

A - *Ilex opaca* (American Holly), 8' o.c.

B - *Sambucus canadensis* (Elderberry) or *Viburnum acerifolium* (Mapleleaf viburnum), 3' o.c.

C - *Amelanchier canadensis* (Serviceberry)

D - *Cimicifuga racemosa* (Black Snakeroot), 12" o.c.

E - Wildflower Mix, 85 SF; sample mix:

50% *Lobelia siphilitica* (Great Blue Lobelia)
or *Tradescantia virginiana* (Spiderwort)

20% *Aquilegia canadensis* (Columbine),

20% *Scenecio aureus* (Sneezeweed),

10% *Lilium superbum* (Turk's Cap Lily)

If using plants (vs. seed) for wildflowers, space 18" o.c.

(19 - *Lobelia*, 8-*Aquilegia*, 8-*Senecio*, 4-*Lilium*) <seeding is a

lower cost but higher maintenance option due to the need to nurture seedlings

note: o.c. = on center

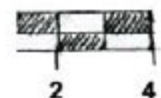


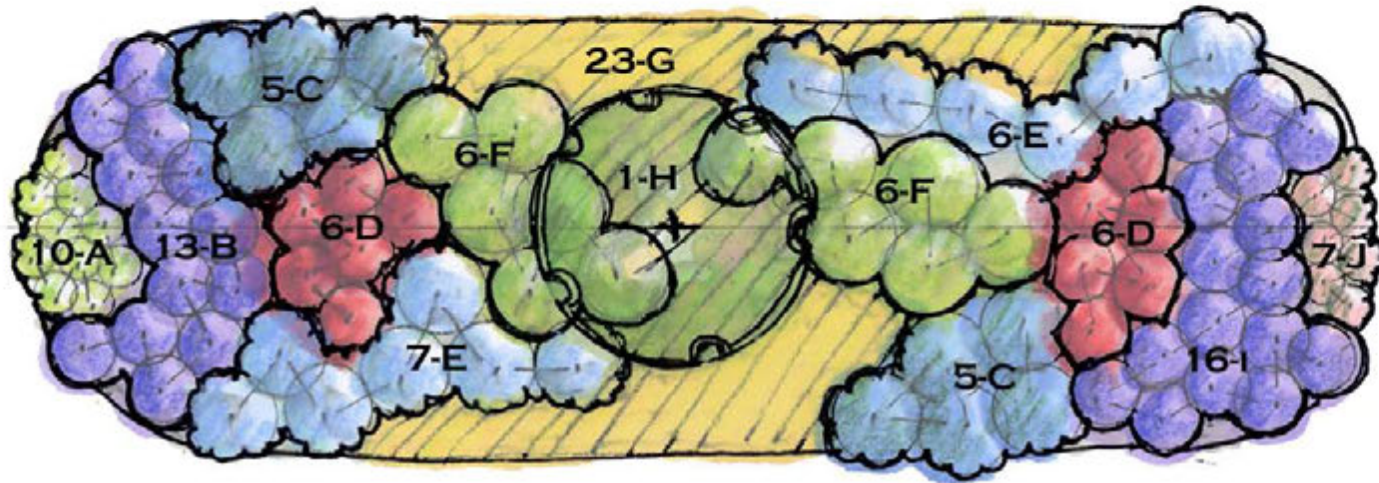
The Low Impact
Development Center, Inc.



FOR THE BIRDS RAINGARDEN

450 SF
Mountains
Pt. Shade-Shade
All zones





- A - *Eupatorium perfoliatum* (Common Boneset), 12" o.c.
- B - *Penstemon digitalis* (Foxglove Beardstongue)*, 18" o.c.
- C - *Lobelia siphilitica* (Great Blue Lobelia), 2' o.c.
- D - *Lobelia cardinalis* (Cardinal Flower), 18" o.c.
- E - *Tradescantia virginiana* (Spiderwort), 2' o.c.
- F - *Veronicastrum virginicum* (Culver's Root), 2' o.c.
- G - *Osmunda cinnamomea* (Cinnamon Fern), 18" o.c.
- H - *Amelanchier arborea* (Downy Serviceberry) or *Hamamelis virginiana* (Witchhazel) (partial sun)
- I - *Astilbe 'Rheinland'* (Perennial Spirea, Pink Astilbe), 18" o.c.
- J - *Aquilegia canadensis* (Columbine), 12" o.c.

