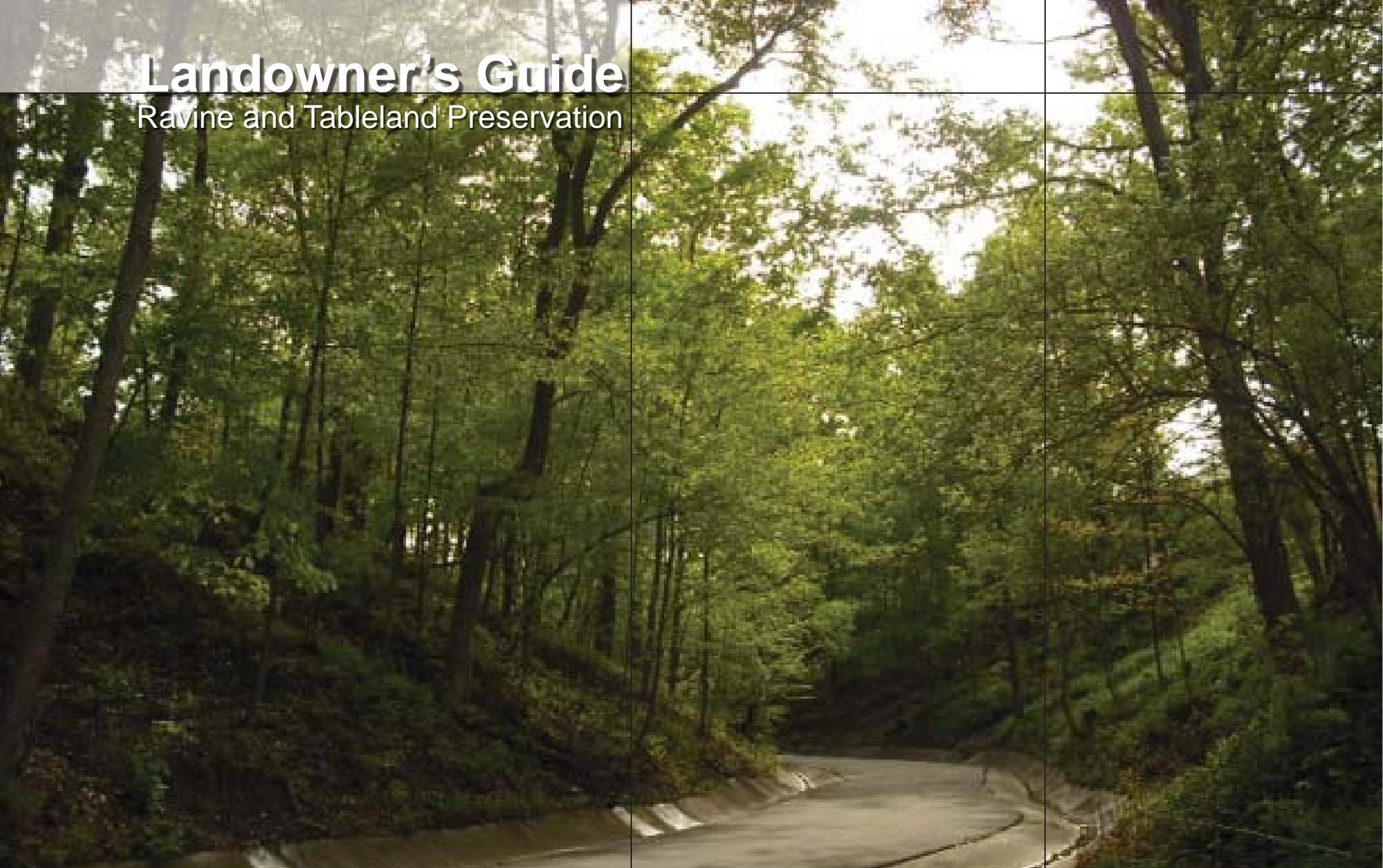
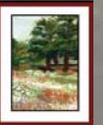


