RECOMMENDED LANDSCAPING STANDARDS IN THE CITY OF KALAMAZOO

1. Intent

All plant material shall be hardy to the area, free of disease and insects, and conform to the American Standard for Nursery Stock of the American Association of Nurserymen. The use of plantings native to the area and Southwest Michigan, and mixture of plantings from the same species association, is encouraged.

a. **Trees not Recommended** (except where they are considered appropriate for the ecosystem, such as in a wetland environment not in proximity to any existing or proposed buildings or structures)

1. Box Elder
2. Catalpa
3. Elms
4. Horse Chestnut (nut bearing)
5. Tree of Heaven
6. Poplars
7. Soft Maples (Red-Silver)
8. Willows

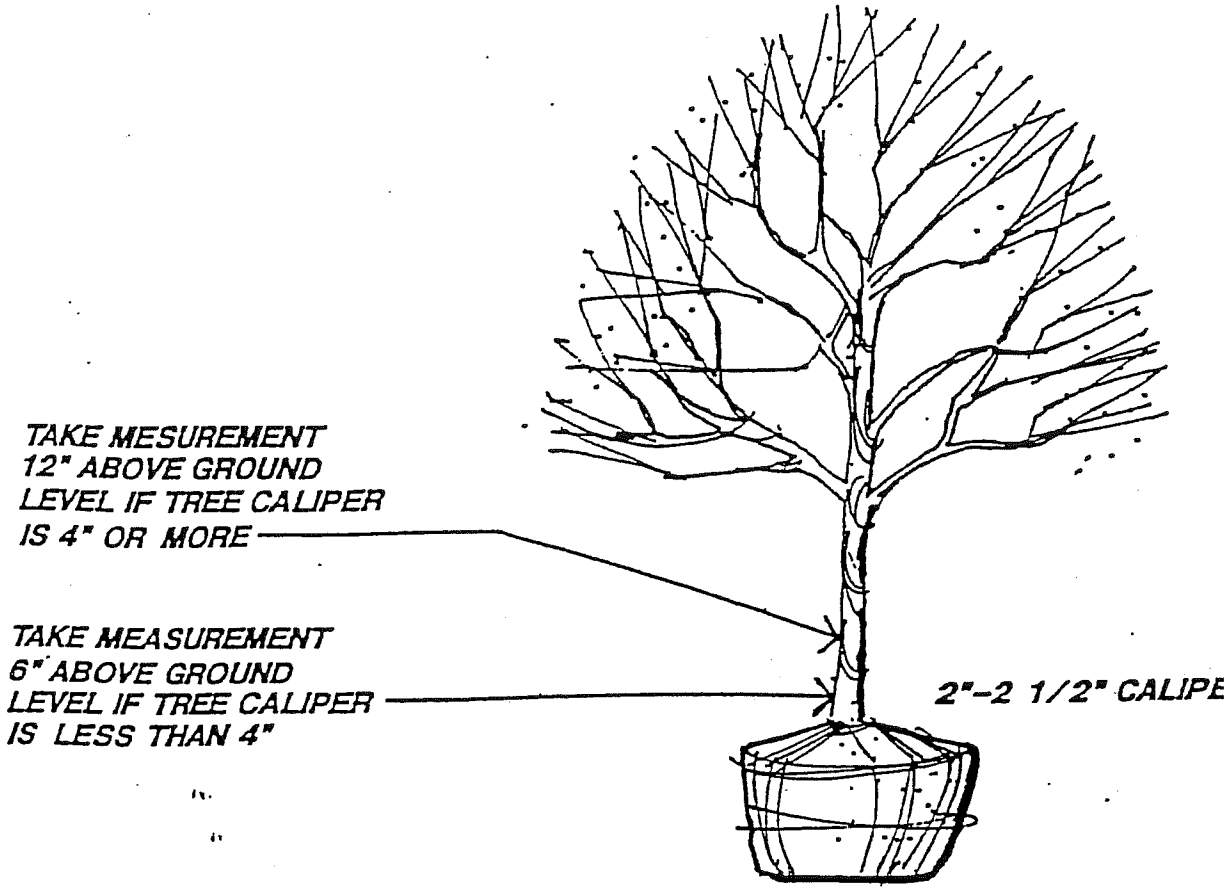
TABLE 1
PLANT MATERIAL SPACING REQUIREMENTS

PLANT MATERIAL TYPES	Evergreen	Narrow Evergreen Trees	Large Deciduous Trees	Small Deciduous Trees	Large Shrubs	Small Shrubs
Evergreen Trees	Min. 10' Max. 20'	Min. 12'	Min. 20'	Min. 12'	Min. 6'	Min. 5'
Large Deciduous Trees	Min. 20'	Min. 15'	Min. 20' Max. 30'	Min. 15'	Min. 5'	Min. 3'
Large Shrubs	Min. 6'	Min. 5'	Min. 5'	Min. 6'	Min. 4' Max. 6'	Min. 5'
Narrow Evergreen Trees	Min. 12'	Min. 5' Max. 10'	Min. 15'	Min. 10'	Min. 5'	Min. 4'
Small Shrubs	Min. 5'	Min. 4'	Min. 3'	Min. 3'	Min. 5'	Min. 3' Max. 4'
Small Deciduous Trees	Min. 12'	Min. 10'	Min. 15'	Min. 8' Max. 15'	Min. 6'	Min. 3'