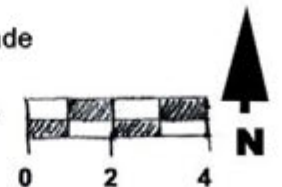
note: o.c. = on center

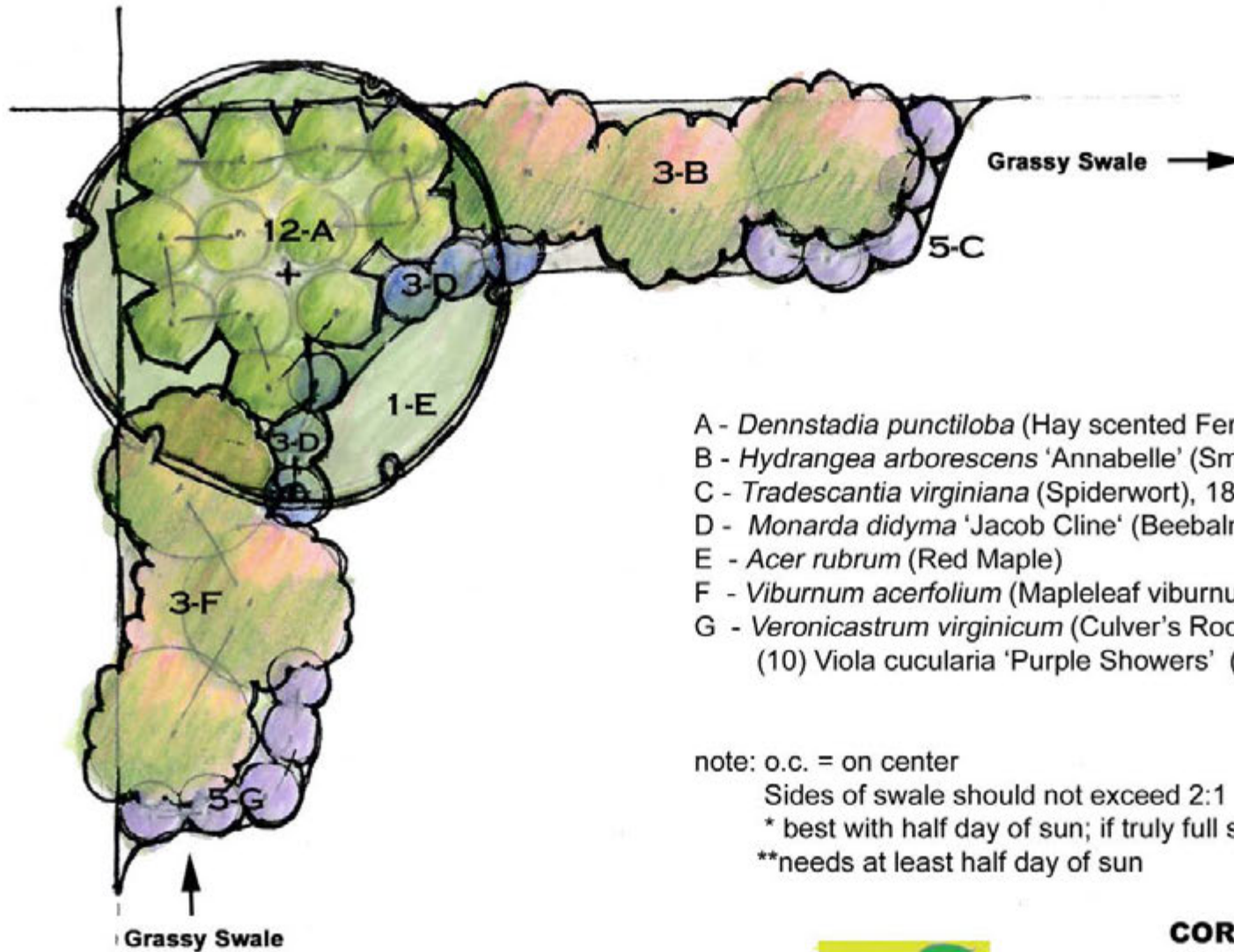
* Hardy up through Pennsylvania; if colder than 5b, then substitute *Heuchera americana* (Alumroot)



BUTTERFLIES SWALE RAINGARDEN
 250 SF
 Pt Shade/Shade
 Mountain

Scale: 1/4" = 1'





- A - *Dennstedia punctiloba* (Hay scented Fern), 2' o.c.
- B - *Hydrangea arborescens* 'Annabelle' (Smooth Hydrange), 4' o.c.
- C - *Tradescantia virginiana* (Spiderwort), 18" o.c.
- D - *Monarda didyma* 'Jacob Cline' (Beebalm), 18" o.c. (native)*
- E - *Acer rubrum* (Red Maple)
- F - *Viburnum acerfolium* (Mapleleaf viburnum), 4' o.c.
- G - *Veronicastrum virginicum* (Culver's Root), 18" o.c. (native)** or
(10) *Viola cucularia* 'Purple Showers' (Marsh Blue Violet) 12" o.c.

note: o.c. = on center

Sides of swale should not exceed 2:1

* best with half day of sun; if truly full shade, try *Astilbe* 'Rheinland'

**needs at least half day of sun



The Low Impact
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CORNER RAINGARDEN

150 SF

Pt Shade /Shade

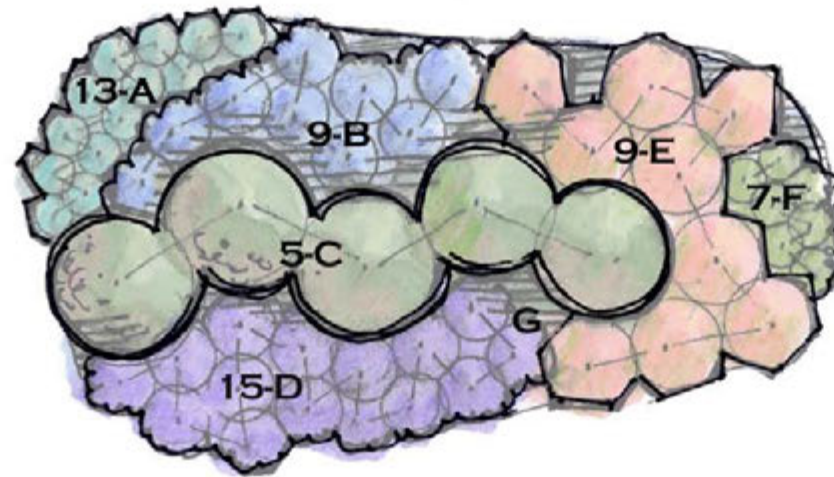
All zones,

Mountain

Scale: 1/4"=1'



N



- A - *Tiarella cordifolia* (Foamflower), 12" o.c
- B - *Cimicifuga racemosa* (Black Cohosh), 18" o.c.
- C - *Clethra alnifolia* 'Ruby Spice' (Pink dwarf Sweet Pepperbush), 3' o.c.
- D - *Tradescantia virginiana* (Spiderwort), 18" o.c.
- E - *Polystichum acrostichoides* (Christmas Fern), 2' o.c.
- F - *Viola labridorica* (Labrador violet), 12" o.c.
- G - *Narcissus* naturalizing type (Daffodils), 4" o.c.