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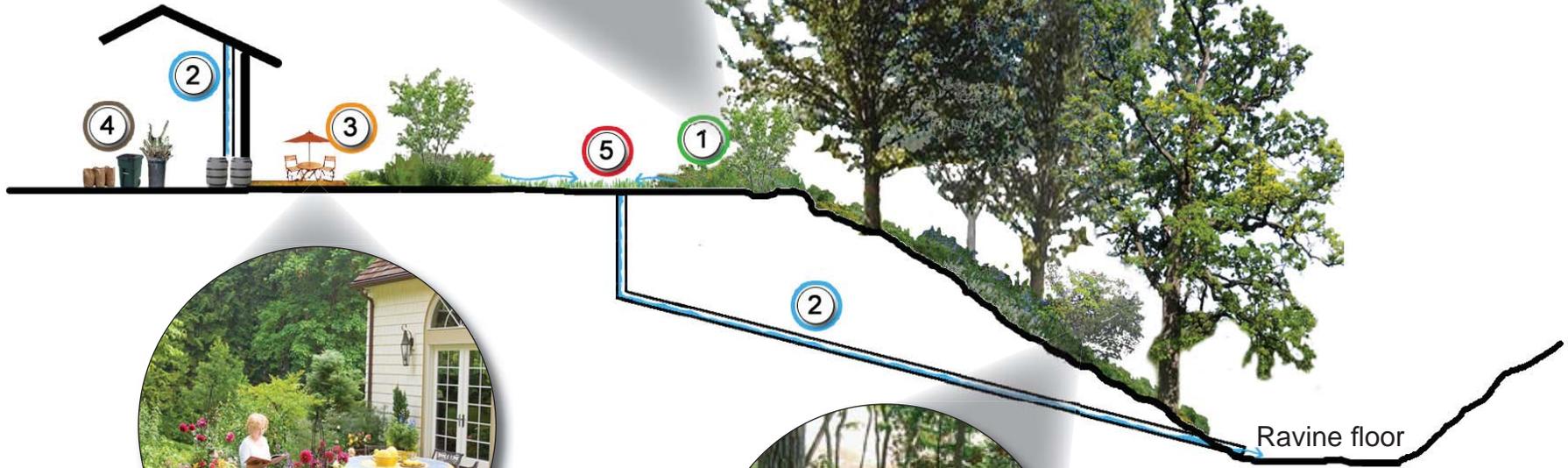
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HEALTHY CONDITIONS

Native planting within ravine buffer area



Mature native trees on ravine slopes



Minimized paving and lawn within rear yard



Stable slopes with dense ground cover

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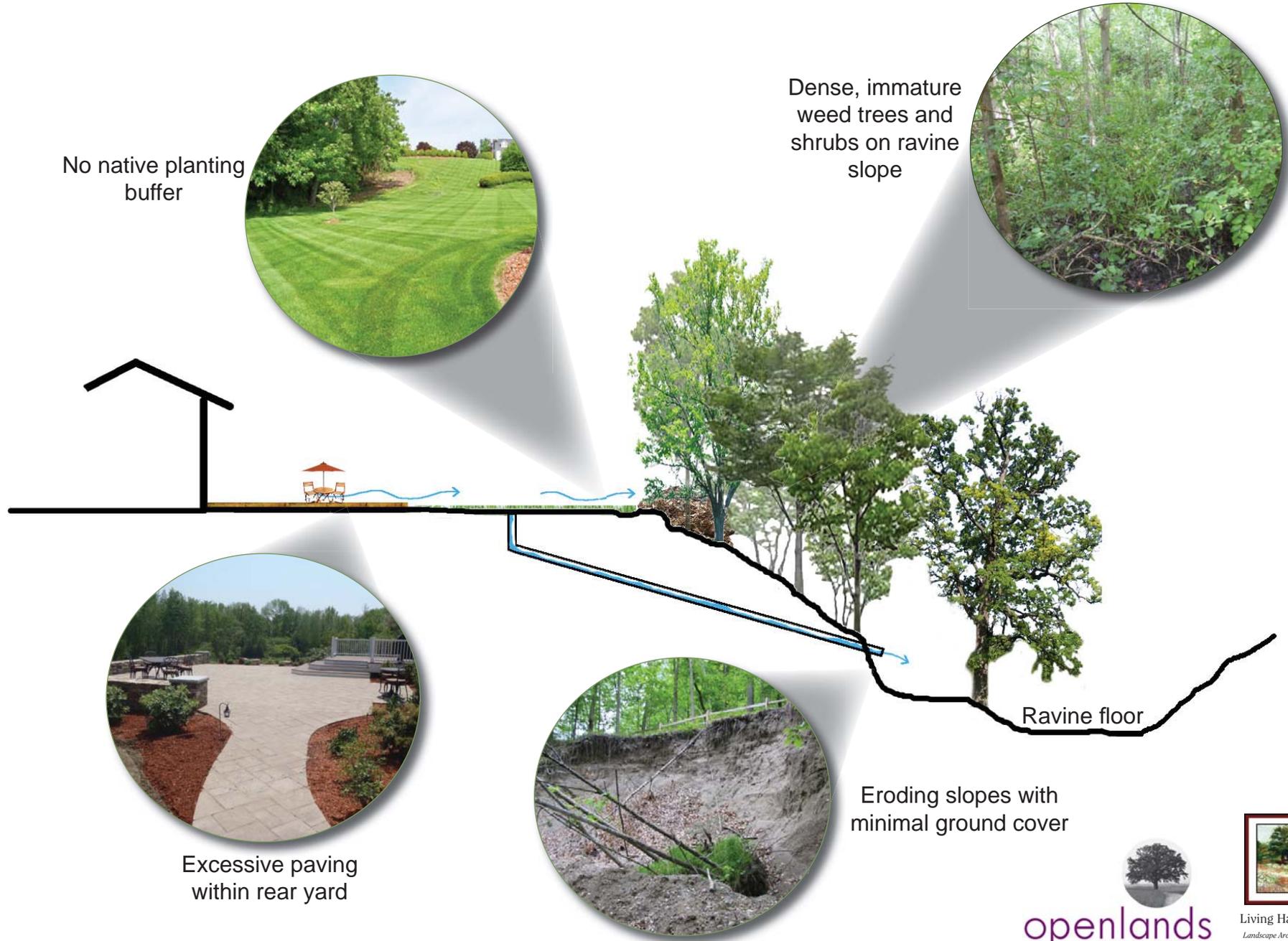
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UNHEALTHY CONDITIONS