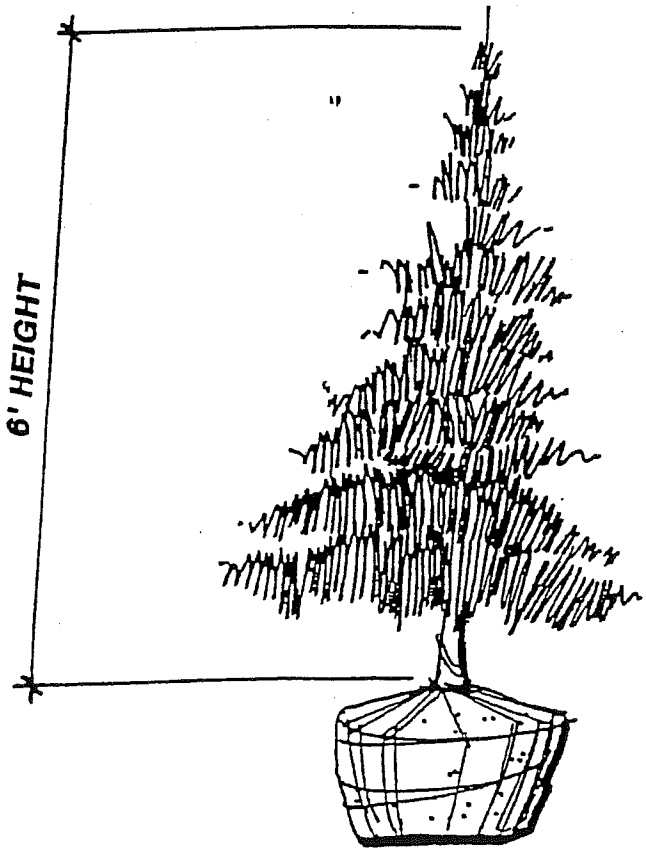
TABLE 2
ON CENTER SPACING REQUIREMENTS

COMMON NAME	SCIENTIFIC NAME	Maximum Spacing (FT. ON CENTER)
American Arborvitea	Thuga Occidentalis	5
"Burki" Red Cedar	Juniperus in Virginia "B"	5
Canadian Hemlock	Tsuga Occidentalis	12
Irish Juniper	Juniperus Communis	3
Japanese Cryptomeria	Cryptomeria Japonica	8
Ketleeri Juniper	Juniperus Chinensis "Ketleeri"	5
Mugo Pine	Pinus Mugo	5
Serbian Spruce	Picea Omoriac	10
Stone Pine	Pinus Cembra	10
White Fir	Abies Concolor	8
White Pine	Pinus Strobus	10