note: o.c. = on center

**note: G indicates daffodils
4" o.c., total 200 bulbs**



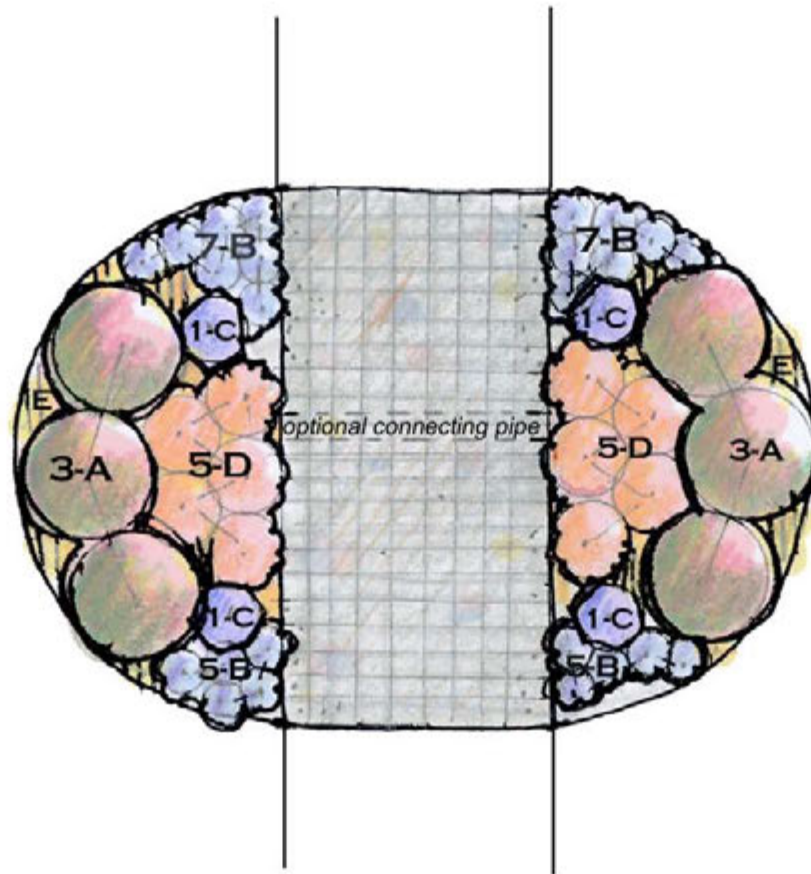
DIVIDER RAINGARDEN

130 SF
Mountains
Pt Shade - Shade

Zone 5a-7b

Scale: 1/4" = 1'





- A - *Kalmia latifolia* 'Elf' or 'Tiddlywinks' (Dwarf Mountain Laurel), 3' o.c.
- B - *Phlox stolonifera* (Creeping phlox), 12" o.c.
- C - *Penstemon laevigatus* (Eastern Smooth Beardtongue) or *Polystichum acrostichoides* (Christmas Fern)
- D - *Hosta sieboldiana* 'Elegans' (Elegans Hosta), 2' o.c. or *Heuchera americana* (Alumroot; many cultivars)
- E - *Narcissus* 'Thalia' or 'Ice Follies', 4" o.c., total 30 bulbs (White Daffodils)

Note: o.c. = on center

Direct water into the garden from adjacent turf and downspouts
Excavate the walk and garden areas at the same time and install all soil improvements for treating the runoff in both the pavement and planting areas at the same time.

The paver area will be underlain with open graded stone and should be vertically separated from the rain gardens with a curb.



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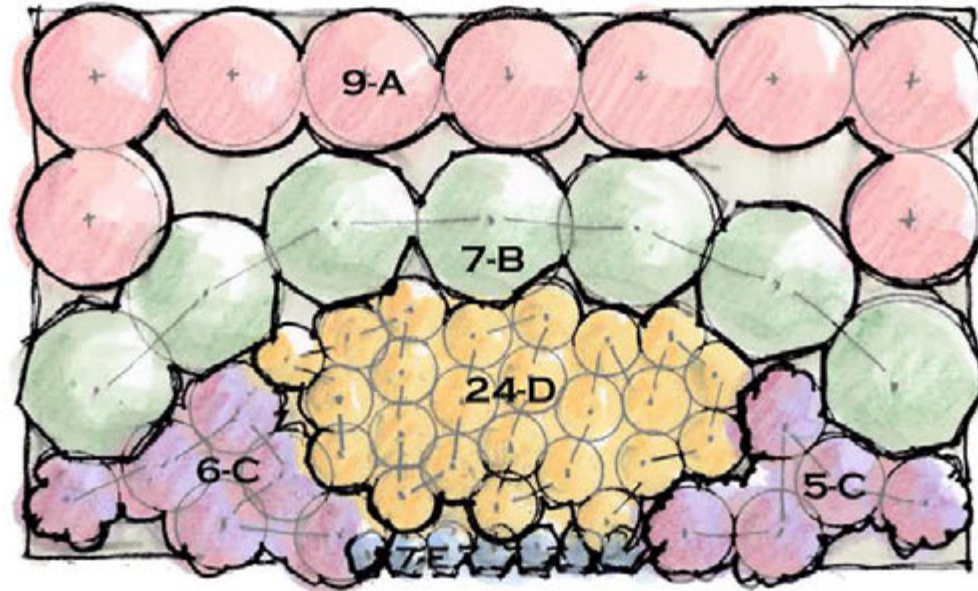
**ENTRY RAINGARDEN
FLANKING WALK WITH
PERMEABLE PAVERS
113 SF GARDEN, 72 SF PAVERS**

Mountains
Pt Shade-Shade

Zones: All

Scale: 1/4" = 1'





- A - *Rhododendron* 'Herbert', 3' o.c. or *Calycanthus floridus* (Sweetshrub)
- B - *Clethra alnifolia* 'Sixteen Candles', 3 1/2' o.c.
- C - *Aster divaricatus* (White Wood Aster)***, 2' o.c.
- D - *Spiranthes cernua* var. *odorata* (Fragrant Lady's Tresses)**, 15' o.c.
- E - *Phlox stolonifera* (Creeping Phlox) or *Phlox divaricata* (Woodland Phlox)*, 12' o.c.

note: o.c.= on center

* *Viola odorata* (Sweet Violet) may be used but they do spread rapidly

** *Hosta* 'Fragrant Blue' may be subst. (space 12" o.c. and use 36 plants) or if there is a half day of sun, *Monarda* X 'Marshall's Delight', 15" o.c.