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YES

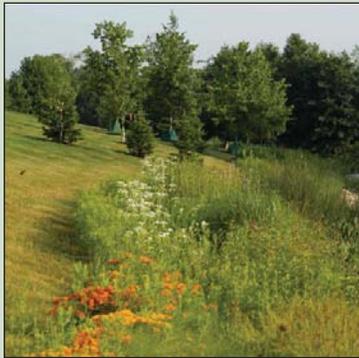
NO

1

BUFFER



- Minimum 10' width from top of ravine slope
- Along entire length of property adjacent to ravine



- Native savanna and prairie plants with a diverse selection of species



- Minimal irrigation, drip if necessary



- Encroach within 10' of top of ravine slope with the following:

- lawn
- paving
- pool
- outdoor furniture or play equipment



- Non-native plants



- Allow children to play on ravine slopes

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DRAINAGE

YES



- Direct storm drain pipes to bottom of ravine



- Native plant gardens within side yard swale areas



- Direct a portion of roof gutters to rain barrels or cistern

NO



- Direct storm drain pipes to top or mid slope of ravine



- Allow excessive sheet runoff into ravine



- Place sprinklers within 20 ft of top of ravine

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YES

NO

3

SURFACES



- Use porous paving for outdoor hard surface areas



- Small patio areas in back yard



- Overbuild site with excessive roofs, paving and lawn



- Large contiguous areas of impervious surface with no areas for stormwater infiltration

