CITY OF NOVI

LANDSCAPE DESIGN MANUAL

(Adopted by City Council Resolution dated 8-25-03) – revised 2020

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NOTE:

In addition to this Landscape Design Manual and Section 5.5 of the Zoning Ordinance, issues related to landscaping are also addressed in the following sections of the Novi Code of Ordinances. Please consult these for other possible impacts on a project.

(**Note: the following list is provided as an aid and does not guarantee that other ordinances may not have an impact on landscaping)**:

ZONING ORDINANCE:

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36	Waterways
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PART 1: SUPPLEMENTAL REQUIREMENTS AND PROCEDURES

The following Supplemental Requirements and Procedures shall apply to any landscape plan required under Section 5.5 of the City of Novi Zoning Ordinance. In the event of inconsistency between the provisions of that ordinance, or any other ordinance of the City, and these supplemental requirements and procedures, the ordinance provisions shall prevail.

1. **Landscape Screening/Buffer Requirements**

   a. Residential Adjacent to Non-Residential

      (1) Berm Requirements.

         (a) Berms shall be constructed of loam soils with a 6" top layer of topsoil and shall be free of construction materials and debris. Where possible, they shall be undulating in height, and they shall always maintain at least the minimum height required in Zoning Section 5.5.3.A.ii.

         (b) The berm shall be landscaped and maintained in a clean, orderly, and growing condition.

         (c) The berm must be planted with a combination of trees, shrubs, sod or other living ground covers.

         (d) A minimum opacity shall be provided and maintained at 80% winter opacity and 90% summer opacity at the required height within 2 years of installation. This level of opacity shall be provided wherever screening is called for in this ordinance. Opacity includes an intermittent visual obstruction height of 20 feet, as well as the required screening capacity for the berms required by Section 5.5.3.A. (See Obscuring Earth Berm Diagrams in this section for examples of landscaping layouts that provide the required opacity.) The intermittent screening does not have to provide 80-90% opacity above 6 feet, but it should have at least 50% summer opacity.

         (e) Landscaping shall provide the required opacity primarily by using a dense planting of evergreen trees or shrubs. Spacing of the plant materials shall be in accordance with the Plant Material Spacing Chart below and the attached illustrations (Part II). Groupings of canopy deciduous trees, subcanopy trees and/or shrubs that provide similar opacity as the illustrations may also be used to provide screening, especially for the intermittent obstruction. As an example, densely-branched deciduous plant material two (2) or more layers deep and/or evergreen plant material may be used to achieve the required opacity.

         (f) The berm and landscaping materials shall be irrigated with an underground watering system or have an operational hose bibb within 100 feet of the landscaping.

(g) The required minimum and maximum distances between proposed plant materials within this Section for screening and landscape purposes are as follows or as determined by the City Landscape Architect or City Forester based upon accepted principles not specified in the chart:

Table 1.a.(1)(g): Plant Material Spacing Relationship Chart for Landscape Purposes

Plant Material Types Spacing (on-center)		TO					
		Large Evergreen Tree	**Narrow Upright Evergreen**	**Deciduous Canopy Tree***	**Deciduous Subcanopy Tree***	**Large Shrub**	**Small Shrub**
FROM	**Large Evergreen Tree**	Min. 15 ft Max. 25 ft	Min. 12 ft	Min. 20 ft	Min. 15 ft	Min. 15 ft	Min. 10 ft
	Narrow Upright Evergreen	Min. 12 ft	Min. 2.5 ft Max. 10 ft	Min. 15 ft	Min. 10 ft	Min. 5 ft	Min. 3-5 ft
	Deciduous Canopy Tree*	Min. 20 ft	Min. 15 ft.	Min. 20 ft	Min. 15 ft	Min. 5-7 ft	Min. 3-5 ft
	Deciduous Subcanopy Tree*	Min. 15 ft	Min. 10 ft	Min. 15 ft	Min. 10 ft	Min. 5-7 ft	Min. 3-5 ft
	Large Shrub (6-15+' tall)	Min. 15 ft	Min. 5 ft	Min. 5-7 ft	Min. 5-7 ft	Min. 5 ft Max. 10 ft	Min. 3 ft Max. 6 ft
	Small Shrub (0-5.9' tall)	Min. 10 ft	Min. 3-5 ft	Min. 3-5 ft	Min. 3-5 ft.	Min. 3 ft Max. 6 ft	Min. 3 ft Max. 6 ft

* Fastigiate/columnar trees may require closer spacing to achieve required opacity.

(Recommended distances are dependent on species' mature sizes and their size within 2 years of planting to attain opacity requirements. Recommended maximum spacing distances do not apply to other landscape requirements such as street tree spacing, greenbelt buffering, woodland replacement trees or foundation plantings).

b. Developments Adjacent to Public Rights of Way

(1) Berm Requirements

(a) Berms are to vary in height and width

(b) The minimum height specified in Zoning Section 5.5.3.B.ii.f should always be met by the berm, with variations in height taller than the minimum.

(2) Plant Material Location Spacing

(a) In order to assist emergency vehicles, create view channels to business address at a 20-40 degree angle for approaching vehicles from both directions of traffic

(b) The base of any permitted display platform must be totally screened by shrubs at least 2 feet in height.

(3) Shopping Centers and sites adjacent to freeways or other major corridors are highly visible. Therefore, a strong emphasis shall be placed on the design of landscaping that achieves substantial aesthetic enhancement, and a diminution of paving and parking views along these corridors.

2. Residential Subdivision Planting Requirements

a. Single-family platted subdivisions or residential site condominiums.

(1) Street Tree Spacing. Trees shall be provided in front of each residential lot in the area between the sidewalk and the curb as described in the Charts below:

i. Minimum planting area widths:

Table 2.a.(1).i Recommended Tree Sizes for ROW areas

Tree Species Type	Lawn width (curb to sidewalk)
Small Tree (Deciduous Subcanopy)	4-6 feet
Medium Tree (Deciduous Subcanopy and Canopy)	6-8 feet
Large Tree (Deciduous Canopy)	>8 feet

ii. Minimum spacing:

Table 2.a.(1).ii Recommended Tree Spacing for ROW areas

Tree Species Type	Tree Height	Spacing between trees (on average)
Small Tree (Deciduous Subcanopy)	Up to 20’	Min. 20’
Medium Tree (Deciduous Canopy and Subcanopy)	20-40’	Min. 30’
Large Tree (Deciduous Canopy)	>40	Min. 35’

(2) Street Tree Location Large street trees shall be planted along the street in the right-of-way at a rate of 1 deciduous canopy tree per 35lf, less the widths of clear vision zones required by the City of Novi, the Road Commission for Oakland County or the Wayne County Road Commission.
(a)

(a) Trees shall not be planted closer than 10 feet from any driveway.

(b) Distances between trees and curbs or sidewalks shall be:

1. At least four feet for deciduous canopy trees where the space between curb and walk is at least 8 feet. For subcanopy trees where the distance between the curb and walk is less than 8 feet, the trees should be centered between the curb and walk.

2. At least 5 feet spacing shall be provide for shrubs behind curbs with angled or perpendicular parking

(c) If subcanopy trees are to be used as street trees for tight planting areas and under utility lines, only use species/varieties which can be attractively pruned per city standards (a minimum ground clearance of 14 feet on the street side and 10 feet on the non-street side).

b. Single-family residential site condominiums with no lot lines.

(1) Street Tree Requirement: 1 deciduous canopy tree per residential unit.

(2) Tree Placement: In front of residential unit in the area between the sidewalk and the curb as described in the Chart below:

Table 2.b.(2) Recommended Tree Sizes for ROW area widths

Tree Species Type	**Lawn width (curb to sidewalk)**
Small Tree (Deciduous Subcanopy)	4-6 feet
Medium Tree (Deciduous Subcanopy and Canopy)	6-8 feet
Large Tree (Deciduous Canopy)	>8 feet

c. Island and Boulevard Planting.

(1) A mixture of shrubs, groundcover, perennials, and/or ornamental grasses, as well as canopy and sub-canopy trees, is to be provided.

(2) Maintenance of such areas shall be the responsibility of the subdivision association.

(3) At least 75% of the island area shall be landscaped with a combination of live plantings other than lawn. The remaining 25% of area can be lawn if desired.

(4) Refer to Zoning Ordinance Section 5.9 for corner clearance requirements for boulevards.