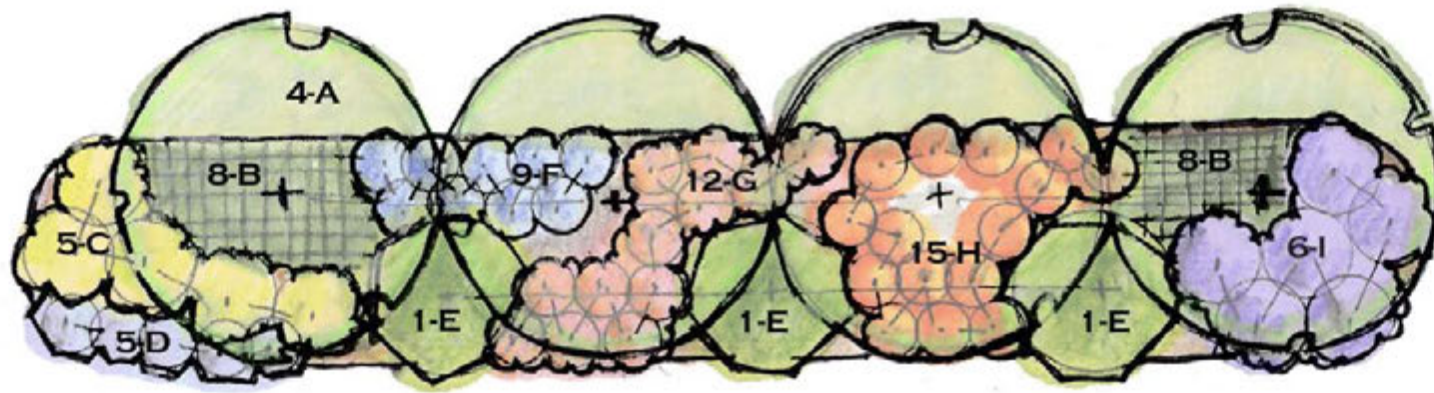
***Underplant with *Convallaria majalis* for spring fragrance (use about 120 pips)



FRAGRANT RAINGARDEN
FORMAL 21'x12' = 252 SF
 Mountains
 Pt Shade-Shade

Zones 5b-7b
 Scale: 1/4"=1'





- A - *Sassafras albidum* (Sassafras) or *Acer rubrum* (Red Maple), 18' o.c.
- B - *Osmunda cinnamomea* (Cinnamon Fern), 2' o.c.
- C - *Viburnum acerfolium* (Mapleleaf viburnum), 3' o.c.*, 5' o.c.
- D - *Itea virginiana* 'Henry's Garnet', 3' o.c.
- E - *Amelanchier canadensis* (Shadblow) or *Cornus alternifolia* (Alternate-leaf dogwood), 18' o.c.
- F - *Pieris floribunda* (Mountain Pieris), 5' o.c.
- G - *Clethra alnifolia* 'Ruby Spice', 3' o.c.
- H - *Calycanthus floridus* (Sweetshrub), 4' o.c.
- I - *Rhododendron canescens* (Piedmont Azalea) or *Rhododendron vaseyi* (Pinkshell azalea), 5' o.c.

note: o.c. = on center

* *Viburnum trilobum* (American Cranberrybush) OK if half day of sun

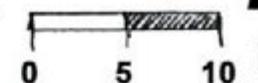
** *Ilex glabra nana* (Dwarf Inkberry) OK if half day of sun

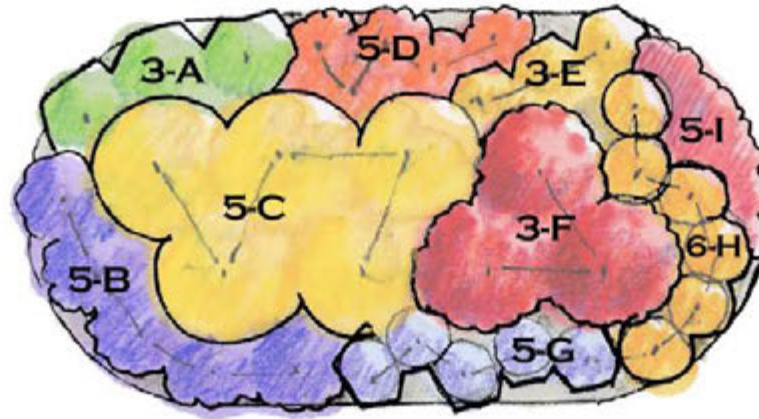


HEDGEROW RAINGARDEN 903 SF

Scale: 1"=10'

Mountains
Pt Shade-Shade
All zones





- A - *Lobelia siphilitica* (Great Blue Lobelia), 2' o.c.
- B - *Penstemon laevigatus* (Eastern Smooth Beardtongue), 2' o.c.
- C - *Aruncus dioicus* (Goatsbeard - female) or *Aralia racemosa* (Spikenard), 3' o.c.
- D - *Scenecio aureus* (Golden ragwort)*, 18" o.c.
- E - *Tradescantia virginiana* (Spiderwort), 18" o.c.
- F - *Helenium autumnale* (Yellow Sneezeweed)* or *Hosta* 'Sum and Substance', 3' o.c.
- G - *Arisaema triphyllum* (Jack-in-the-Pulpit), 18" o.c.
- H - *Lilium superbum*, (Turk's Cap Lily), 18" o.c.
- I - *Aquilegia canadensis* (Wild columbine), 18" o.c.