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YES

NO

4

YARD WASTE



- Dispose of yard waste in trash or local landfill



- Compost



- Dump yard waste onto ravine slopes



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LAWN CARE

YES



- Let height reach 4 inches before mowing



- Hand pick weeds
- Use organic fertilizers and pesticides only as necessary



- Aerate

NO



- Chemical fertilizers and pesticides

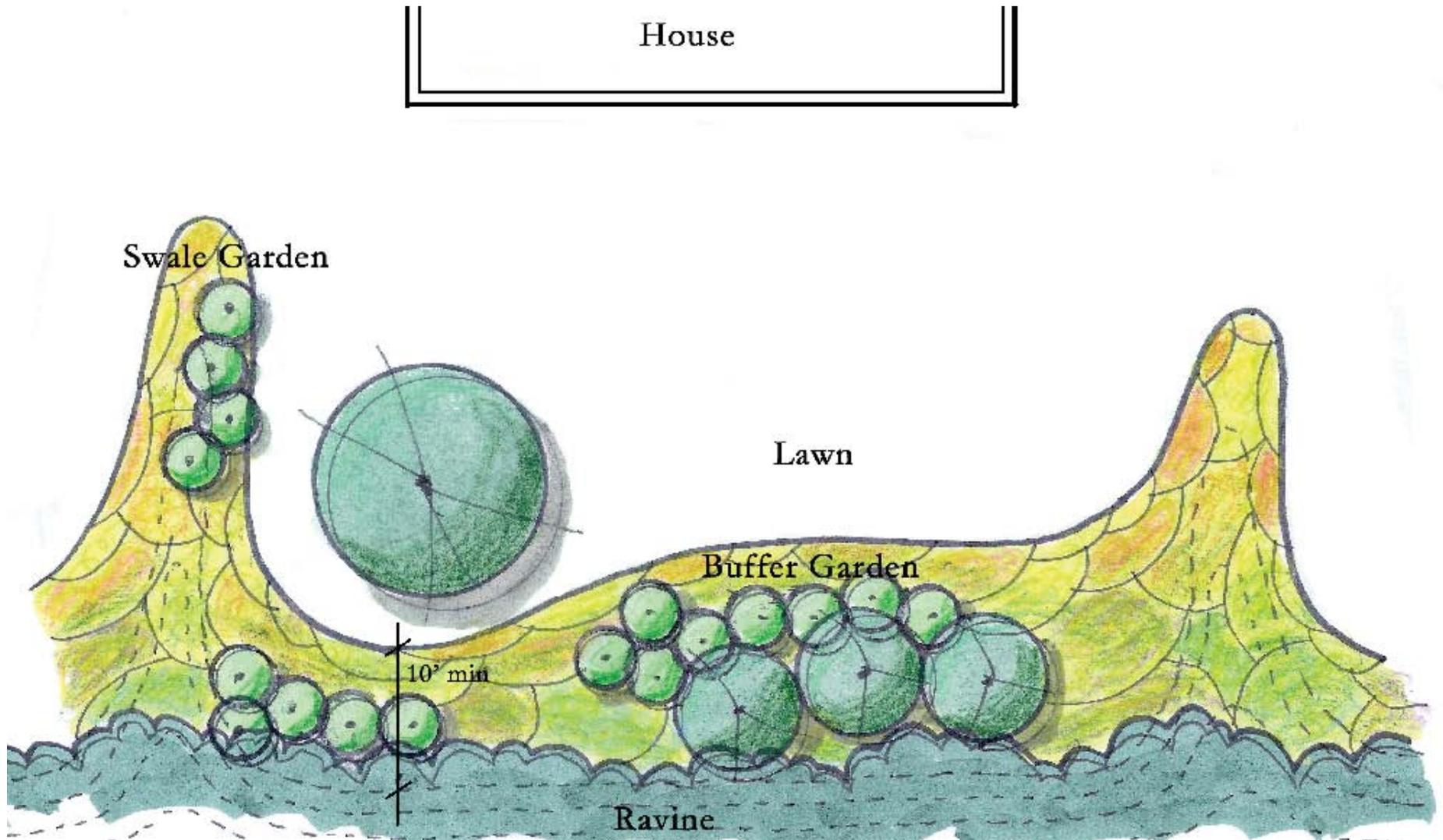


- Excessive mowing and watering

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EXAMPLE GARDEN
SWALE AND BUFFER



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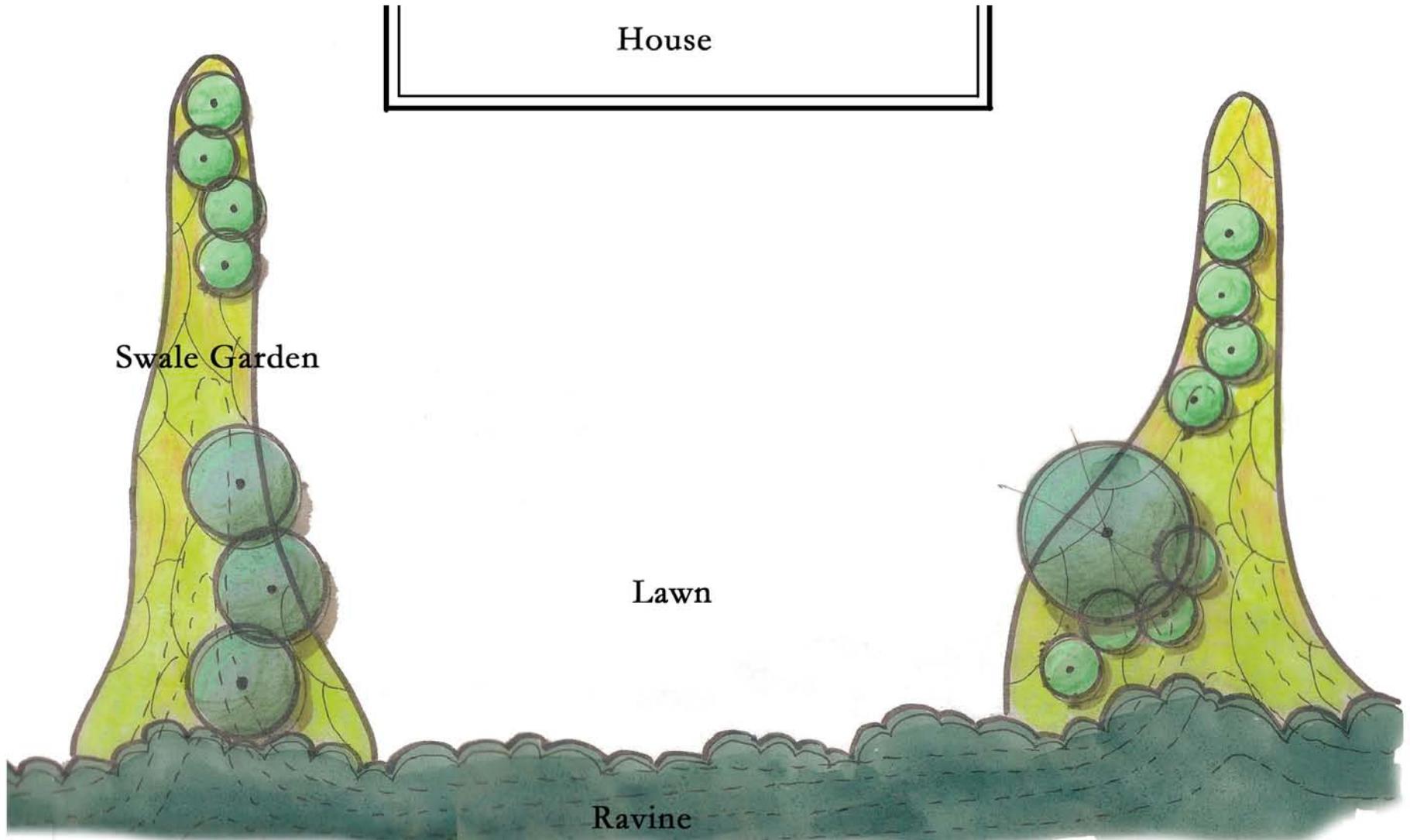
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EXAMPLE GARDEN
SWALE ONLY