3. Detention and Retention Basin Landscaping Requirements

a. Large deciduous canopy trees shall be planted at a rate of 1 tree per 35lf of the pond edge measured at the permanent water line, 6-10 feet away from the permanent water level, around the east, west and south sides of the pond to provide cooling shade for the pond. Woodland replacement trees may be used to meet this requirement.

b. Clusters of large native shrubs shall cover 70-75% of the basin perimeter measured 10 feet from the permanent water level, or pond bottom for ponds designed to empty after 24-48 hours. Shrubs shall be placed along this line instead of the high water line and be clustered, not arranged in a straight line.

c. At least three different shrub species native to Michigan shall be used. Straight species are preferred. Dwarf cultivars with mature heights less than 5 feet do not fulfill the size requirement. The shrubs shall be allowed to grow to their natural height and form.

d. The bottom and sides of the basin(s), extending 25 feet from the permanent water level shall be planted with a mix of native grasses, sedges and wildflowers and be maintained at a natural height (not mowed as lawn) to discourage use by waterfowl. The application of fertilizer and pesticides on grass areas in the basin shall be limited to the initial establishment of the groundcover. Seeding is not required on the required maintenance access pathway.

e. Contact the City's wetland consultant or landscape architect when specifying a basin seed mix. All seed mix(es)' species composition and cover crop(s) shall be included on the landscape plan, as well as clear indications of where each mix should be applied. A plan for the successful establishment and maintenance of the groundcover shall also be included on the landscape plan.

f. Prior to seeding, the area to be seeded shall be ripped to a depth of 18" to alleviate soil compaction. After ripping, the seeding area shall be prepared per the recommendations of the native seed vendor.

g. Also prior to seeding, the landscape contractor shall send a photo of the seed bag from the seed being planted to the city landscape architect or city environmental consultant to verify that an acceptable mix is being used. A note to this effect shall be added to the plan sheet with the seed mixes. Once approval is given, the seeding may take place.

h. Utilize anti-waterfowl devices while establishing plantings, such as string matrix or string edge or other approved method.

4. Tree species diversity (includes canopy, subcanopy and evergreen trees).

In order to avoid landscape disasters like the Dutch elm disease and Emerald Ash Borer infestations, where overplanting of a single type of tree (elm, ash) resulted in large scale tree replacements, a diversity of tree species is to be used for all projects requiring site plan approval.

a. When fewer than 200 trees are proposed, not more than 25% of the proposed tree plantings shall be of one genus and not more than 15% shall be of a single species.

b. When 200 or more trees are proposed, not more than 15% percent of the tree plantings shall be of one genus and not more than 10% shall be of a single species.

c. Variations from these percentages shall be at the discretion of the City Forester or Landscape Architect. (See Novi Street Tree List).

d. The breakdown of the species and genera used shall be added to the plant list in a format similar to that shown in the table below:

Table 4.d: Sample Species Breakdowns

Symbol	Scientific Name	Common Name	Size	Qty	Genus %	Species %
AL	Amelanchier laevis	Serviceberry	6-7' ht	20	12%	12%
AR	Acer rubrum	Red Maple	2.5" cal.	25	15%	15%
CA	Cornus alternifolia	Pagoda Dogwood	6-7' ht	20	18%	12%
CF	Cornus florida	Flowering Dogwood	1.75" cal.	10		6%
MS	Malus 'Snowdrift'	Snowdrift Flowering Crabapple	1.75" cal.	5	3%	3%
PO	Platanus occidentalis	Sycamore	2.5" cal.	25	15%	15%
PS	Pinus strobus	Eastern White Pine	6-7' ht	10	6%	6%
QB	Quercus bicolor	Swamp White Oak	2.5" cal.	10	21%	6%
QR	Quercus rubra	Red Oak	2.5" cal.	25		15%
UA	Ulmus americana 'Princeton'	Princeton American Elm	2.5" cal.	15	9%	9%
Total				**165**	**100%**	**100%**

e. The above requirements do not apply to woodland replacement trees. Those trees should not be included in the above calculation.

f. Woodland tree replacement species shall have roughly the same composition as the native trees removed in order to restore some semblance of the impacted woodland (except in the cases of elm, ash or other species which are known to have major survivability issues due to environmental factors).

   i. No more than 10% of the credits planted on site may be evergreen trees.

   ii. Native maples may be used as substitutes for boxelders. Varieties of native elm species shown to have good resistance to Dutch elm disease may be used as replacements for elms.

g. Shrubs: While shrubs are not subject to the requirements above, efforts toward using a diversity of shrub species should also be used for the same reasons described above.

5. Parking Area Landscaping Requirements

a. Landscape designs shall utilize plant materials which enhance infiltration of storm water, such as those with deep root systems. Designs to lessen runoff are preferred. Wherever possible, designs should utilize vegetated swales, weirs and basins within and around the parking areas to create an attractive storm water system that promotes storm water infiltration.

b. Salt-tolerant plants material native to the state of Michigan are preferred.

c. Parking area landscaping materials within parking lot islands shall be maintained at 3 feet in height or less or 6 feet or more above adjacent paving for clear sight distance across the parking islands.

d. Evergreen trees are not allowed in any parking islands unless the applicant can demonstrate that all clear sight distances shall be maintained and a note in a form

approved by the City Attorney is added on the final approved site plan stating that the City of Novi is not responsible for any accidents caused by the lack of clear sight distance

e. All landscaping shall be maintained in a healthy condition and replaced as plants die or are in poor condition.

f. The name, type and number of groundcover plants (including seed or sod) proposed on islands are to be specified on the landscape plan.

g. Parking area islands may not utilize mulch as the only groundcover. It is only allowed in association with trees or shrubs planted within an island (the ring of mulch around a tree, or within and around shrub beds). Rock or gravel mulches shall not be used within or adjacent to vehicular use areas.

6. Transformers/Utility Boxes/Irrigation Control Boxes

All transformers, utility boxes and irrigation control equipment shall be screened from public view in an attractive manner, but shall allow safe access to said facilities.

a. Plant materials shall be maintained at a height at least equal to the transformer, utility box or irrigation control box.

b. Screening plant material shall be evergreen or densely-branched deciduous shrubs.

c. A minimum of 2 feet separation is required between the structure and the full growth potential of plant material at maturity.

d. Groundcover is allowed up to the transformer pad, if it is kept below 4" in height.

e. Doors of transformers must be accessible. No plant materials are to be placed within 8 feet of the front of the doors but the doors shall be screened from view.

f. A detail of transformer screen plantings and locations of all transformers must be provided with the landscape plans. It is included with other landscape details in Part III.

g. Safety is the first priority when screening transformers and utility boxes. If plantings are above 2 feet in height, they cannot be placed in the corner clearance zone (refer to Section 5.9).

h. A solid fence may be approved if warranted by safety or site limitations.

7. Tree location with respect to utilities - No deciduous canopy tree, subcanopy tree or evergreen tree shall be planted closer than 15 lateral feet from any overhead utility wire, or closer than 10 lateral feet from any fire hydrant, catch basin or manhole. Effort should also be made to keep all trees at least 5 feet away from underground utility lines.

8. Dumpsters/Trash Containers – Required screening for Dumpsters/Trash Containers is described in Chapter 21-145 and Zoning Ordinance Section 4.19.2.f. No additional landscaping is required.

9. Fire Hydrants/Fire Department Connections – Plantings shall be kept away from or below hydrants and Fire Department Connections, so they are not obscured from view and are easily accessed.

10. Landscape Plan Requirements

A landscape plan shall be submitted for:

- any new commercial or residential development
- any addition to an existing building that is equal to or greater than a 25% increase in the overall square footage of the building or 400 square feet, whichever is less
- any increase to a parking lot of 10 spaces or more (or equivalent paving area) or 10% of paved area, whichever is less.

An owner of a single-family home site shall not be required to comply with the provisions of this section.

<u>The landscape plan shall contain the following information:</u>

a. Name, address and telephone number of the owner and developer or association.

b. Landscape Architect Information

(1) Name, address and telephone number of the Registered or Licensed Landscape Architect who created the design or is responsible for its accuracy and adherence to city standards (all landscape plans must be created by a landscape architect).

(2) The seal of a Registered or Licensed Landscape Architect responsible for the plans (on Final Site Plans and Stamping Sets).

(3) A live signature of the landscape architect is required on Stamping Sets.

c. A legal description or boundary line survey of the site on which the work is to be performed. Can be provided on existing conditions plan or topographical survey.

d. Project Name and address (or other information showing the site location).

e. Zoning districts of the proposed site and adjacent properties.

f. Miss Dig contact information on all sheets.

g. The soil type(s) on site as determined by the Soils Survey of Oakland County, Michigan published by the United States Department of Agriculture Soils Conservation Service must be included on Landscape Plans or elsewhere in set.

h. A landscape plan of the site at a scale that matches other plans in the plan set and is legible with proper north indication. The landscape plan shall be submitted in a scale not to exceed 1"=20' for detailed areas, 1"=60' for large areas. An engineering scale shall be used. Variations from this scale requirement may be approved by the City Landscape Architect as long as the different scale provides sufficient detail, legibility and ease of use for evaluation. This plan should include:

(1) Proposed topography at a maximum of 2 foot contour intervals, extending at least 50 feet beyond the site boundary. For berm, wall areas and steep topography, contour intervals shall be shown at 1 foot.

(2) Location, type and size of all existing plant materials showing those materials to be saved, to be moved and to be removed.

(a) If there is no existing vegetation, the plan shall note that.

(b) If the site includes regulated woodlands or wetlands, the plan shall identify the locations of regulated natural resources with the appropriate boundary determinations.

(c) A tree survey that includes all regulated trees within the area of disturbance and a corresponding tree chart that includes tree tag #, species, size (dbh), and whether it will be saved or removed.