note: o.c. = on center

* *Asclepias tuberosa* (Butterfly weed) OK if half day of sun

**Needs Pt. sun



**HERBACEOUS PERENNIALS RAINGARDEN
130 SF**

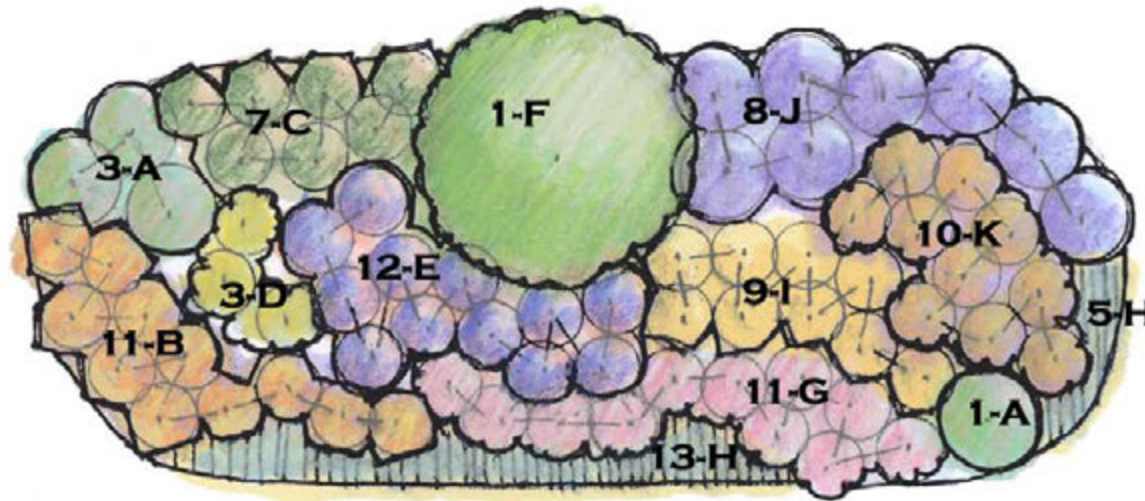
**Tall and Bold Summer-Fall Rainbow
Mountains**

Pt Shade-Shade

All zones

Scale: 1/4"=1'





- A - *Elymus hystrix* (Bottlebrush grass), 2' o.c
- B - *Tradescantia virginiana* (Spiderwort), 18" o.c.
- C - *Juncus effusus* (Soft Rush), 18" o.c.*
- D - *Lobelia siphilitica* (Great Blue Lobelia), 2' o.c.
- E - *Eupatorium rugosum* (White Snakeroot) , 18" o.c.**
- F - *Aruncus dioicus* (Goat's Beard)
- G - *Aquilegia canadensis* (Columbine), 18" o.c.
- H - *Phlox divaricata* (Woodland Phlox), 12" o.c.
- I - *Rudbeckia hirta* (Black-eyed Susan), 18" o.c.***
- J - *Dryopteris fragrans* (Fragrant Woodfern) or
Dryopteris erythrosora (Autumn Fern), 2' o.c.
- K - *Polystichum acrostichoides* (Christmas Fern), 18" o.c.

note: o.c.= on center

* if more than half day shade, substitute

Thelypteris noveboracensis (New York Fern)

** in deeper shade substitute *Astilbe* 'Deutschland'

*** in deeper shade substitute *Solidago ulmifolia* (up to 70% shade)

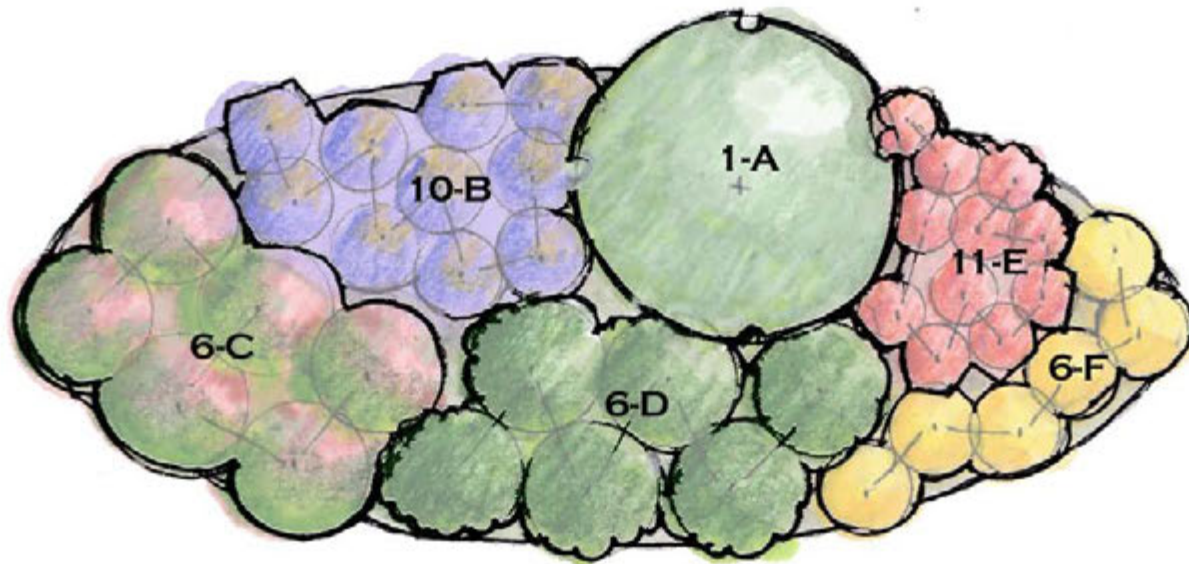


**HERBACEOUS PERENNIALS BORDER
RAINGARDEN 200 SF**

Pt. Shade-Shade
Zones 5a-7a
Mountains

Scale: 1/4"=1'





PLANT CHOICE

- A - *Lindera benzoin* (Spicebush)
- B - *Aruncus dioicus* (Goat's Beard) 2' o.c.*
- C - *Hydrangea arborescens* 'Annabelle', 3' o.c.
- D - *Kalmia latifolia* (Mountain Laurel), 3' o.c.
- E - *Arisaema triphyllum* (Jack-in-the-Pulpit), 12" o.c.**
- F - *Aster divaricatus* (Wood's Aster), 2' o.c.***