MINIMUM PLANT SIZES



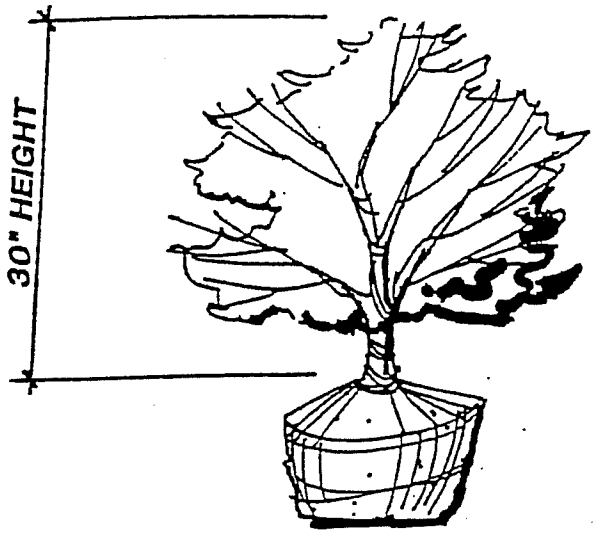
DECIDUOUS CANOPY TREE



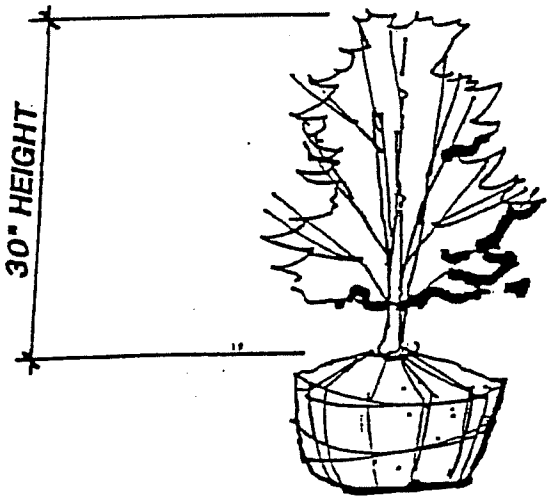
EVERGREEN TREE

City of Kalamazoo

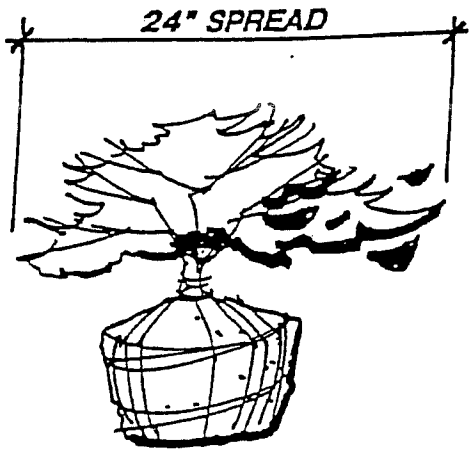
MINIMUM PLANT SIZES



DECIDUOUS SHRUB

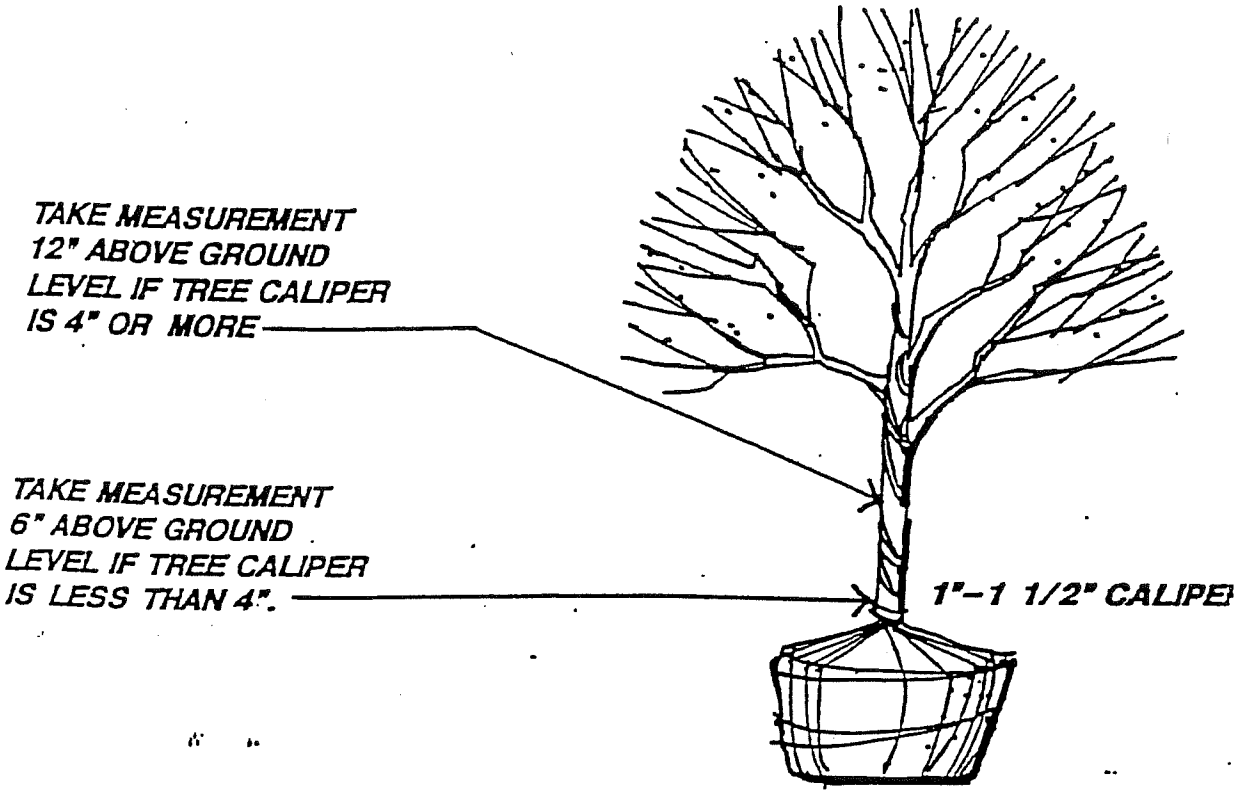


UPRIGHT EVERGREEN SHRUB

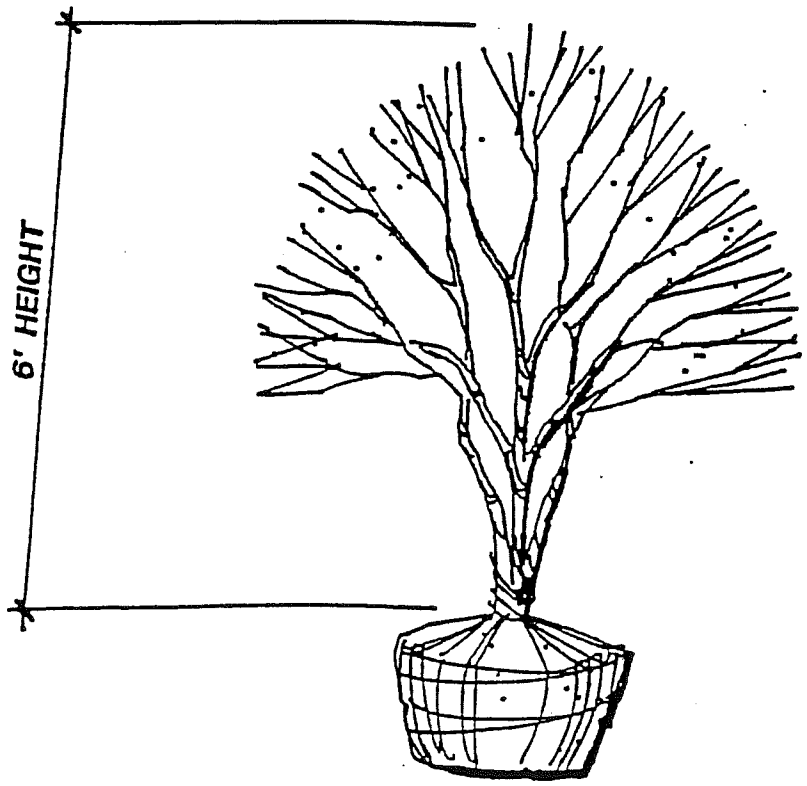


SPREADING EVERGREEN SHRUB

MINIMUM PLANT SIZES



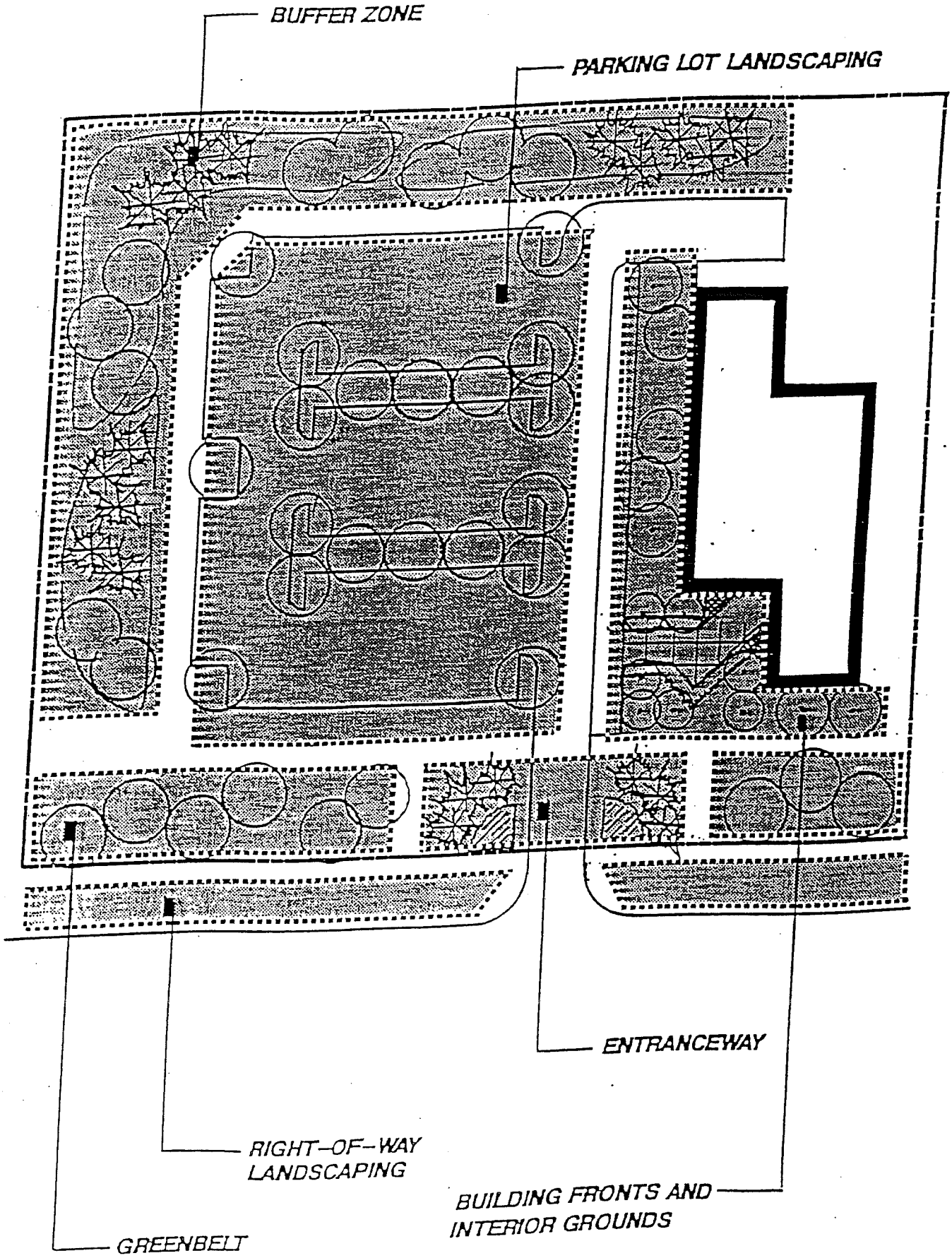
DECIDUOUS ORNAMENTAL TREE ■ TREE FORM



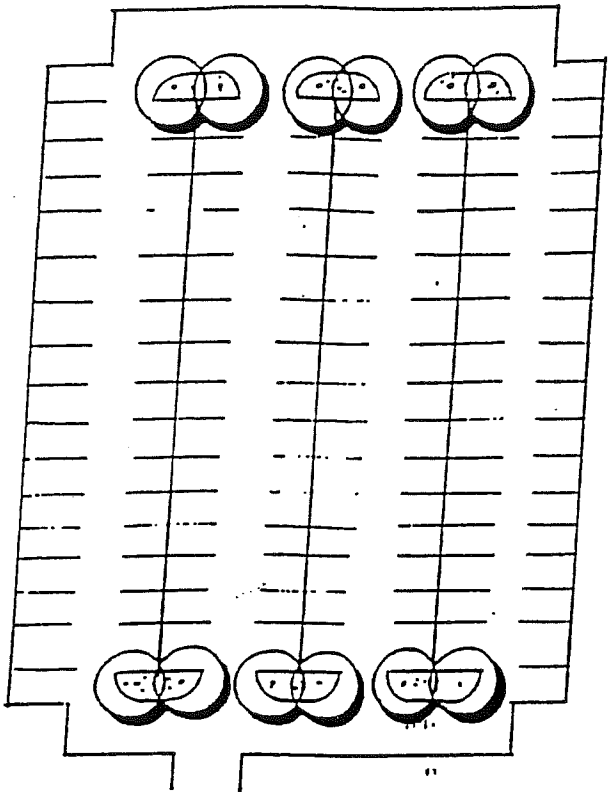
