spectabilis</b> Salmonberry	1	2	3				10'	10'	5'-7.5'		Winter-Spring 	Fast-growing; excellent soil binder	
 <b>Salix purpurea</b> Purple Osier	1	2	3				15'	15'	7.5'-12'			Dark green leaves with blue underside; striking purple branches; cut to ground if overgrown	
 <b>Sambucus nigra</b> Elderberry	1	2	3				8'	8'	4'-6'		Late Spring 	Dramatic accent plant; fragrant white flowers	
 <b>Symphoricarpos albus</b> Snowberry	2	3	3				6'	6'	3'-4.5'		Spring 	Pink spring-time flowers are followed by white berries that last through the winter; great for erosion control	
 <b>Thuja plicata</b> 'Whipcord' Dwarf Red Cedar	2	3	3				4'	4'	2'-3'			Unusual and unique planting; cascading branches form a nice mound; bronze winter color	
 <b>Vaccinium parvifolium</b> Red Huckleberry	2	3	3				4'-12'	6'	3'-4.5'		Spring 	Thin branches with cascading habit create a beautiful silhouette	

Scientific Name Common Name	Zone			Native	Sun Exposure			Mature Size		Plant Strip Width	On Center Spacing	Fall Color	Bloom Time & Color	Characteristics
	1	2	3		Sun	Partial	Shade	Height	Spread					
	50% of Mature Spread													
<b>LARGE SHRUBS AND TREES</b>	 <b>Acer circinatum</b> Vine Maple	2	3	  		30'	30'	5'	15'	 Spring 	Small, nearly symmetrical tree; multiple trunks			
	 <b>Alnus rubra</b> Red Alder	1	2	3	  		45'-50'	20'-30'	6'	15'		Attractive light gray bark; dark green leaves with rust-colored underside; most common alder of the Pacific Northwest		
	 <b>Betula papyfera</b> Paper Birch	2	3	 		50'-60'	25'	6'	12.5'		Attractive, creamy-white bark			
	 <b>Cornus varieties</b> Cherry Tree		3	  		20' (varies)	20' (varies)	5'	10' (varies)	Spring 	Highly adaptable to environment; many appropriate cultivars available			
	 <b>Corylus cornuta</b> Beaked Hazlenut	2	3	  		20'	10'	5'	5'		Vase-like shape; needs adequate space to grow; catkins add winter interest			
	 <b>Crataegus x lavalii</b> Lavalie Hawthorne		3			25'	20'	5'	10'	Spring 	Dark green leathery leaves; clusters of red fruits add winter color			
	 <b>Fraxinus latifolia</b> Oregon Ash	1	2	 		60'	35'	6'	18'		Tolerant of wet conditions			
	 <b>Lonicera involucrata</b> Black Twinberry	1	2	 		9'	10'		5'	Summer 	Attractive to hummingbirds			

Scientific Name Common Name	Zone			Native			Sun Exposure			Mature Size		Plant Strip Width	On Center Spacing	Fall Color	Bloom Time & Color	Characteristics
	1	2	3	Sun	Partial	Shade	Height	Spread								
<b>LARGE SHRUBS AND TREES</b>																
 <b>Malus fusca</b> Pacific Crabapple	1	2					10'-30'	10'-30'			15'		15'		Requires adequate room to grow; fragrant apple blossoms of white or pink; bears fruit	
 <b>Myrica californica</b> Pacific Wax Myrtle	1	2					15'	15'			5'		7.5'	Spring	Many upright trunks; branches are densely covered in foliage; purple nutlets attract birds; useful in screening	
 <b>Parrotia persica</b> Persian Parrotia		2	3				15'-30'	20'			5'		10'	Early Spring	Smooth gray bark with white patches; colorful tree year-round	
 <b>Rhamnus purshiana</b> Cascaira		2	3				20'-40'	10'-30'			5'		15'		Smooth gray bark; picturesque branches; dark green leaves	
 <b>Salix lucida</b> Pacific Willow		2					15'-45'	30'					15'	Spring	Useful as a screening plant or windbreaker; aggressive roots are excellent for stabilizing banks	
 <b>Salix sitchensis</b> Sitka Willow	1	2					25'	15'					7.5'	Spring	Multi-stemmed; gray-brown bark; useful in screening	
 <b>Sambucus caerulea</b> Blue Elderberry		2	3				10'-30'	8'-20'					10'	Spring	Clusters of summertime blue or black berries follow spring-time flowers	
 <b>Thuja plicata</b> Western Red Cedar		2	3				50'-100'	25'-60'			12'		30'		Many cultivars; slender, drooping branches with dark green leaves; requires adequate space to grow	