DESIGN VALUE

- Tallest/Structural element in garden (8-12')
- Medium Tall perennial, fine texture, white cloud of flowers
- Medium height (3-5'), white cloud of flowers
- Year round interest, color mass in spring (white)
- Spring color mass, interesting texture, red fall fruit
- Fall white mass of color, butterflies

note: o.c. = on center

* if half day of sun, then *Baptisia alba* (Rattlebox) is OK

** or *Polystichum acrostichoides* (Christmas Fern)

*** or, if half day of sun, *Aster novae-angliae* 'Purple Dome' if OK

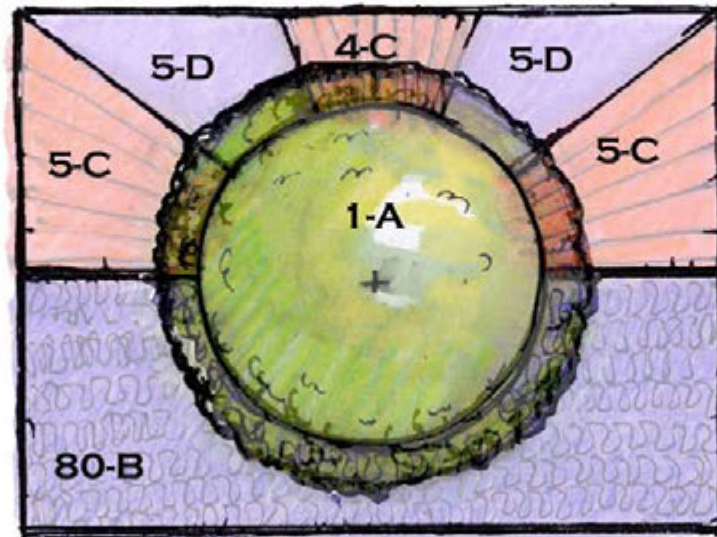


LOW MAINTENANCE RAINGARDEN DEER RESISTANT

200 SF
Pt Shade-Shade
Mountains
Zones 5b-7b

Scale: 1/4"=1'





POSSIBLE PLANTS

- A - *Amelanchier laevis* (Downy Serviceberry)
Amelanchier canadensis (Serviceberry)
- B - *Ajuga reptans* (Carpetbugle), 12" o.c.
Gaultheria procumbens (Teaberry)
Oenothera fruticosa (Primrose), 12" o.c.*
Liriope spicata (Liriope), 12" o.c.
Asarum canadense (Wild Ginger), 12" o.c.
Geranium maculatum (Spotted Geranium), 12" o.c.
Phlox divaricata (Woodland Phlox), 12" o.c.
- C - *Matteuccia struthiopteris* (Ostrich Fern)
Athyrium filix-femina ssp. asplenoides (Lady Fern)
- D - *Dryopteris goldiana* (Goldie's Fern)
Smilacina racemosa (Solomon's Plume)

note: o.c. = on center

*Not suitable for full shade

DESIGN VALUE

- Spring accents, Interesting winter bark, fruit
- Attractive white spring flowers, fruit, wildlife value
- Groundcover, evergreen, purple flowers
- Native evergreen groundcover; zone 5 only
- Native Groundcover (Deciduous), yellow flowers
- Summer color accent - semi-evergreen -Purple spike flowers
- Summer foliage, heart shaped foliage
- Pink spring flowers
- Blue spring flowers, semi-evergreen groundcover
- Dramatic vertical texture plant
- Fine texture vertical texture plant, smaller scale than Ostrich
- Tall arching linear textural interest (up to 4' tall)
- Vertical interest, White spring flowers, red fruit (2' tall)



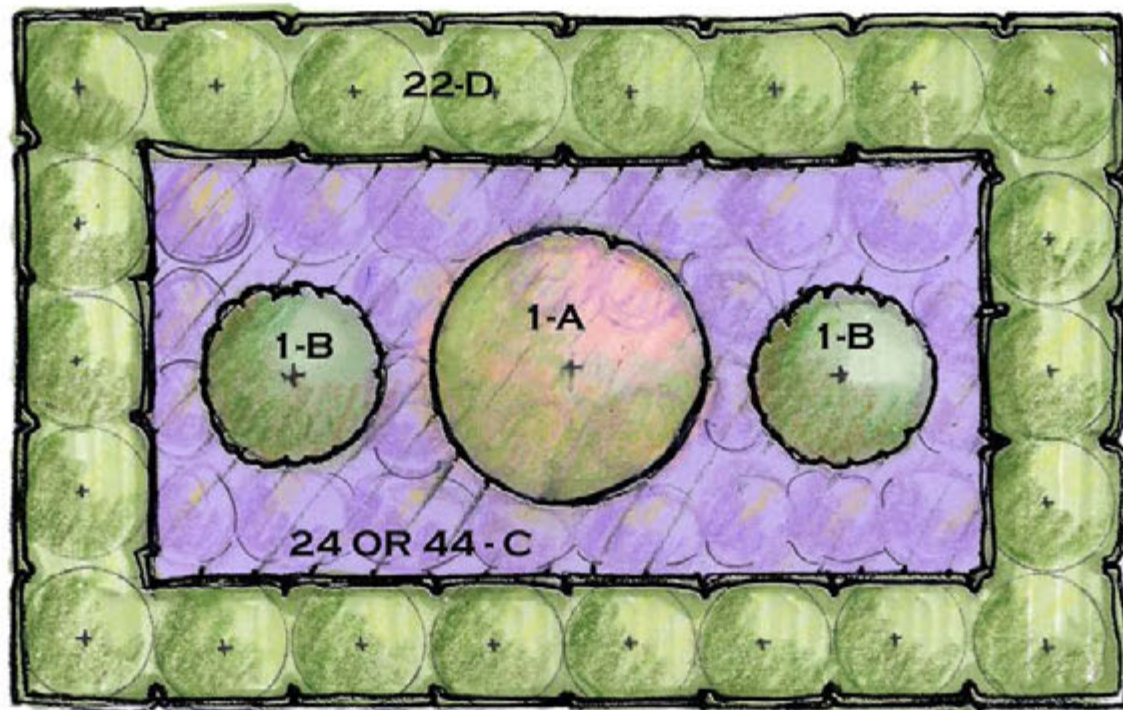
ONE NICE TREE

192 SF 16' X 12'

Pt Shade-Shade,
Mountains, zones 5a-7a

Scale: 1/4"=1'





PLANT CHOICES (choose 1 of each type)

- A - *Alnus serrulata* (Common Alder)
Amelanchier canadensis (Serviceberry)
Cornus racemosa (Gray Dogwood)
- B - *Chaemacyparis pisifera* 'Filafera aurea' (Dwarf Sawara False Cypress)*
Chaemacyparis lawsonii 'Minnema Aurea' (Dwarf Lawson's False Cypress)**
Gaylussacia baccata (Black Huckleberry)
Chaemacyparis obtusa 'Nana Gracilis' (Dwarf Hinoki False Cypress)
- C - *Thelypteris noveboracensis* (New York Fern), 2' o.c. (24)
Polystichum acrostichoides (Christmas Fern), 18" o.c. (44) (evergreen)
Scenecio aureus (Golden Ragwort), 18" o.c. (44)
- D - *Tsuga canadensis* (Eastern Hemlock), 3' o.c. (Shear)
Ilex glabra 'Densa' (Dwarf Inkberry), 3' o.c.