DECIDUOUS ORNAMENTAL TREE ■ CLUMP FORM

City of Kalamazoo

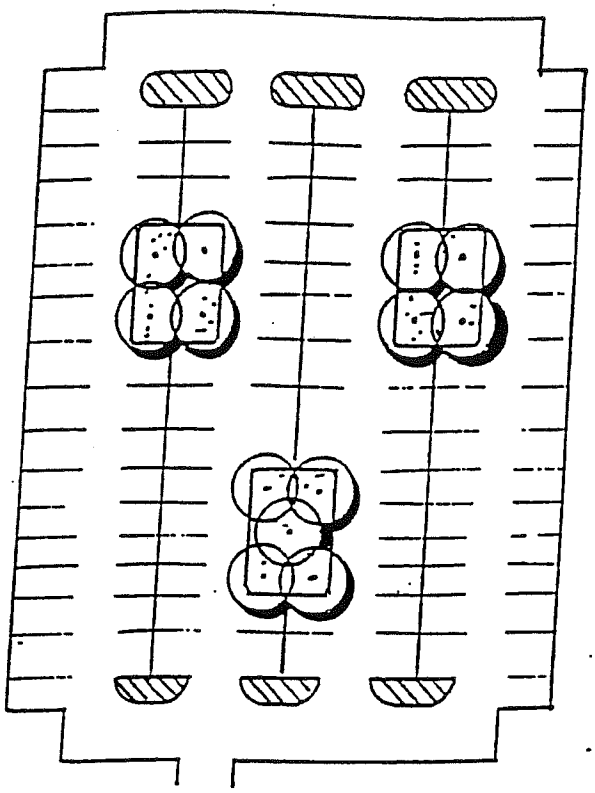
LANDSCAPE AREAS



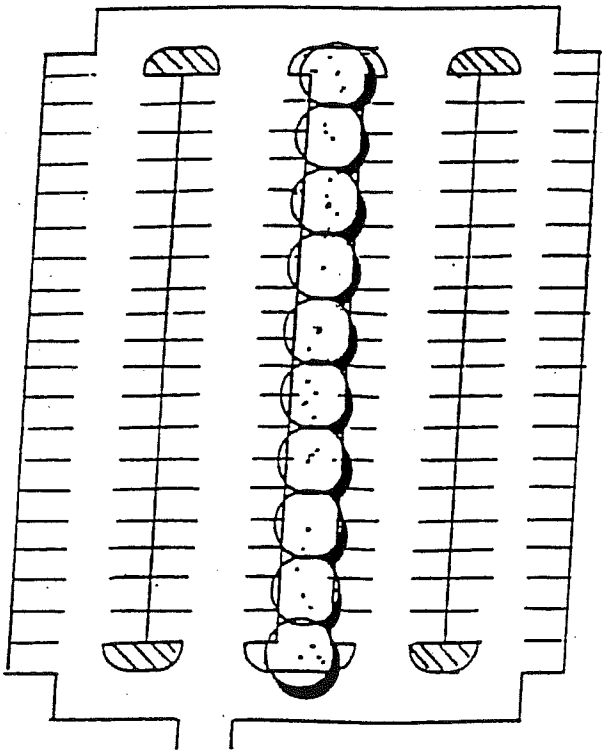
LANDSCAPE ISLANDS WITHIN PARKING AREA



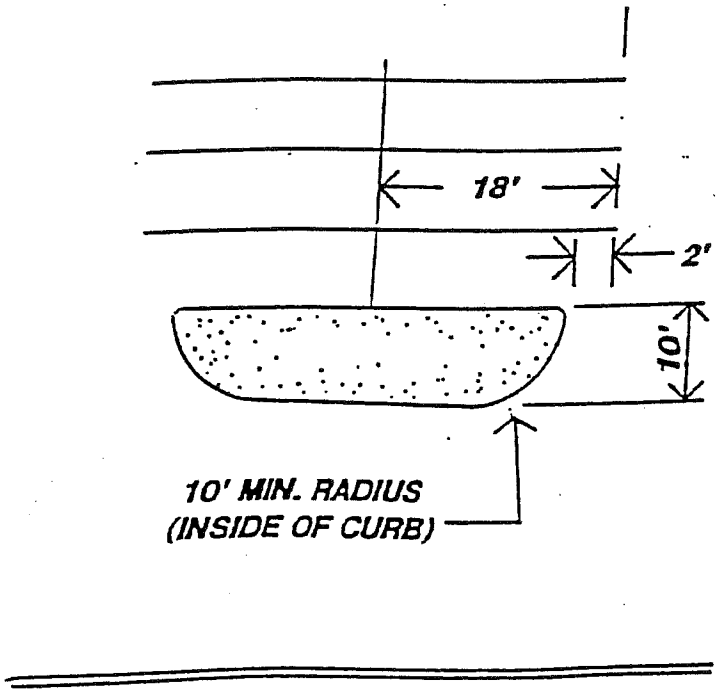
TREES IN END ISLANDS



LARGER LANDSCAPE ISLANDS



LANDSCAPE MEDIAN



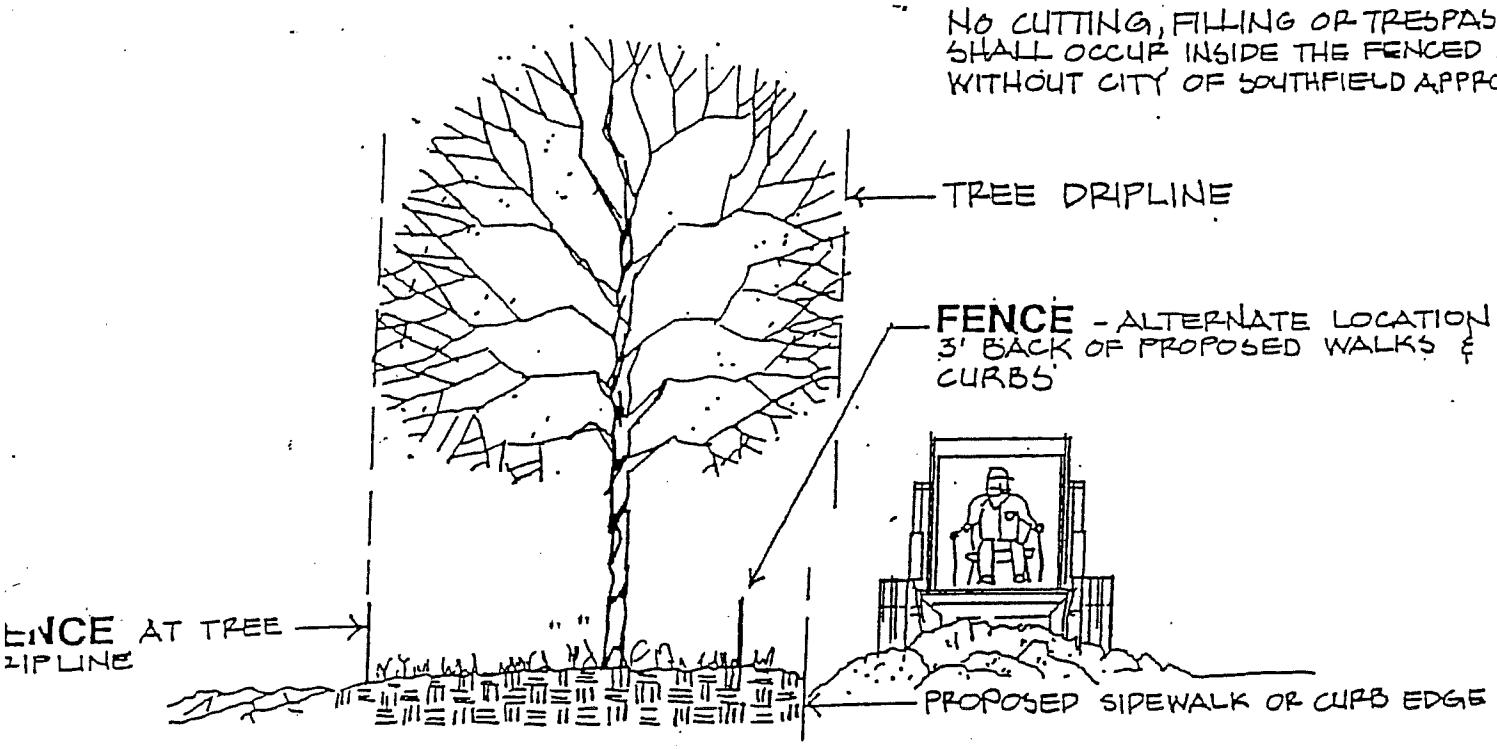
END ISLAND DETAIL

City of Kalamazoo

Tree Protection During Construction

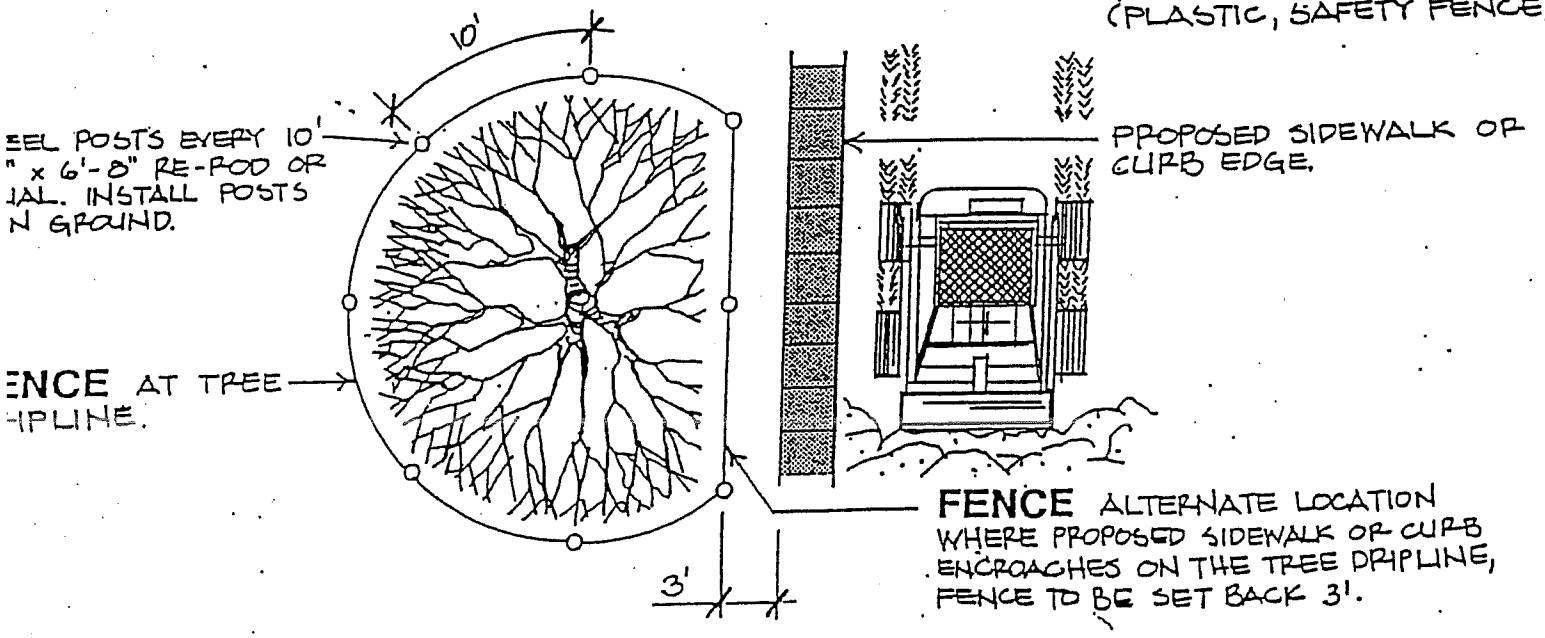
4' HIGH SNOWFENCE TO BE INSTALLED AROUND DRIPLINE OF TREES TO BE SAVE PRIOR TO ANY LAND CLEARING OR CONSTRUCTION.

NO CUTTING, FILLING OR TRESPASSING SHALL OCCUR INSIDE THE FENCED AREA WITHOUT CITY OF SOUTHFIELD APPROVAL.



SECTION

4' HIGH SNOWFENCE (PLASTIC, SAFETY FENCE)



PLAN

Tom Small
ECC 2000

PLANTS NATIVE TO SOUTHWEST MICHIGAN

Chief among the virtues of native plants is that they are better adapted to the growing conditions of our area than are plants from other parts of the country or world. Once they are established, consequently, native plants need less care than exotic plants do--less watering, less fertilizing, less treatment for diseases. In addition, native plants provide better support for wildlife, because they and the wildlife of the region have evolved together through time. Native plants also help connect us to our uniquely American history and geography.

As consumers, we must avoid purchasing plants collected from the wild (unless dug up from an area about to be developed). Rather, we must seek out nurseries which propagate their own plants or which purchase only nursery-propagated plant materials from their wholesalers.