(d) All trees 8" dbh or greater within 50 feet of construction shall also be included in the tree survey.

(e) Trees in woodlands or other areas at least 50 feet away from construction that will not be impacted do not need to be identified individually, but the cover of those areas should be generally noted (e.g. dense woodland, open, scrub/shrub, wetland) and the area noted as "To Remain" or "To Be Saved". See Woodlands Protection Ordinance (Chapter 37) and Wetlands Protection Ordinance (Chapter 12) for additional plan requirements.

(f) Tree protection fence locations must be shown on Removal/Demolition and Grading Plans/Soil Erosion Control plans.

(3) Locations of all existing and proposed buildings, easements, parking spaces, vehicular use areas, proposed ground sign locations, flagpole locations, public rights-of-way, existing and proposed overhead and underground utilities, including the locations of hydrants, utility boxes and trash receptacles. Dimensions shall be shown from overhead utility poles.

(4) Locations of all existing light poles to remain and proposed light poles.

(5) Calculations for all right-of-way greenbelt landscaping, street trees, parking lot landscaping, foundation landscaping and other landscaping, including the amount required and the amount provided. Include labels in square feet for all landscape areas intended to satisfy parking lot interior area and foundation landscape requirements.

(6) Location, type and size of all proposed plant materials. On Final Site Plans, plants shall be indicated with actual plant material names or symbols linked to a plant list.

(7) All plantings shall have unique labeling to indicate the requirement they are intended to satisfy (i.e. interior parking, parking perimeter, woodland replacement, right-of-way greenbelt, street trees, foundation planting, etc.)

(8) Corner Clearance Zones at driveways and road intersections. (See Section 5.9 or Road Commission for Oakland County clear vision requirements, depending on the road jurisdiction).

(9) An indication of area(s) clear of trees or shrubs for snow depositing areas in winter.

(10) A plant list for all proposed landscape materials showing the quantity of materials for each species, botanical and common names of plant materials, caliper sizes or container sizes, height of material where applicable, root type balled and burlapped or potted), type and amount of mulch.

(11) An itemized cost estimate for all new plantings, mulch, seed and sod contained on the planting plan must be provided on the Final Site Plans. The costs for this should be from the Community Development Fees standard costs on the Community Development website, not estimates, unless there is no comparable standard cost, in which case estimates are acceptable.

(12) Planting details for evergreen trees, deciduous trees, multi-stem trees, tree guys, shrubs, and perennials/ground covers, as applicable to the plan. (See typical City of Novi Tree Planting Details).

(13) A plan for site preparation, seeding, establishment and maintenance of any native seed mixes per the direction of the native seed vendor.

(14) Landscaping Notes required:

(a) A note indicating the proposed estimated planting dates (should be between March 15 and November 15).

(b) A statement of intent to guarantee the plant materials for 2 years from the date of acceptance and maintain all such landscaped areas in accordance with the requirements of this ordinance.

(c) A note indicating that the plants should be Upper Midwest/Great Lakes grown.

(d) A note stating that the property's landscape will be maintained per the approved final site plan in perpetuity, per Zoning Ordinance Section 5.5.7, including replacement of all dead or failing plant material within three (3) months of its discovery, or the next appropriate time as determined by the City Landscape Architect.

(e) A note stating that any plant species substitutions from the approved plan must be approved in writing by the City Landscape Architect.

i. When berms are included on the plans, a representative berm cross-section including slope, height and width, construction of loam with 6" top layer of topsoil, type of ground cover, and labeled contour lines. Show where overhead utility lines exist or are planned, and the required setback of 15 feet from the edge of the utility or 20 feet from the closest pole for canopy trees. (See Berm Cross-Section Diagram).

j. Wall detail(s), when applicable, with notes indicating materials, height and type of construction and footings. Wall designs and calculations for any walls 4 feet or in height must be provided by a design or structural engineer and approved with building plans

k. Fencing details – tree protection, screening and decorative fencing.

l. Plans for irrigation, or alternative means of providing sufficient water for establishment and long-term survival must be provided with final site plans. If an

area is landscaped with plant species that do not require irrigation (xeriscaping), no permanent irrigation system is required, but the plants must be watered as necessary until they are established with a temporary system, hose(s) or portable water tanks. In that case, hose bibb locations within 100 feet of the plantings or other water sources must be noted on the plans.

m. If an irrigation system will be used, plans for it must be provided with final site plans.

n. Other information or data as may be required in other sections of this ordinance, and additional information or data as reasonably required by the Planning Commission.

11. Plant Material Requirements

a. General Conditions / Plant Requirements.

Wherever in this Ordinance landscaping plantings are required, such landscape plantings shall be subject to the following conditions:

(1) For all plant materials, plants native to Michigan and, ideally, Oakland County, are to be the first choice. No fewer than 50% of the species used, not including those for woodland replacements or in seed mixes, shall be native. The source of the native plants should be local or of the North Midwest America/Great Lakes region. (www.michiganflora.net may be used as a reference to determine whether a species is native).

(2) All plant materials shall be northern nursery grown, No. 1 grade, and installed according to accepted planting procedures. All plant materials shall meet current American Association of Nurserymen Standards. They shall be planted according to City of Novi Planting Details and specifications. The City shall have the right to inspect the plant materials prior to planting and to reject any plant materials deemed not to meet the standards of this ordinance.

(3) The selection, spacing, and sizing of plant materials shall depend on the use to which the plantings are to be placed. A mixture of plant materials (evergreen and deciduous trees and shrubs) and plant species is required in all landscape plans as a protective measure against disease and insect infestation. Plant materials used together in groupings for screening shall meet the on-center spacing requirements as set forth in this Manual Section 1.a..

(4) Plant materials, except lawn, ground covers or creeping vine type plantings, shall be located at least 4 feet from the property line, as measured to the trunk of deciduous canopy or subcanopy trees, or to the mature dripline of shrubs and evergreens.

(5) Where plant materials are placed in 2 or more rows for screening, plantings shall be staggered from row to row.

(6) All trees shall have a central leader and a radial branching structure. Park grade trees are not acceptable. All trees, except those of 1” caliper or less, shall be balled and burlapped (B & B).

(7) Any deciduous canopy trees with branches that might tend to develop into "V" crotches shall be subordinated so as not to become dominant branches.

(8) Miss Dig must be notified to locate all underground utilities before planting begins.

b. Plant Materials.

(1) Existing Plant Material

(a) Existing plant material is to be preserved as a first priority. Refer to Chapter 37, Woodlands Preservation Ordinance or Chapter 12, Wetlands and Watercourse Ordinance, for specific standards regarding preservation of these natural resources.

(b) In instances where existing healthy plant material is proposed to be saved on a site prior to its development and is *not* regulated by Chapter 37, Woodlands Preservation Ordinance, or Chapter 12, Wetlands and Watercourse Ordinance, the applicant may apply to adjust the application of the landscape standards to allow such plant material to substitute for planting if such an adjustment is in keeping with, and will preserve, the intent of this Section.

(c) For approval of substitutions, the existing preserved plant material shall be of high quality as determined by the City. Trees listed as Prohibited Plantings, and materials required to be preserved under Chapter 12, Article V, and under Chapter 37 of the Ordinance Code, will not receive credit under this provision.

(d) All removals shall be clearly marked as to be removed with an X or R on the plan view, and on the accompanying tree chart/list (show as Saved or Removed). The tree labels for existing trees 8 inches dbh and larger to remain should appear on the Landscape Plan (plan view).

(e) Protective fencing and preservation techniques will be required for all vegetation to be saved where there is a chance that construction activities could damage it. The location of tree protection fencing and the City Protection Fencing Detail are to be shown on the Demolition/Removal Plan and Grading plans. Large masses of protected vegetation should be labeled “To be saved” or “To Remain” on the Landscape Plan and on the Demolition/Removal Plan and Grading Plan.

(f) Landscape credit for preserved canopy trees, which do not fall within a regulated Wetland or Woodland, may be used to fulfill woodland replacement credits that may be required, if they are not prohibited and/or invasive species. These replacements shall be at the following rate:

Table 11.b.(1)(f): Landscape Tree Credit Chart

Diameter of Trunk of Preserved Tree*	Number of Tree Credits
36" or greater caliper	7 trees
>29 to 36" caliper	6 trees
>23 to 29" caliper	5 trees
>17 to 23" caliper	4 trees
>12 to 17" caliper	3 trees
>7 to 12" caliper	2 trees
3 to 7" caliper	1 tree

* The tree trunk diameter measurement shall be rounded off to the nearest whole inch at a height of four and one-half (4.5) feet above the natural grade. (Diameter at Breast Height, D.B.H.)

(g) Existing, non-prohibited trees may also be used to fulfill some or all of the required street tree, greenbelt or parking lot perimeter plantings, at a 1 for 1 basis if they are located in appropriate locations. See the actual requirement in Section 5.5 for specifics.

(2) Proposed Plant Material

For suggested plant materials and information by categories of Native, Interest, Woodlands Replacement, Canopy, Street Tree, Growing Conditions, and Nurseries, see separate Suggested Plant Materials List (Part V). This list is not to be considered all-inclusive of acceptable plant materials and may be amended periodically.