note: o.c.= on center

*Needs sun-partial shade exposure

**Requires excellent drainage and cool summer soil temp.

DESIGN FUNCTION

Center accent

- Year Round Color shrub, fine texture
- Year Round Color shrub, fine texture
- Native low shrub, white flowers
- Evergreen, fine texture rounded
- Tall Groundcover, feathery texture
- Med Tall Groundcover, evergreen
- Low Groundcover, yellow spring flower, evergreen
- Fine texture, Hedge



PARTERRE RAINGARDEN

384 SF

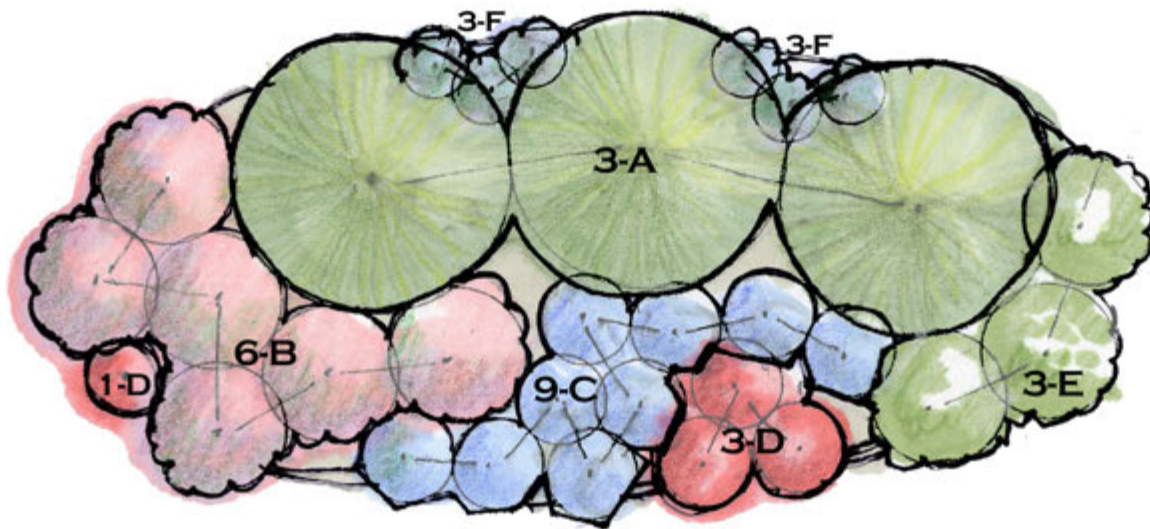
Pt Shade-Shade

Zones 5b-7

Mountains

Scale: 1/4"=1'





- A - *Leucothoe racemosa* (Fetterbush), 6' o.c or *Cornus sericea* (Redosier dogwood)*
- B - *Clethra alnifolia* 'Sixteen Candles' (Summersweet), 3' o.c.
- C - *Tradescantia virginiana* (Spiderwort)** , 2' o.c.
- D - *Lobelia siphilitica* (Great Blue Lobelia), 2' o.c.
- E - *Hydrangea quercifolia* 'Pee Wee' (Dwarf Oakleaf Hydrangea), 3' o.c.*,
Hydrangea arborescens (Smooth Hydrangea), 3' o.c., or
Kalmia latifolia 'Tiddlywink' (Dwarf Mountain Laurel), 3' o.c. *
- F - *Phlox divaricata* (Woodland Phlox) , 18" o.c.
Iris cristata (Dwarf Crested Iris), 8" o.c. *(12 plants)

Red/White
 White/Blue
 Blue
 Blue
 White/Red

Blue

note: o.c. = on center

*prefers partial shade or deciduous shade

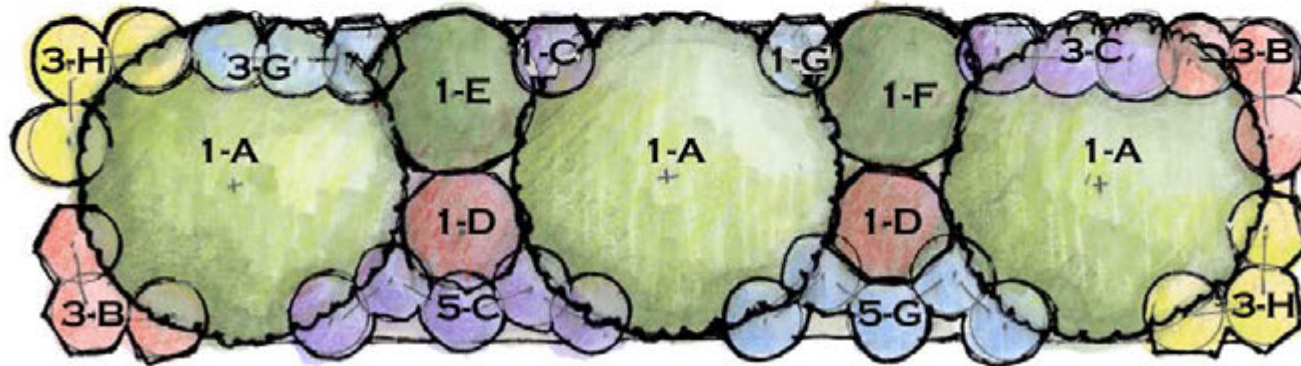
**Ferns or Hosta may also be chosen for here e.g. Japanese painted fern or *Hosta* 'Blue Angel'

**RED, WHITE AND BLUE
 LOW MAINTENANCE BORDER
 RAINGARDEN**

200 SF
 Part Shade-Shade
 Mountains

Scale: 1/4"=1'