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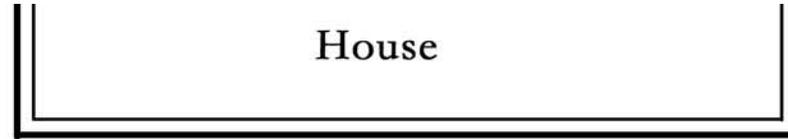


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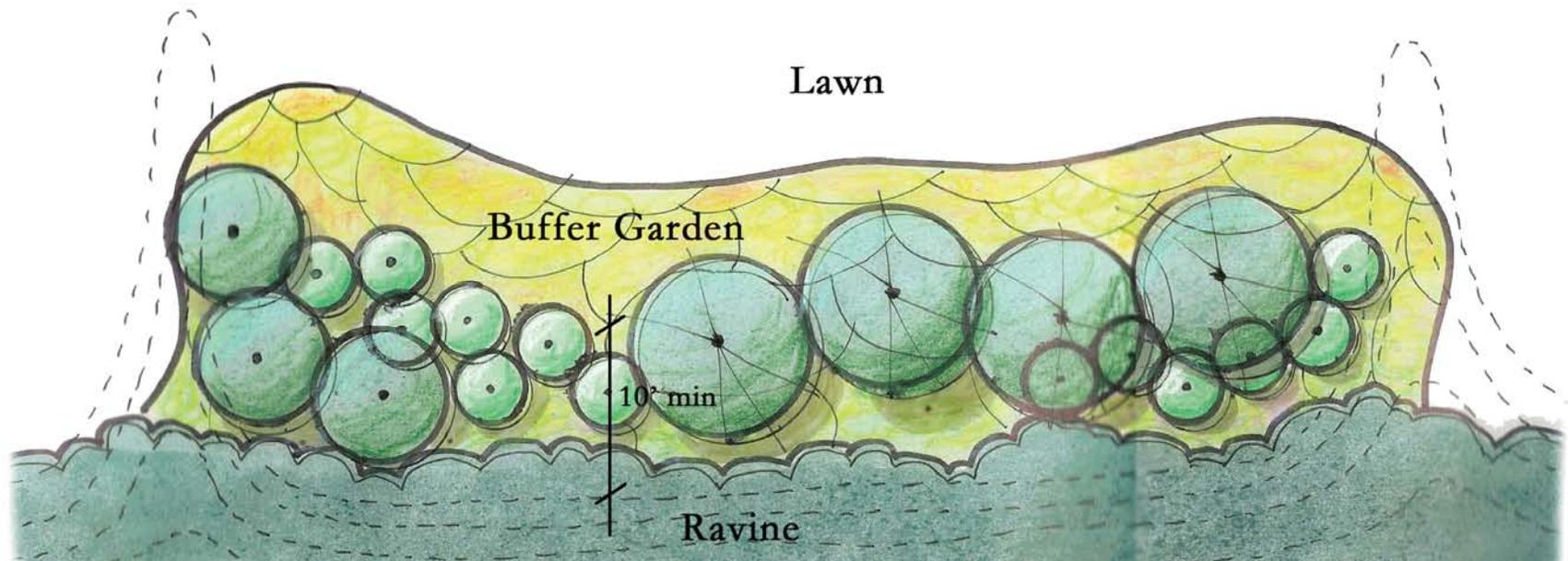
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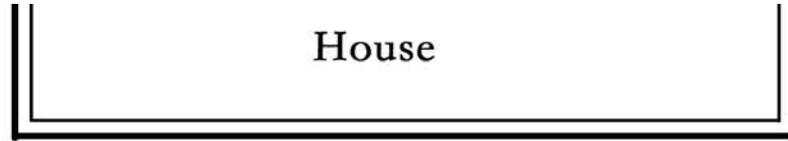