(a) Plant Sizes.

i. The minimum sizes are as follows:

Table 11.b.(2)(a).i – Minimum plant sizes by application

Planted Material Types	Deciduous Canopy Trees	Large Evergreen Trees	Deciduous Subcanopy Trees (5)	Upright Evergreens	Large Shrubs	Small Shrubs (6)	Perennials, Ornamental Grasses
R-O-W Plantings (4)	2.5" cal.	8' ht.	2" cal.	6' ht.	36-42" ht.	18-24" ht.	1 gal. cont.
Street Trees (4)	2.5" cal.	n/a	2" cal.	n/a	n/a	n/a	n/a
Woodland Replacement Trees (2)	2.5" cal.	6'@ 3:2 Ratio	(3)	(3)	(3)	(3)	(3)
All other	3" cal.	7' ht.	2.5" cal.	6' ht.	36" ht.	24" ht.	1 gal. cont.

Footnotes:

(1) The City Landscape Architect may permit smaller sizes upon receipt and review of sufficient documentation that required minimum sizes are not readily available.
(2) Refer to Chapter 37-8(b) for acceptable species.
(3) Refer to Chapter 37-8(c) for use of this plant type for replacement credits.
(4) Shall also apply to private road easements or other equivalent.

(5) Multi-stem trees are to be eight to ten (8-10) feet in minimum height
(6) Spreading or horizontal shrubs are to be eighteen (18) inch width minimum.
(7) n/a: not allowed

ii. To encourage a mixture of sizes, additional landscape credit can be given for larger-sized deciduous canopy trees and large evergreen trees as follows for Right-of-Way Greenbelt trees and Parking Lot Perimeter trees. (Upsizing credit is not allowed for woodland replacement trees, street trees or interior parking lot trees.)

Table 11.b.(2)(a).ii

Size	**Total Tree Credits ***
Large Evergreen Trees	
8’ height	1.0
> 8’ to 10’ height	1.25
>10’ to 12’ height	1.5
>12’ to 14’ height	2.0
>14’ height	2.5
Deciduous Canopy Trees	
3” caliper	1.0
>3” to 3.5” caliper	1.25
>3.5” to 4.5” caliper	1.5
>4.5” to 5” caliper	1.75
>5” caliper	2.0

* Where greater than minimum size listed above (Table 10.b.(2)(a).i).

Example: a 4” caliper deciduous canopy tree would count as 1.5 required landscape trees. A 13’ high evergreen canopy tree would count as 2 required landscape trees.

The total number of trees required may be reduced through the use of these credits by a maximum of 33% (per category) (i.e. the total number of trees provided must be at least 67% of the total number of trees required based on the standard tree size, per category)

(b) Prohibited Plants.

In order to promote native plant species diversity and to prevent the loss of habitat due to the spread of naturalized non-native plant species, the following species will be prohibited in planting plans:

Table 11.b(2)b – Prohibited Plants

Botanical Name	**Common Name**	**Plant Type**
Acer negundo	Boxelder	Deciduous Subcanopy Tree
Acer platanoides	Norway Maple	Deciduous Canopy Tree
*Acer saccharinum***	Silver Maple	Deciduous Canopy Tree
Ailanthus altissima	Tree-Of-Heaven	Deciduous Canopy Tree
Alnus glutinosa	Black Alder	Deciduous Canopy Tree
Berberis spp.	Barberry	Small shrub
Celastrus orbiculatus	Round-Leaved Bittersweet	Vine
Coronilla varia	Crown Vetch	Perennial / Grass
Echinochloa crus-galli	Barnyard Grass	Perennial / Grass
Elaeagnus umbellata	Autumn Olive	Large Shrub
Ginkgo biloba(female)	Ginkgo (female)	Deciduous Canopy Tree
Gypsophila paniculata	Baby's Breath	Perennial / Grass
Hypericum perforatum	Common St. Johns-Wort	Small Shrub
Iris pseudacorus	Water Flag	Perennial / Grass
Ligustrum spp.	Privet	Small shrub
Lonicera japonica	Japanese Honeysuckle	Large Shrub
Lonicera maackii	Amur Honeysuckle	Large Shrub
Lonicera tatarica	Tartarian Honeysuckle	Large Shrub
Lythrum salicaria	Purple Loosestrife	Perennial / Grass
Melilotus alba	White Sweet Clover	Perennial / Grass
Melilotus officinalis	Yellow Sweet Clover	Perennial / Grass
Morus alba	White Mulberry	Deciduous Canopy Tree
Polygonum persicaria	Spotted Lady's Thumb	Perennial / Grass
Populus alba	White Poplar	Deciduous Canopy Tree
Populus deltoides	Eastern Cottonwood	Deciduous Canopy Tree
Populus nigra	Black Poplar	Deciduous Canopy Tree
Populus tremuloides	Quaking Aspen	Deciduous Canopy Tree
Pyrus calleryana	Flowering Pear	Deciduous Canopy Tree
Rhamnus cathartica	Common Buckthorn	Large Shrub
Rhamnus frangula	Glossy Buckthorn	Large Shrub
Rhamnus frangula angustifolia	Narrow-Leaved Glossy Buckthorn	Large Shrub
Ribes americanum	Wild Black Current	Small Shrub
Robinia pseudoacacia	Black Locust	Deciduous Subcanopy Tree
Rosa multiflora	Japanese Rose	Large Shrub
*Salix alba***	White Willow	Deciduous Canopy Tree
*Salix babylonica***	Weeping Willow	Deciduous Canopy Tree

*Salix nigra***	Black Willow	Deciduous Canopy Tree
*Ulmus americana**	American Elm	Canopy Deciduous Tree
Ulmus pumila	Siberian Elm	Canopy Deciduous Tree
Vinca minor	Common Periwinkle	Groundcover

* Disease resistant cultivars are acceptable

** Allowed under special circumstances

(c) Recommended Species for Planting Under Overhead Utilities:

Table 11.b(2)(c) – Species for Under and Near Overhead Utility lines

Botanical Name	**Common Name**
Acer campestre	Hedge Maple
Acer griseum	Paper Bark Maple
Amelanchier sp.	Serviceberry
Carpinus caroliniana	Musclewood
Cercidiphyllum japonicum	Katsura Tree
Cercis canadensis	Eastern Redbud
Cornus alternifolia	Alternate Leaf Dogwood
Cornus florida	Flowering Dogwood
Cornus kousa	Japanese Dogwood
Cornus mas	Cornelian Cherry Dogwood
Crataegus sp.(thornless)	Hawthorn sp. (thornless)
Magnolia soulangiana	Saucer Magnolia
Malus hybrids	Flowering Crabapple
Syringa reticulata	Japanese Tree Lilac
Viburnum lentago	Nannyberry
Viburnum prunifolium	Blackhaw Viburnum

(*Choose varieties with mature heights less than lowest power line if directly below lines)*

(d) Collected or Transplanted Trees - <u>If trees will be transplanted within the site, the below instructions must appear on the landscape plans</u>**.**

(1) All collected trees shall be from on site and inspected by the City. Trees may be rejected for reasons of species, insect infestation, disease or standards set forth in this ordinance. Such plant material may be rejected either in full or in part.

(2) All transplanted trees shall conform to standards set forth in Section 9.

(3) The root ball of any transplanted tree shall measure 1 foot for each inch of trunk diameter measured 12" above the root flare or graft collar.

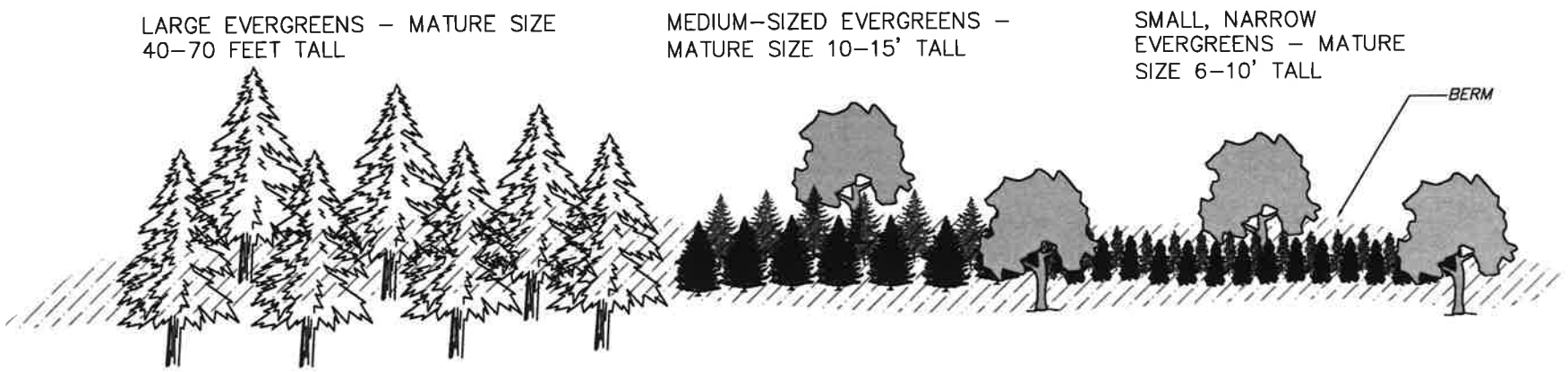
(4) If trees are to be stored, they shall be burlapped and heeled in with mulch in a pre-determined area approved by the City.