Trees

Acer rubrum	Red maple
A. saccharinum	Silver maple
A. saccharum	Sugar maple
A. negundo	Box elder
A. nigrum	Black maple
Aesculus glabra	Ohio buckeye
Amelanchier arborea	Downy serviceberry
A. laevis	Allegheny juneberry
Asimina triloba	Paw paw
Betula alleghaniensis	Yellow birch
B. nigra	River birch
B. papyrifera	Paper birch
Carpinus caroliniana	Blue beech, musclewood
Carya cordiformis	Bitternut hickory
C. glabra	Pignut hickory
C. laciniosa	Kingnut hickory, shellbark hickory
C. ovata	Shellbark hickory, shagbark hickory
Celtis occidentalis	Hackberry
Cercis canadensis	Redbud
Cornus alternifolia	Pagoda dogwood
C. florida	Flowering dogwood
Crataegus spp.	Hawthorn species
Fagus grandifolia	American beech
Fraxinus americana	White ash

F. nigra	Black ash
F. pensylvanica	Green ash
Gleditisa triacouthos	Honey locust
Gymnocladus dioica	Kentucky coffeetree
Juglans cinera	Butternut
J. nigra	Black walnut
Juniperus virginiana	Red-cedar
Larix laricina	Tamarack
Liriodendron tulipifera	Tuliptree
Malus coronaria	Wild crabapple
Nyssa sylvatica	Black-gum, sour-gum
Ostrya virginiana	Ironwood, hop hornbeam
Pinus strobus	White pine
Platanus occidentalis	Sycamore
Populus deltoides	Cottonwood
P. grandidentata	Big-toothed aspen
P. tremuloides	Quaking aspen
Prunus americana	Wild plum
P. pensylvanica	Pin cherry
P. serotina	Black cherry
Quercus alba	White oak
Q. bicolor	Swamp white oak
Q. coccinea	Scarlet oak
Q. ellipsoidalis	Northern pin oak
Q. imbricaria	Shingle oak
Q. macrocarpa	Bur oak
Q. muehlenbergii	Chinkapin oak, yellow chestnut oak
Q. palustris	Pin oak
Q. prinoides	Dwarf chinkapin oak
Q. rubra	Red oak
Q. velutina	Black oak
Salix nigra	Black willow
S. amygdoloides	Peachleaf willow
S. exigua (interiori)	Sandbar willow
Sassafras albidum	Sassafras
Sorbus decora	Showy mountain ash
Thuja occidentalis	Arbor vitae, white-cedar, cedar
Tilia americana	Basswood
Tsuga canadensis	Hemlock
Ulmus americana	American elm
U. rubra	Slippery elm, red elm
U. thomasii	Rock elm, cork elm

Shrub

Shrubs

Alnus rugosa	Speckled alder
Amelanchier spp.	Juneberry, serviceberry, shadblow
Aronia prunifolia	Chokeberry
Betula pumila	Bog birch, dwarf birch
Ceanothus americanus	New Jersey tea
Celtis tenuifolia	Dwarf hackberry
Cephalanthus occidentalis	Buttonbush
Cornus amomum	Pale dogwood
C. foemina (racemosa)	Gray dogwood
C. rugosa	Roundleaf dogwood
C. stolonifera	Red-osier dogwood
Corylus americana	Hazelnut
Diervilla lonicera	Bush-honeysuckle
Dirca palustris	Leatherwood
Euonymus atropurpreus	Burning-bush, wahoo
E. obovata	Creeping strawberry-bush
Hamamelis virginiana	Witch-hazel
Ilex verticillata	Winterberry
Juniperus communis	Common juniper, ground juniper
Lindera benzoin	Spicebush
Physocarpus opulifolius	Ninebark
Potentilla fruticosa	Shrubby cinquefoil
Prunus pumila	Sand cherry
P. virginiana	Choke cherry
Ptelea trifoliata	Hop-tree
Rhus copallina	Winged sumac
R. glabra	Smooth sumac
R. typhina	Staghorn sumac
Ribes cynosbati	Prickly gooseberry
Rosa carolina	Carolina rose
R. palustris	Swamp rose
Rubus occidentalis	Black raspberry
R. allegheniensis	Highbush blackberry
R. flagellaris	Northern dewberry
R. strigosus	Wild red raspberry
Salix discolor	Pussy willow
Sambucus canadensis	Common elderberry
S. racemosa	Red-berried elder
Spiraea alba	Meadowsweet
S. tomentosa	Steeplebush
Staphylea trifolia	Bladdernut
Symphoricarpos albus	Common snowberry
Vaccinium corymbosum	Highbush blueberry

V. angustifolium	Low, sweet blueberry
Viburnum acerifolium	Maple-leaf viburnum
V. lentago	Nannyberry
V. paunifolium	Blackhaw viburnum
V. rafinesquianum	Downy arrow-wood
V. trilobum	American (highbush) cranberry
Zanthoxylum americanum	Prickly-ash

Perennials

Amorpha canescens	Leadplant
Aquilegia canadensis	Wild columbine
Asclepias incarnata	Swamp milkweed
A. syriaca	Common milkweed
A. tuberosa	Orange milkweed, butterfly weed
Aster laevis	Smooth aster
A. novae-angliae	New England aster
Baptisia spp.	Indigo
Echinacea spp.	Coneflower
Geranium maculatum	Wild geranium
Geum triflorum	Prairie smoke
Helianthus divaricatus	Woodland sunflower
Liatris aspera	Rough blazing-star
Monarda fistulosa	Wild-bergamot, bee-balm
Ratibida pinnata	Prairie coneflower, gray-headed coneflower
Rudbeckia hirta	Black-eyed Susan
Solidago spp.	Goldenrod [not a cause of hayfever]
Thalictrum dasycarpum	Meadow-rue
Tradescantia ohiensis	Spiderwort
Vernonia gigantea	Ironweed
V. missurica	Ironweed
Veronicastrum virginicum	Culver's Root
Zizia aurea	Golden Alexander

Groundcover

Anemone canadensis	Canada anemone
Anemone quinquefolia	Wood anemone
Asarum canadense	Wild ginger
Fragaria virginiana	Wild strawberry
Gaultheria procumbens	Teaberry, wintergreen

Mitchella repens	Partridge-berry
Parthenocissus quinquefolia	Virginia creeper
Phlox divaricata	Wild blue phlox
Polygonatum biflorum	Solomon-seal
P. pubescens	Solomon-seal
Smilacina racemosa	False Solomon-seal
Stylophorum diphyllum	Celandine, wood poppy
Viola canadensis	Canada violet
Waldsteinia fragarioides	Barren strawberry

<u>Grasses and Sedges</u>

Andropogon gerardii	Big bluestem
Bouteloua curtipendula	Side-oats grama
Carex pensylvanica	Pennsylvania sedge
Chasmanthium latifolium	Northern sea oats
Hystrix patula	Bottlebrush grass
Koeleria macrantha	Junegrass
Panicum virgatum	Switchgrass
Schizachyrium scoparium	Little bluestem
Sorghastrum nutans	Indian grass
Sporobolus heterolepsis	Prairie dropseed

ALIEN PLANT SPECIES WHICH ARE PESTS IN MIDWEST NATURAL AREAS

These non-native plants, mostly from Europe or Asia, have been found to invade natural areas and destroy them by changing ecosystem processes, e. g., shrinking supplies of surface water; shading out and/or crowding out native species; and hybridizing with native species and potentially eliminating native genetic strains.