EXAMPLE GARDEN
BUFFER ONLY

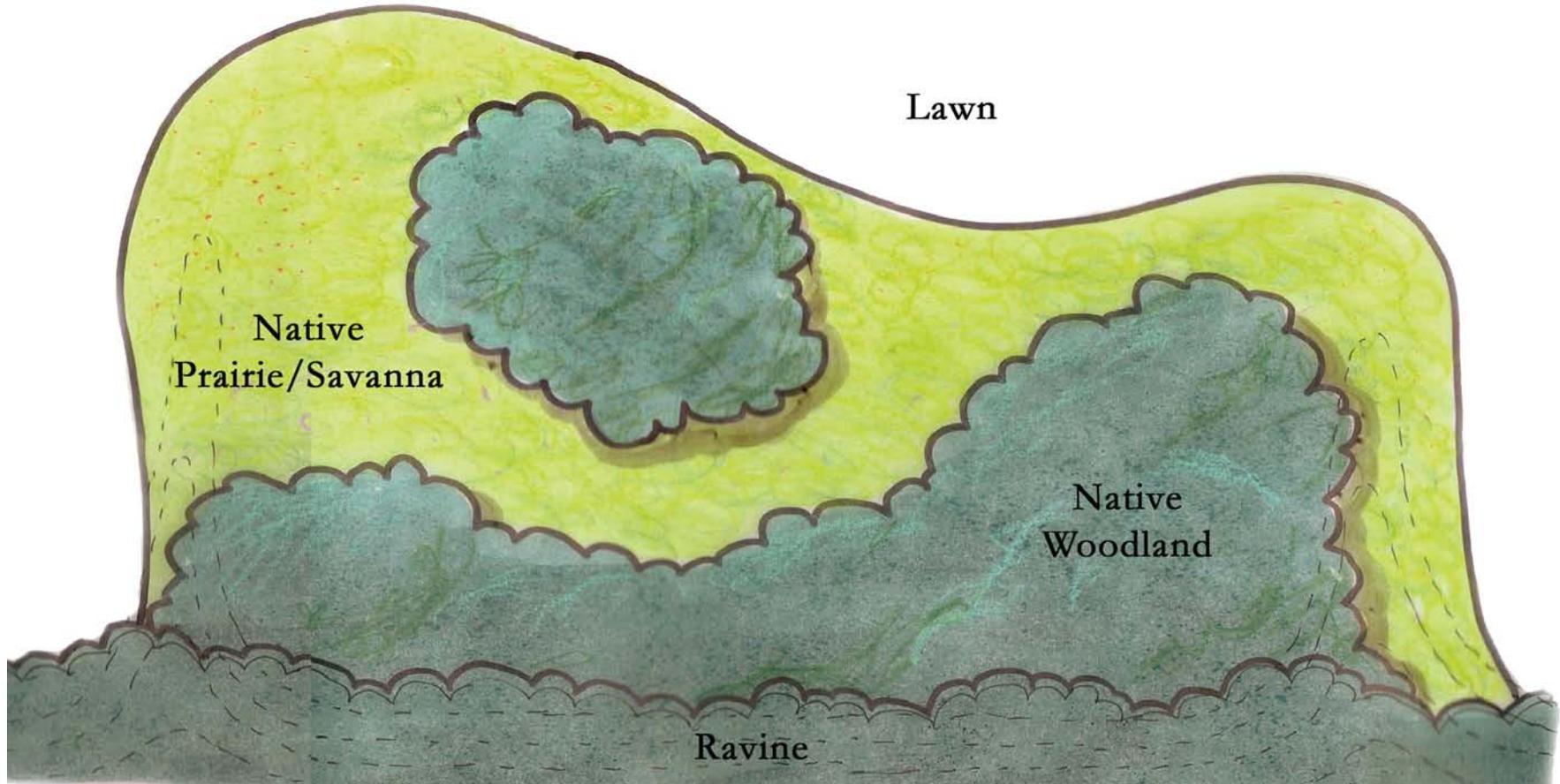


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EXAMPLE GARDEN
NATURAL



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SAMPLE NATIVE PLANTS
TREES AND SHRUBS

Blue Beech
Carpinus caroliniana

- understory tree
- 30-50 ft tall
- partial shade
- yellow-orange-red fall color
- found in wet and mesic woods



Pagoda Dogwood
Cornus alternifolia

- ornamental tree
- 15-30 ft tall
- partial sun to full shade
- white blooms in late spring
- dark blue berries
- red fall color
- found in mesic woods and woodland borders



Ninebark
Physocarpus opulifolius

- shrub
- 3-9 ft tall
- full to partial sun
- white bloom in spring
- dull yellow fall color
- found in mesic woods



Shagbark Hickory
Carya ovata

- canopy tree
- 75-100 ft tall
- full to partial sun
- blooms in fall
- found in dry and mesic woods



American Hazelnut
Corylus americana

- shrub
- 4-15 ft tall
- full sun to partial shade
- yellow blooms in spring
- edible fall fruit
- yellow fall color
- found in dry to mesic woods, savannas, and prairies



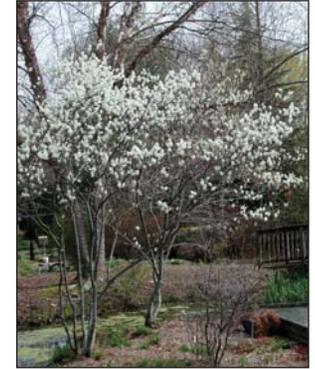
Wild Black Currant
Ribes americanum

- shrub
- 3-5 ft tall
- partial shade
- cream blooms in spring
- red-orange fall color
- found in wet to mesic woods



Allegheny Serviceberry
Amelanchier laevis

- ornamental tree
- 15-30 ft tall
- full sun to partial shade
- white flowers in spring
- yellow-orange fall color
- blooms in fall
- black fruit
- found in mesic woods