(5) The trees shall be provided with a working irrigation system approved by the City to ensure their viability during storage.

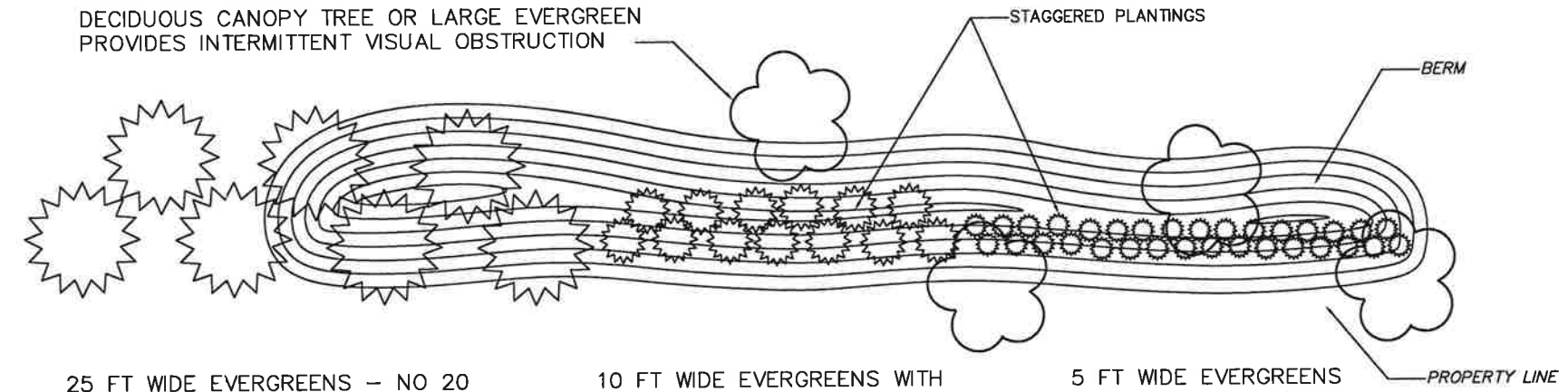
12. Nonliving Durable Material

a. Mulch for all plantings shall be premium shredded hardwood and shall not be artificially colored. No cypress wood mulch or rubber mulch is to be used.
b. Trees shall be mulched to a maximum of 3 inches overall depth at planting.
c. Shrubs, groundcovers and perennials shall be mulched to a maximum of 2 inches overall depth at planting.
d. All lawn trees shall be planted with a 4 foot diameter circle of the shredded hardwood bark mulch.
e. Mulch shall be pulled back 3 inches from the tree trunk in a circle down to the root ball dirt to expose the root collar to air. No mounding of mulch on the tree trunk is allowed at planting or in future applications of mulch.
f. If a root ball's dirt is piled up on the trunk, it should also be removed to expose the root flare.
g. For fire safety, shredded hardwood bark is not to be installed adjacent to or within 4 feet of buildings that are constructed of combustible materials. Plantings adjacent to combustible buildings shall be mulched with a non-combustible material typically marketed as landscape mulch or rock. The color of such materials shall be natural and compatible with the building.
h. Gravel or rock mulches are not permitted within or immediately adjacent to paved parking lots or roadways. Approval of type, depth and specific location for gravel mulch is to be approved by the City.
i. Sphagnum peat/bog peat is harvested from functioning wetlands so it shall not be used for landscape purposes. Compost may be used as an alternative.
j. Plastic or other artificial replicas of plant material are prohibited.

ELEVATION – FROM RESIDENTIAL PROPERTY



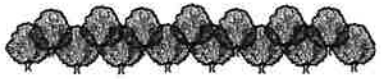
PLAN VIEW



OPACITY OBSCURING DIAGRAM – BERM

ELEVATION – FROM RIGHT–OF–WAY

MIN HT 3'

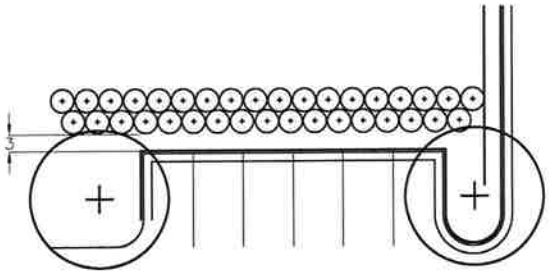


DENSELY–BRANCHED DECIDUOUS SHRUB

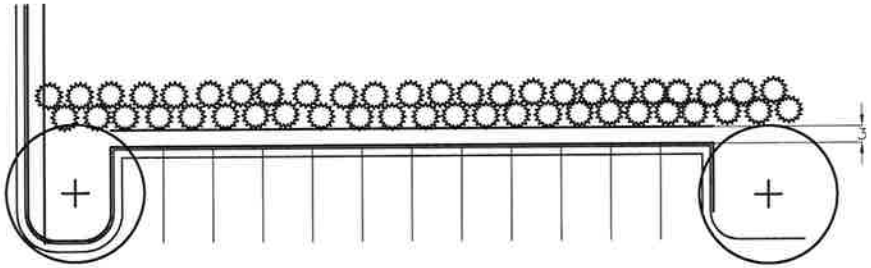
MIN HT 3'

EVERGREEN SHRUB

PLAN VIEW



DENSELY–BRANCHED DECIDUOUS SHRUB – MIN HT 3'



EVERGREEN SHRUB – MIN HT 3'

OPACITY OBSCURING DIAGRAM – PARKING, NO BERM

(NOTE: DIAGRAM DOES NOT INCLUDE RIGHT–OF–WAY GREENBELT LANDSCAPING WHICH IS REQUIRED IN ADDITION TO SHRUB SCREENING

Part III. Standard Planting Details

NOTE:
GUY DECIDUOUS TREES ABOVE 3"CAL.. STAKE DECIDUOUS TREES BELOW 3" CAL.

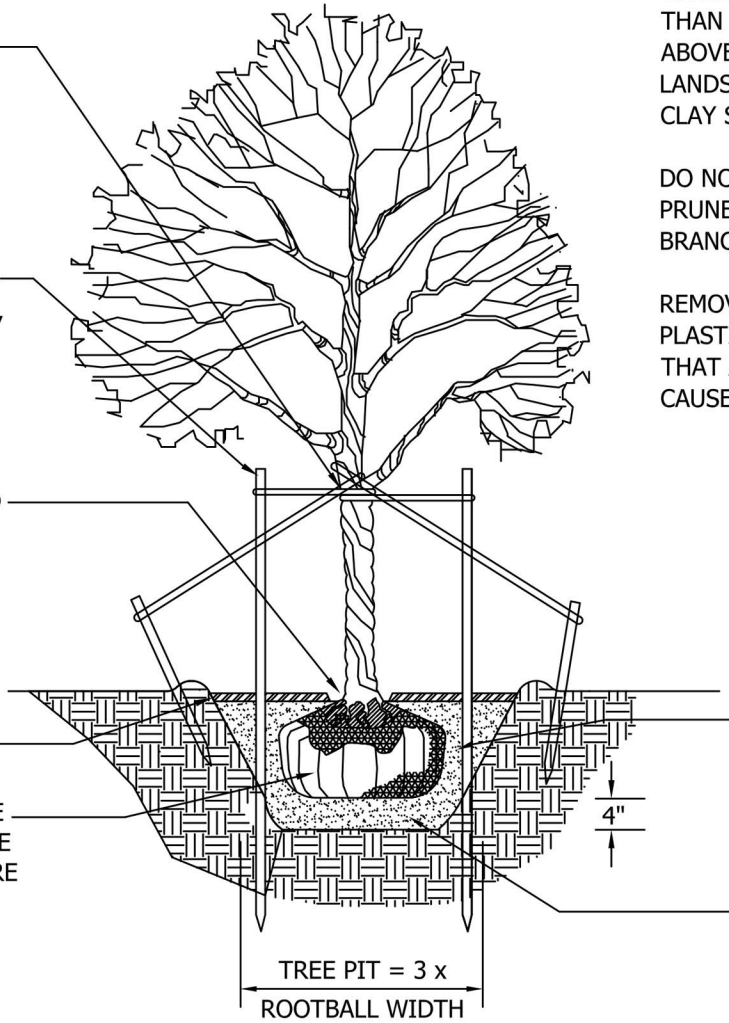
STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL. REMOVE AFTER ONE YEAR.

MULCH 3" DEPTH WITH SHREDDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

MOUND EARTH TO FORM SAUCER

REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT AND REMOVE WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.



NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.

REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS THAT ARE UNSIGHTLY OR COULD CAUSE GIRDLING.