- A - *Ilex opaca* (American Holly, various cultivars), 10' o.c.
- B - *Aquilegia canadensis* (Columbine), 2' o.c.
- C - *Tradescantia virginiana* (Spiderwort), 2' o.c. or
Polemonium reptans (Jacob's ladder), 2' o.c.
- D - *Kalmia angustifolia* (Sheep Laurel) or *Abies balsamea* 'Nana' or *Leucothoe fontanesia* 'Compacta' (Compact Drooping Leucothoe)
- E - *Rhododendron maximum* (Rosebay Rhododendron)
- F - *Hydrangea quercifolia* (Oakleaf Hydrangea)
- G - *Mertensia virginica* (Virginia Bluebells), 2' o.c. or *Astilbe* 'Deutschland' 2' o.c.'
- H - *Penstemon laevigatus* (Eastern Smooth beardtongue), 2' o.c. or
Dryopteris marginalis (Evergreen woodfern)
Aster ericoides (Heath Aster)*, 2' o.c.

note: o.c. = on center

*needs partial sun/shade not full shade

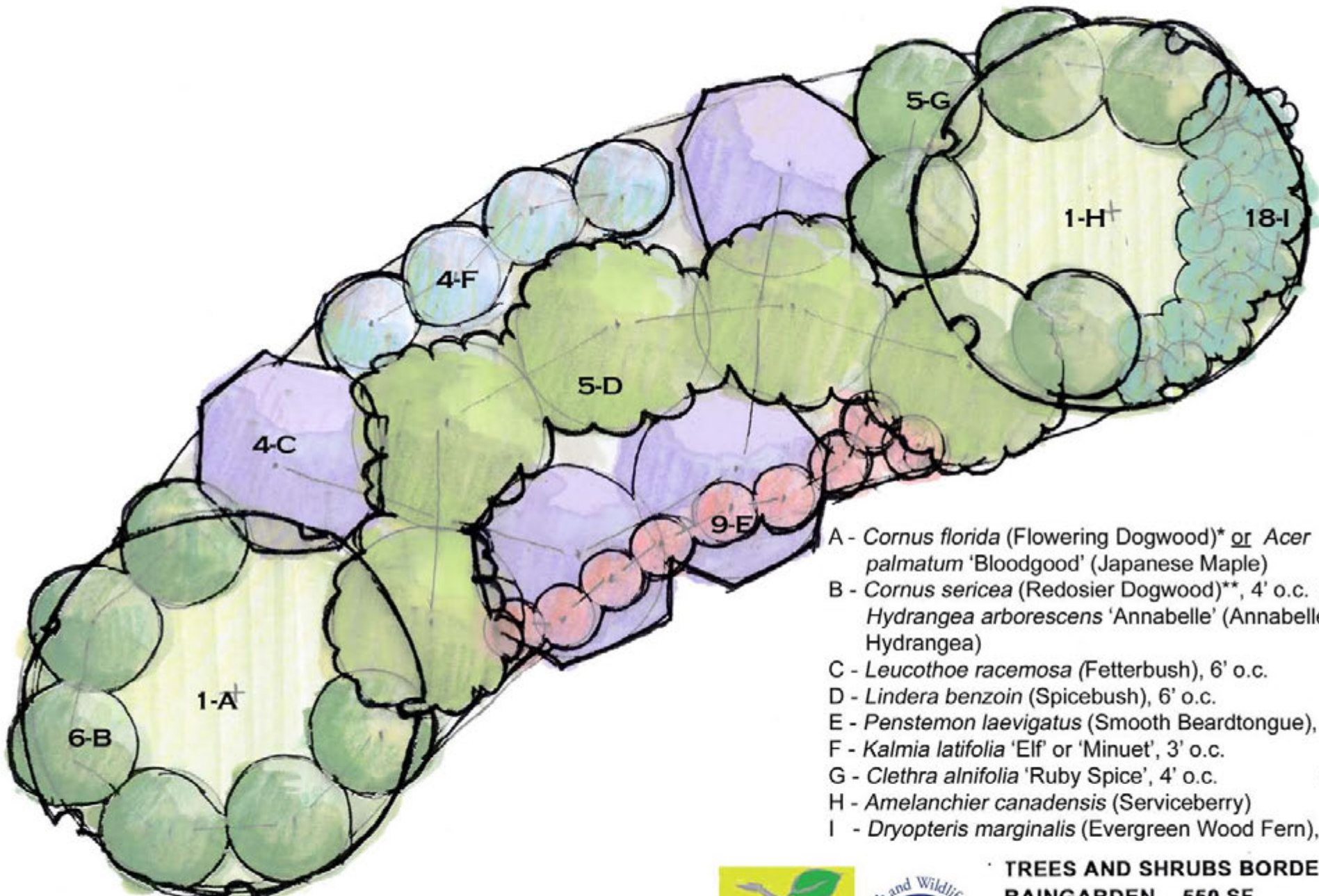


**SCREENING RAINGARDEN
256 SF**

Partial Shade-
Zone 5b-8a

Mountains
Scale: 1/4"=1'





- A - *Cornus florida* (Flowering Dogwood)* or *Acer palmatum* 'Bloodgood' (Japanese Maple)
- B - *Cornus sericea* (Redosier Dogwood)**, 4' o.c. or *Hydrangea arborescens* 'Annabelle' (Annabelle Hydrangea)
- C - *Leucothoe racemosa* (Fetterbush), 6' o.c.
- D - *Lindera benzoin* (Spicebush), 6' o.c.
- E - *Penstemon laevigatus* (Smooth Beardtongue), 2' o.c.
- F - *Kalmia latifolia* 'Elf' or 'Minuet', 3' o.c.
- G - *Clethra alnifolia* 'Ruby Spice', 4' o.c.
- H - *Amelanchier canadensis* (Serviceberry)
- I - *Dryopteris marginalis* (Evergreen Wood Fern), 18" o.c.

note: o.c. = on center

*This end of the garden should be slightly higher than the 'H' end so that the dogwood/maple are not sitting in water after a rain event

**partial shade or deciduous shade OK



TREES AND SHRUBS BORDER

RAINGARDEN 550 SF

Pt Shade-Shade
Zones 5b-7b
Mountains

Scale: 1/4" = 1'