Witch Hazel
Hamamelis virginiana

- ornamental tree
- 15-30 ft tall
- partial to full shade
- yellow blooms in late fall
- found in mesic woods and savannas



Black Haw
Viburnum prunifolium

- ornamental tree
- 15-30 ft tall
- full sun to partial shade
- white bloom in spring
- purple berries
- red fall color
- found in dry woods and woodland borders



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SAMPLE NATIVE PLANTS
WILDFLOWERS

Wild Garlic
Allium canadense

- wildflower
- 12-18 in tall
- full to partial shade
- blooms in early summer
- found in mesic woods and prairies



Wild Columbine
Aquilegia canadensis

- wildflower
- 1-3 ft tall
- light to partial shade
- blooms in late spring/early summer
- found in mesic woods and prairies



Swamp Milkweed
Asclepias incarnata

- wildflower
- 2-6 ft tall
- full to partial sun
- blooms in late summer
- found in wet prairies and marshes



Smooth Blue Aster
Aster laevis

- wildflower
- 2-4 ft tall
- full to partial sun
- blooms in late summer
- found in mesic to dry prairies and savannas



Big Leaved Aster
Eurybia macrophylla

- wildflower
- 2-4 ft tall
- partial to full shade
- blooms in fall
- found in mesic woods



Cream Wild Indigo
Baptisia leucophaea

- wildflower
- 1-2 ft tall
- full sun
- blooms in spring
- found in dry prairies and savannas



Prairie Coreopsis
Coreopsis palmata

- wildflower
- 1-3 ft tall
- full sun
- blooms in early summer
- found in mesic to dry prairies and savannas



Purple Joe-Pye Weed
Eupatoriadelphus purpureus

- wildflower
- 4-7 ft tall
- partial shade
- blooms in summer
- found in moist to mesic woods



Blazing Star
Liatris pycnostachya

- wildflower
- 3-5 ft tall
- full sun
- blooms in late summer
- found in moist to mesic prairies



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SAMPLE NATIVE PLANTS
WILDFLOWERS

Great Blue Lobelia
Lobelia siphilitica

- wildflower
- 2-3 ft tall
- full sun to partial shade
- blooms in summer
- found in wet to mesic prairies and woods



Woodland Phlox
Phlox divaricata

- wildflower
- 1-2 ft tall
- partial shade
- blooms in late spring
- found in dry to mesic woods



Spiderwort
Tradescantia ohiensis

- wildflower
- 2-4 ft tall
- partial to full shade
- blooms in late spring
- found in moist to mesic prairies and savannas



Feathery False
Solomon's Seal
Maianthemum racemosum

- wildflower
- 2-3 ft tall
- partial shade
- blooms in late spring
- found in mesic to dry woods



Jacob's Ladder
Polemonium reptans

- wildflower
- 1-2 ft tall
- full sun to partial shade
- blooms in fall
- found in moist to mesic prairies and woods



Ironweed
Vernonia fasciculata

- wildflower
- 3-5 ft tall
- full sun
- blooms in late summer
- wet prairies



Foxglove Penstemon
Penstemon digitalis

- wildflower
- 3 ft tall
- partial to full sun
- blooms in late spring to early summer
- found in mesic prairies and woodland borders



Sweet Black
Eyed Susan
Rudbeckia subtomentosa

- wildflower
- 3-5 ft tall
- full to partial sun
- blooms in summer
- found in mesic prairies and savannas



Culver's Root
Veronicastrum virginicum

- wildflower
- 3-4 ft tall
- full sun to full shade
- blooms in summer
- found in mesic woods and prairies



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SAMPLE NATIVE PLANTS
GRASSES, SEDGES, FERNS

Hairy Woodland Brome
Bromus pubescens

- grass
- 2-5 ft tall
- partial sun to light shade
- found in mesic woods



Pennsylvania Sedge
Carex pennsylvanica

- sedge
- 6" - 1 ft tall
- partial sun, full shade
- found in dry to mesic woods



Lady Fern
Athyrium filix-femina

- fern
- 1-2 ft tall
- partial shade
- found in dry to mesic woods



Swamp Oval Sedge
Carex muskingumensis

- sedge
- 2-4 ft tall
- partial shade
- found in wet woods and sedge meadows



Little Blue Stem
Schizachyrium scoparium

- grass
- 2-3 ft tall
- full sun
- found in dry to mesic prairies



Goldie's Wood Fern
Dryopteris goldiana

- fern
- 3-4 ft tall
- partial shade
- found in mesic woods



Brown Fox Sedge
Carex vulpinoidea

- sedge
- 1-3 ft fall
- full to partial sun
- found in mesic and wet prairies and woods



Prairie Dropseed
Sporobolus heterolepis

- grass
- 2-4 ft tall
- full sun
- blooms in fall
- found in dry to mesic prairies



Christmas Fern
Polystichum acrostichoides

- fern
- 1-3 ft tall
- partial shade
- found in dry woods



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For more plants and additional ravine information, please visit <http://www.openlands.org>.