PLANT TREE SO ROOT FLARE IS AT OR ABOVE SURROUNDING GRADE. REMOVE ROOT BALL DIRT TO EXPOSE FLARE IF NECESSARY AND CUT ANY GIRDLING ROOTS.

PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SCARIFY PLANTING PIT SIDES ONLY. RECOMPACT BASE TO 4" DEPTH.

DECIDUOUS TREE PLANTING DETAIL

Not to scale

2-15-2016

NOTE:
GUY EVERGREEN TREES ABOVE 12' HEIGHT. STAKE EVERGREEN TREE BELOW 12' HEIGHT.

NOTE:
TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 6" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

DO NOT PRUNE TERMINAL LEADER. PRUNE ONLY DEAD OR BROKEN BRANCHES.

REMOVE ALL TAGS, STRING, PLASTICS ETC.

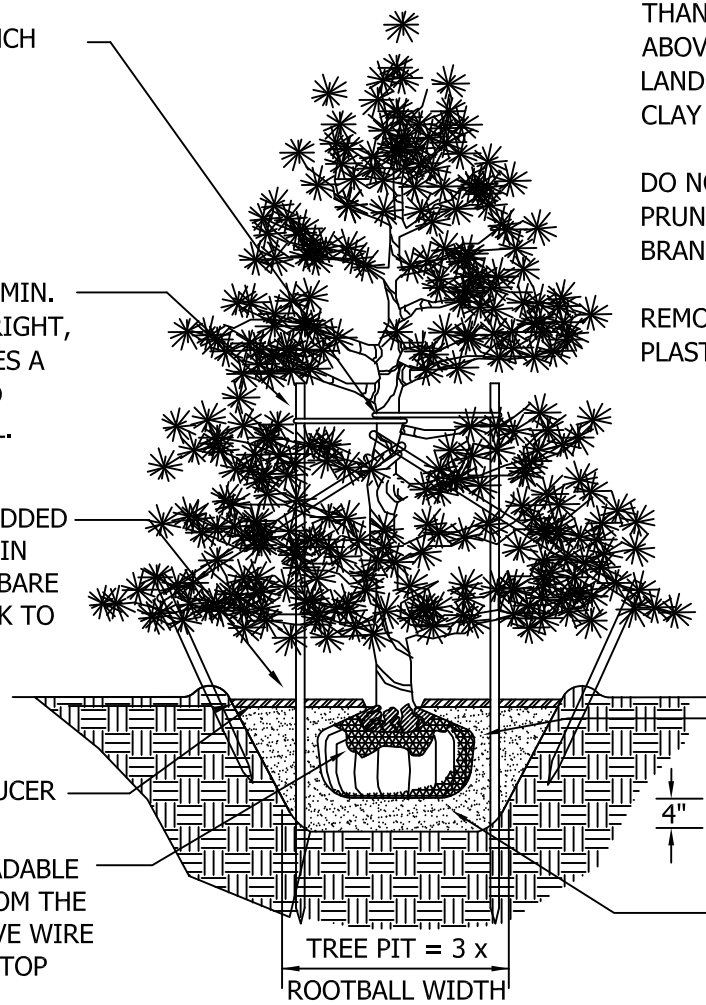
STAKE TREES AT FIRST BRANCH USING 2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS. ALLOW FOR SOME MINIMAL FLEXING OF THE TREE. REMOVE AFTER ONE YEAR.

2" X 2" HARDWOOD STAKES, MIN. 36" ABOVE GROUND FOR UPRIGHT, 18" IF ANGLED. DRIVE STAKES A MIN. 18" INTO UNDISTURBED GROUND OUTSIDE ROOTBALL. REMOVE AFTER ONE YEAR.

MULCH 3" DEPTH WITH SHREDDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

MOUND EARTH TO FORM SAUCER

REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT AND REMOVE WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.



PLANT TREE SO ROOT FLARE IS AT OR ABOVE SURROUNDING GRADE. REMOVE ROOT BALL DIRT TO EXPOSE FLARE IF NECESSARY AND CUT ANY GIRDLING ROOTS.

PLANTING MIXTURE: AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

SCARIFY PLANTING PIT SIDES. RECOMPACT BASE TO 4" DEPTH.

EVERGREEN TREE PLANTING DETAIL

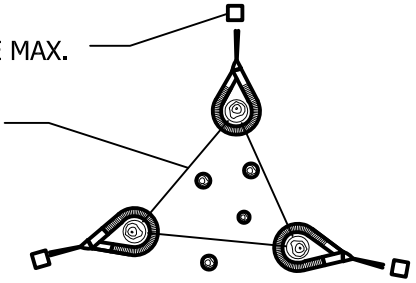
Not to scale

2-15-2016

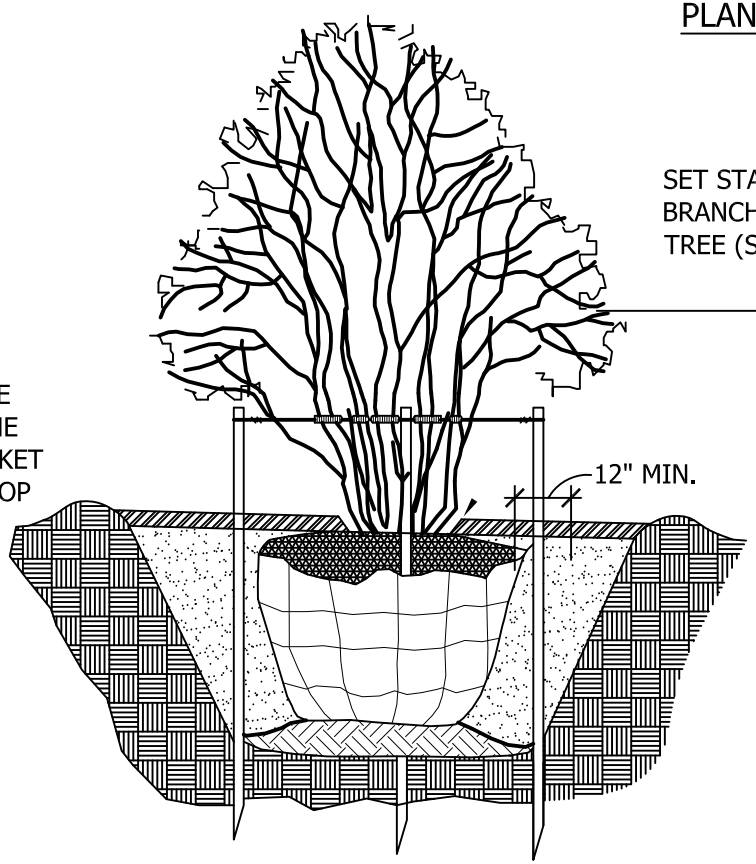
NOTES:

PRUNE AS SPECIFIED

STAKE 3 LARGEST STEMS, IF TREE HAS MORE THAN 3 LEADERS SET TREE STAKES VERTICAL AND AT SAME HEIGHT.



PLAN



MULTI-STEM TREE PLANTING DETAIL

Not to scale

2-15-2016

NOTE:
SHRUB SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE ORIGINALLY OR SLIGHTLY HIGHER THAN FINISH GRADE UP TO 4" ABOVE GRADE, IF DIRECTED BY LANDSCAPE ARCHITECT FOR HEAVY CLAY SOIL AREAS.

PRUNE ONLY DEAD OR BROKEN BRANCHES.

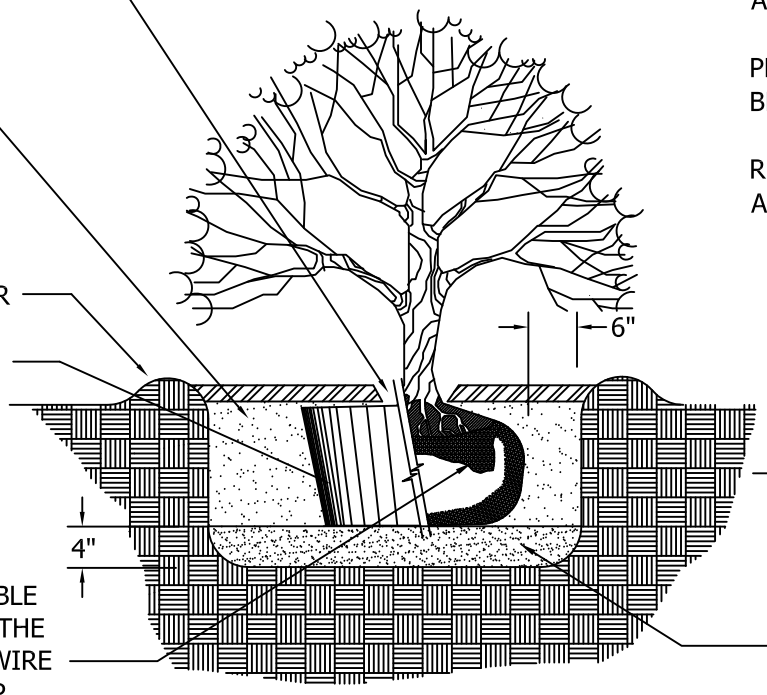
REMOVE ALL TAGS, STRING, PLASTICS AND OTHER MATERIALS

MULCH 2" DEPTH WITH SHREDDED HARDWOOD BARK. NATURAL IN COLOR. LEAVE 3" CIRCLE OF BARE SOIL AT BASE OF TREE TRUNK TO EXPOSE ROOT FLARE.