Such plants are threats in all of our natural or semi-natural areas, including rangelands, grasslands, wetlands, and forests. In national parks and nature preserves, they threaten some of the very species these lands are intended to preserve. These invasive, non-native plants should not be planted even in yards, for fear that they will escape to, and infest, nearby natural areas.

Characteristic of most of these plants is the production of many small seeds which are dispersed by birds and other wildlife--a process we cannot control except by not planting these dangerous plants in our yards and not allowing them to be planted in our cities, counties, and states.

Alien trees

Amur maple	*Acer ginnala*
Norway maple	*Acer platanoides*
Tree-of-heaven	*Ailanthus altissima*
Paper mulberry	*Broussonetia papyrifera*
White poplar, silver poplar	*Populus alba*
Black locust [native to N. A., but not Midwest]	*Robinia pseudoacacia*
Tamarisk [can invade northern wetlands]	*Tamarix ramosissima*
	T. chinensis
	T. parviflora
Siberian Elm	*Ulmus pumila*
Wayfaring Tree	*Viburnum lantana*

Alien shrubs

Japanese barberry	*Berberis thunbergii*
Russian olive [infests 17 western states]	*Elaeagnus angustifolia*
Autumn olive	*E. umbellata*
Winged euonymus, burning bush	*Euonymus alatus*
Wintercreeper, climbing euonymus	*E. fortunei*

Privet	*Ligustrum vulgare*
	L. sinense
	L. japonicum
Amur honeysuckle	*Lonicera maackii*
Bella honeysuckle	*L. x bella*
Morrow's honeysuckle	*L. morrowii*
Tatarian honeysuckle	*L. tatarica*
White mulberry	*Morus alba*
Common buckthorn, European buckthorn, Hart's thorn, European waythorn, Rhineberry	*Rhamnus cathartica*
Smooth buckthorn, glossy buckthorn, alder buckthorn, columnar buckthorn, European alder, fen buckthorn, tall hedge	*R. frangula*
Multiflora rose	*Rosa multiflora*
Japanese spirea [pink spirea]	*Spirea japonica*
Japanese yew [already a problem in Northeast]	*Taxus cuspidata*
European highbush cranberry, Guelder rose	*Viburnum opulus* var. *opulus*

Alien vines

Porcelain berry	*Ampelopsis brevipedunculata*
Oriental bittersweet, Asiatic bittersweet	*Celastrus orbiculatus*
Japanese honeysuckle, Hall's honeysuckle	*Lonicera japonica*
Mile-a-minute [already a problem in Northeast]	*Polygonum perfoliatum*
Kudzu	*Pueraria lobata*
Black swallow-wort	*Vincetoxicum nigrum*

Alien herbaceous plants

Garlic mustard	*Alliaria petiolata*
Cornflower, bachelor's button	*Centaurea cyanus*
Spotted knapweed	*C. maculosa*
Lily-of-the-valley	*Convallaria*
Crown vetch	*Coronilla varia*
Ox-eye daisy	*Chrysanthemum leucanthemum*
Queen Anne's Lace	*Daucus carota*
Cut-leaf teasel	*Dipsacus laciniatus*
Teasel	*Dipsacus sylvestris*
Leafy spurge	*Euphorbia esula*
Japanese knotweed	*Fallopia japonica* or *Polygonum cuspidatum*
Baby's breath	*Gypsophila paniculata*
Dame's rocket	*Hesperis matronalis*

Common St. John's wort	*Hypericum perforatum*
Bird's-foot trefoil, deer vetch	*Lotus corniculatus*
Money plant, Chinese money	*Lunaria annua*
Moneywort	*Lysimachia nummularia*
Purple loosestrife	*Lythrum salicaria*
White sweetclover	*Meliotus alba*
Yellow sweetclover	*Meliotus officinalis*
Wild parsnip	*Pastinaca sativa*
Sulfur cinquefoil	*Potentilla recta*
Mexican bamboo	*Polygonum cuspidatum*
Bouncing Bet	*Saponaria officinalis*
Vinca, periwinkle, myrtle	*Vinca minor*

Alien grasses

Quack grass	*Agropyron repens*
Smooth brome	*Bromus inermis*
Tall fescue, taller fescue, meadow fescue	*Festuca arundinacea (F. elatior)*
Reed canary grass	*Phalaris arundinacea*
Johnson grass	*Sorghum halepense*

BIBLIOGRAPHY

Brody, Jane E., "Rootin' Shootin' Raiders Conquer Native Ground," The New York Times ("Science Times" section), June 9, 1998, pp. B11, B15.

Czarapata, Elizabeth, Invading Weeds: A Growing Threat to Wisconsin's Biological Diversity. Muskego, WI, 1999.

Friends of the Arboretum Newsletter, University of Wisconsin-Madison, various issues.

Marinelli, Janet, Stalking the Wild Amaranth: Gardening in the Age of Extinction. New York, 1998.

Meier, Todd, "Out of the Garden and Out of Control," Fine Gardening, no. 65 (January-February, 1999), pp. 34-37.

Michigan Botanical Club, Alien Invaders: The Dreadful Dozen (and then some), 1996.

Randall, John M. and Janet Marinelli (eds.), Invasive Plants: Weeds of the Global Garden. Brooklyn Botanic Garden, 1996.

Wild Ones--Natural Landscapers, Ltd., Wild Ones Handbook. Milwaukee, WI, [1998].