Wildflowers				
COMMON NAME	BOTANICAL NAME	LOCATION	LIGHTING	MOISTURE
Wild Garlic	<i>Allium canadense</i>	T, SL	S, PS	M
Thimbleweed	<i>Anemone virginiana</i>	T, SL	S, PS	D, M
Wild Columbine	<i>Aquilegia canadensis</i>	T, SL	S, PS	D, M
Swamp Milkweed	<i>Asclepias incarnata</i>	T, SL	S, PS	W
Smooth Blue Aster	<i>Aster laevis</i>	T, SL	S, PS	D, M
Cream Wild Indigo	<i>Baptisia leucophaea</i>	T	S	D
Tall Bellflower	<i>Campanula americana</i>	T, SL	PS	M
Prairie Coreopsis	<i>Coreopsis palmata</i>	T, SL	S	D, M
Purple Joe-Pye Weed	<i>Eupatoriadelphus purpureus</i>	T, SL	PS	M
Big Leaved Aster	<i>Eurybia macrophylla</i>	T, SL	PS, SH	M
Wild Geranium	<i>Geranium maculatum</i>	T, SL	S, PS	D, M
Blazing Star	<i>Liatris pycnostachya</i>	T, SL	S	M
Great Blue Lobelia	<i>Lobelia siphilitica</i>	T, SL	S, PS	M, W
False Solomon's Seal	<i>Maianthemum racemosa</i>	T, SL	PS, SH	D, M
Wild Bergamot	<i>Monarda fistulosa</i>	T, SL	PS, SH	M
Foxglove Penstemon	<i>Penstemon digitalis</i>	T, SL	S, PS	M
Woodland Phlox	<i>Phlox divaricata</i>	T, SL	PS	D, M
Jacob's Ladder	<i>Polemonium reptans</i>	T, SL	S, PS	M
Black Eyed Susan	<i>Rudbeckia hirta</i>	T, SL	S, PS	D, M
Sweet Black Eyed Susan	<i>Rudbeckia subtomentosa</i>	T, SL	S, PS	M
Broad Leaved Goldenrod	<i>Solidago flexicaulis</i>	T, SL	PS, SH	D, M
Elm Leaved Goldenrod	<i>Solidago ulmifolia</i>	T, SL	S, PS	M
Meadow Rue	<i>Thalictrum dasycarpum</i>	T, SL	S, PS	D, M
Spiderwort	<i>Tradescantia ohioensis</i>	T, SL	PS, SH	M
Ironweed	<i>Vernonia fasciculata</i>	T, SL	S	W
Culver's Root	<i>Veronicastrum virginicum</i>	T, SL	S, PS	M
Golden Alexanders	<i>Zizia aurea</i>	T, SL	S, PS	M, W

Trees & Shrubs				
COMMON NAME	BOTANICAL NAME	LOCATION	LIGHTING	MOISTURE
Allegheny Serviceberry	<i>Amelanchier laevis</i>	T, SL	S, PS	D, M
Blue Beech	<i>Carpinus caroliniana</i>	SL	PS, SH	M, W
Shagbark Hickory	<i>Carya ovata</i>	T, SL	S, PS	D, M
Pagoda Dogwood	<i>Cornus alternifolia</i>	T	PS	M
American Hazelnut	<i>Corylus americana</i>	T, SL	S, PS	D, M
Witch Hazel	<i>Hamamelis virginiana</i>	T, SL	S, PS	M, W
American Hop Hornbeam	<i>Ostrya virginiana</i>	T	S, PS	D
Common Ninebark	<i>Physocarpus opulifolius</i>	T	S, PS	M, W
White Oak	<i>Quercus alba</i>	T, SL	PS	D, M
Wild Black Currant	<i>Ribes americanum</i>	T	PS, SH	M, W
Black Haw	<i>Viburnum prunifolium</i>	T	S, PS	M, W

Grasses, Sedges, Ferns				
COMMON NAME	BOTANICAL NAME	LOCATION	LIGHTING	MOISTURE
Lady Fern	<i>Athyrium filix-femina</i>	T, SL	PS	D, M
Hairy Woodland Brome	<i>Bromus pubescens</i>	T, SL	PS	M
Pennsylvania Sedge	<i>Carex pensylvanica</i>	T, SL	PS	M
Swamp Oval Sedge	<i>Carex muskingumensis</i>	T, SL	PS	W
Brown Fox Sedge	<i>Carex vulpinoidea</i>	T, SL	S, PS	M, W
Goldie's Wood Fern	<i>Dryopteris goldiana</i>	T, SL	PS	M
Christmas Fern	<i>Polystichum acrostichoides</i>	T, SL	PS	D
Little Bluestem	<i>Schizachyrium scoparium</i>	T	S	M
Prairie Dropseed	<i>Sporobolus heterolepis</i>	T	S	M

Preferred Location		Lighting		Moisture	
T	tableland	S	sun	D	dry
SL	slope	PS	part sun	M	moist
		SH	shade	W	wet



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