PLANTING MIXTURE:
AMEND SOILS PER SITE CONDITIONS AND REQUIREMENTS OF THE PLANT MATERIAL.

MOUND EARTH TO FORM SAUCER

REMOVE COLLAR OF ALL FIBER POTS. POTS SHALL BE CUT TO PROVIDE FOR ROOT GROWTH. REMOVE ALL NONORGANIC CONTAINERS COMPLETELY.



SHRUBS PLANTED IN BEDS SHALL HAVE ENTIRE BED MASS EXCAVATED AND BACKFILLED WITH APPROVED PLANT MIX. PLANTS SHALL NOT BE INSTALLED IN INDIVIDUAL HOLES.

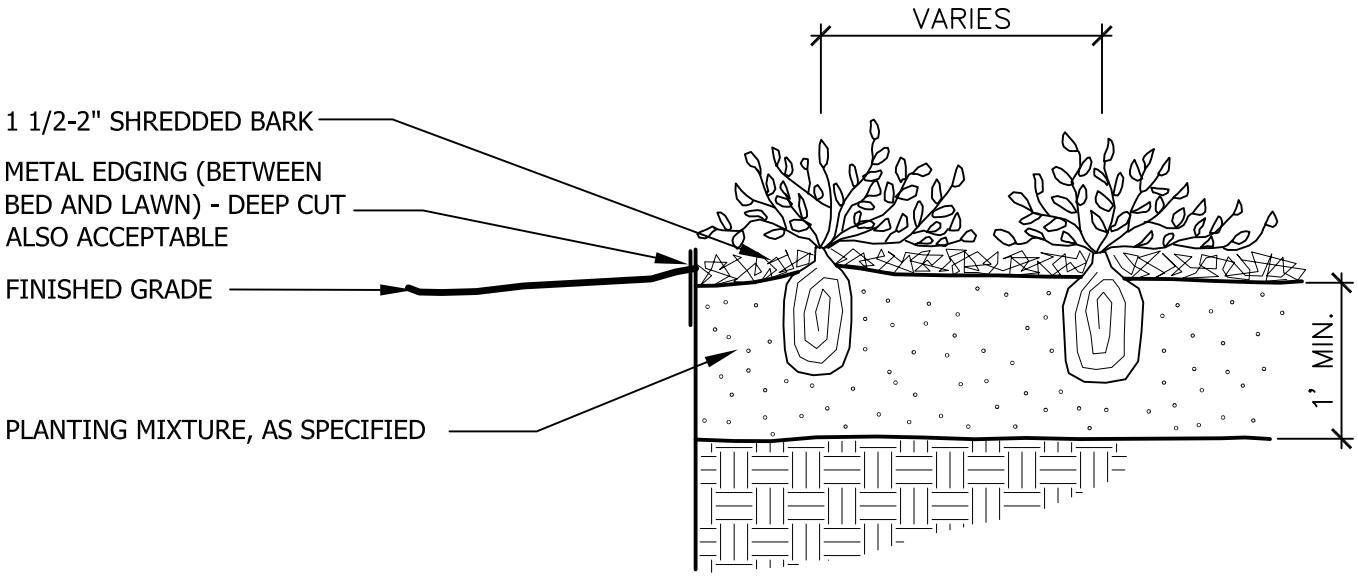
REMOVE ALL NON-BIODEGRADABLE MATERIALS COMPLETELY FROM THE ROOTBALL. CUT AND REMOVE WIRE BASKET AND BURLAP FROM TOP HALF OF THE ROOTBALL.

SCARIFY PLANTING PIT SIDES. RECOMPACT BASE OF TO 4" DEPTH.

SHRUB PLANTING DETAIL

NOT TO SCALE

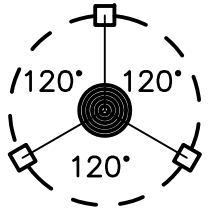
2-15-2016

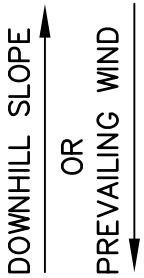


PERENNIAL PLANTING DETAIL

Not to scale

2-15-2016





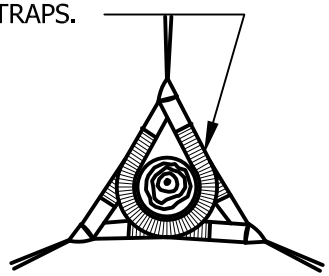
NOTE:

ORIENT STAKING/GUYING TO PREVAILING WINDS, EXCEPT ON SLOPES GREATER THAN 3:1 ORIENT TO SLOPE.

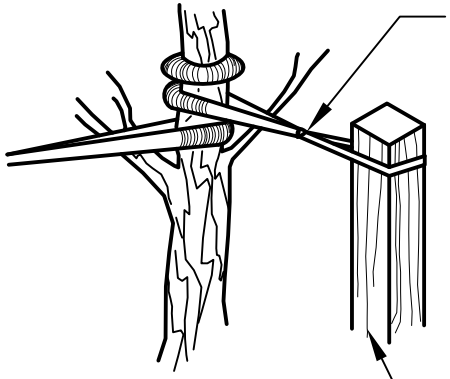
USE SAME STAKING/GUYING ORIENTATION FOR ALL PLANTS WITHIN EACH GROUPING OR AREA

STAKING/GUYING LOCATION

2"-3" WIDE BELT-LIKE NYLON OR PLASTIC STRAPS.



GUYING DETAIL

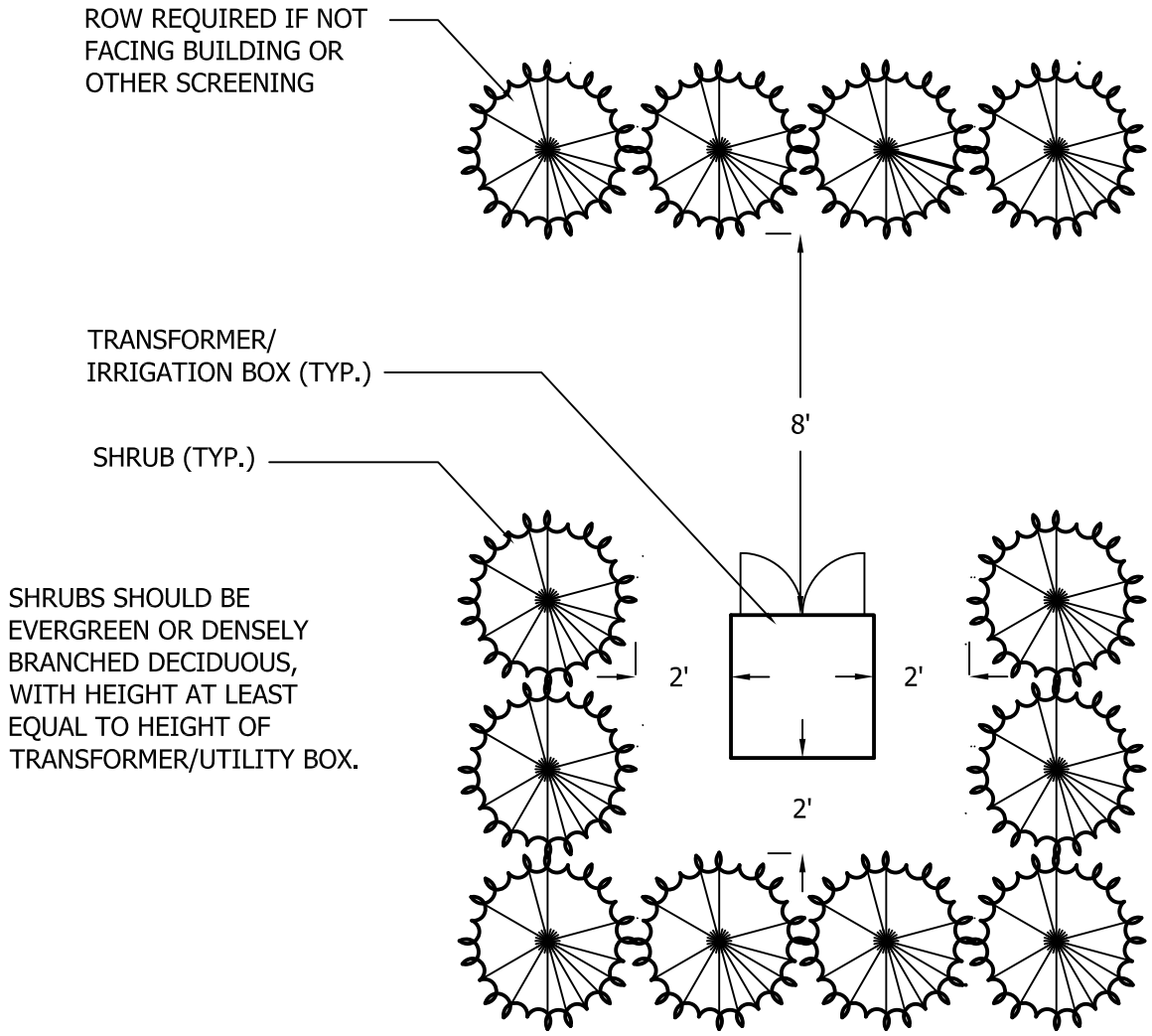


STAKING DETAIL

TREE STAKING DETAIL

Not to scale

2-15-2016



TRANSFORMER SCREENING DETAIL

Not to scale

2-15-2016

PART IV : APPROVED STREET TREE SPECIES LIST

Scientific Name	Common Name	Native to MI?	Suitable for Overhead Utilities?	Tolerates Wet Sites?	Drought Tolerant?	Salt Tolerant?	Surface Roots?	Fall Leaf Color	Flower Type	Fruit Type	Species Density in Novi	Mature Height	Growth Rate
LARGE DECIDUOUS TREES - Mature Height Greater Than 40 Feet													
Acer rubrum	Red Maple	X					X	Yellow- Red	Small/red-petaled clusters	Winged seeds	9.49%	40-60'	Fast
Acer saccharum	Sugar Maple	X						Yellow - Red	Small/pale yellow clusters	Winged seeds	5.91%	60-75'	Moderate
Acer x freemanii	Autumn Blaze Maple	X			X	Moderate		Orange - Red	Inconspicuous/Clusters	Winged seeds	4.19%	40-60'	Fast
Betula papyrifera	Paper Birch	X				X		Yellow	Inconspicuous/Catkins	Cone-like clusters	0.13%	50-70'	Fast
Carya cordiformis	Bitternut Hickory	X						Yellow - Brown	Small/Green catkins	Large, pear-shaped nuts	< 0.01%	50-70'	Slow
Carya glabra	Pignut Hickory	X			Moderate			Golden brown	Small/Green catkins	Large, pear-shaped nuts	0.15%	60-100'	Slow
Carya ovata	Shagbark Hickory	X			X			Golden brown	Small/Green catkins	Large, rounded nuts	0.13%	60-80'	Slow
Celtis occidentalis	Hackberry	X			X	Moderate	X	Yellow	Inconspicuous/Clusters	Small, fleshy drupes	0.59%	40-60'	Fast
Cercidiphyllum japonicum	Katsuratree					Moderate	X	Yellow	Small/red-petaled clusters	Small pods	0.50%	40-60'	Moderate
Cladrastis lutea	Yellowwood				Moderate	Moderate	X	Yellow	Long/White catkins/Fragrant	Large pods	0.18%	30-50'	Moderate
Diospyros virginiana	Persimmon				X			Yellow - Red	Small/white/fragrant	Large, orange berry	< 0.01%	30-60'	Slow
Eucommia ulmoides	Hardy Rubbertree				X	Moderate		No color change	Inconspicuous	Waxy, winged capsule	0.13%	40-60'	Moderate
Fagus grandifolia	American Beech	X					X	Golden bronze	Inconspicuous/Clusters	Small nuts in prickly husk	0.05%	50-70'	Slow
Fagus sylvatica	European Beech							Bronze	Inconspicuous/Clusters	Small nuts in prickly husk	0.03%	50-60'	Slow
Ginkgo biloba	Ginkgo				X	X		Gold	Inconspicuous	Fleshy with strong odor	1.26%	50-80'	Slow
Gleditsia triacanthos inermis	Thornless Honeylocust	X			X	X	X	Gold	Inconspicuous/Spikes	Large brown pods	5.05%	30-70'	Fast
Gymnocladus dioicus	Kentucky Coffeetree	X			X	X		Yellow	Long/White clusters	Large leathery pods	0.27%	60-75'	Slow
Juglans nigra	Black Walnut	X			Moderate		X	Yellow	Inconspicuous/Clusters	Large nut in green husk	1.39%	50-75'	Moderate
Liquidambar styraciflua	Sweetgum			X	X	X	X	Red - Purple	Inconspicuous/Spikes	Round, spiky capsules	2.97%	60-75'	Moderate
Liriodendron tulipifera	Tuliptree	X					X	Gold	Yellow/Tulip-like	Cluster of winged seeds	2.94%	70-90'	Fast
Nyssa sylvatica	Blackgum	X			Moderate	Moderate		Red	Long/White clusters	Small, purple drupes	0.36%	30-50'	Slow
Platanus occidentalis	American Sycamore	X			X		X	Brown	Dense clusters on stalks	Dense ball of seeds	0.03%	75-100'	Fast
Prunus serotina	Black Cherry	X			Moderate	X		Yellow - Orange	Small/White clusters	Small, purple cherries	1.09%	50-60'	Fast
Quercus alba	White Oak	X			X			Red	Green catkins	Small acorns	0.48%	50-80'	Slow
Quercus bicolor	Swamp White Oak	X		X	X	Moderate		Gold - Orange	Green catkins	Small acorns	1.98%	50-60'	Moderate
Quercus coccinea	Scarlet Oak				Moderate	X		Red	Green catkins	Small acorns	0.03%	40-75'	Moderate
Quercus ellipsoidalis	Hill's Oak	X			X			Red	Green catkins	Small acorns	0.06%	40-75'	Moderate
Quercus imbricaria	Shingle Oak	X			X			Yellow - Brown	Green catkins	Small acorns	0.18%	50-60'	Slow
Quercus macrocarpa	Bur Oak	X			X	Moderate		Yellow - Brown	Green catkins	Large, fringed acorns	0.59%	70-80'	Slow
Quercus muehlenbergii	Chinkapin Oak	X			X			Yellow - Orange	Green catkins	Small acorns	0.03%	50-80'	Slow
Quercus palustris	Pin Oak	X		X			X	Red - Brown	Green catkins	Small acorns	0.56%	60-70'	Fast
Quercus rubra	Red Oak	X			X	Moderate	X	Red	Green catkins	Small acorns	2.89%	60-75'	Moderate
Quercus shumardii	Shumard Oak	X			X	X		Red	Green catkins	Small acorns	0.02%	40-60'	Moderate
Quercus velutina	Black Oak	X			X			Yellow	Green catkins	Small acorns	0.15%	50-60'	Moderate
Tilia americana	American Basswood	X			Moderate			Yellow	Yellow clusters/Fragrant	Small nuts	1.27%	60-80'	Moderate
Tilia cordata	Little Leaf Linden				X	Moderate	X	Yellow	Yellow clusters/Fragrant	Small nuts	4.89%	60-70'	Moderate
Tilia tomentosa	Silver Linden					X	X	Yellow	Yellow clusters/Fragrant	Small, egg-shaped nuts	1.02%	50-70'	Moderate
Ulmus parvifolia	Chinese Elm				X	X	X	Yellow - Red	Inconspicuous	Winged seeds	3.31%	50-70'	Fast
Ulmus spp.	Hybrid Elm	X			Moderate	Moderate	X	Yellow	Inconspicuous	Winged seeds	1.65%	40-60'	Fast
Zelkova serrata	Zelkova				X	X		Orange - Red	Inconspicuous	Small drupe	2.30%	50-80'	Fast

Scientific Name	Common Name	Native to MI?	Suitable for Overhead Utilities?	Tolerates Wet Sites?	Drought Tolerant?	Salt Tolerant?	Surface Roots?	Fall Leaf Color	Flower Type	Fruit Type	Species Density in Novi	Mature Height	Growth Rate
MEDIUM DECIDUOUS TREES - Mature Height Between 25-40 Feet													
Acer campestre	Hedge Maple		X		X			Light yellow	Inconspicuous/Green clusters	Small winged seeds	1.69%	25-35'	Moderate
Aesculus hippocastanum	Horsechestnut							Yellow	White or red upright clusters	Seed in a prickly husk	1.13%	30-40'	Moderate
Betula nigra	River Birch			X		Moderate		Yellow	Inconspicuous/Catkins	Cone-like clusters	0.34%	25-40'	Fast
Carpinus betulus 'Fastigiata'	European Hornbeam		X		X			Yellow	Inconspicuous/Catkins	Nuts in dangling clusters	0.09%	30-40'	Slow
Catalpa bignonioides	Eastern Catalpa				X			No fall color	White upright clusters	Long pods	0.04%	30-40'	Moderate
Cornus florida	Flowering Dogwood	X	X					Red	White or red petals	Bright red and berry-like	0.19%	20-40'	Slow
Koelreuteria paniculata	Golden Rain Tree				X			Yellow	Yellow upright clusters	Seeds in yellow capsules	0.04%	25-40'	Moderate
Magnolia spp.	Magnolia		X					Yellow	Varies by cultivar	Pink aggregate structure releases seeds	0.03%	Varies by cultivar	Moderate
Ostrya virginiana	Ironwood	X			X			Yellow	Inconspicuous/Catkins	Hops-like clusters	0.06%	25-40'	Slow
SMALL DECIDUOUS TREES - Mature Height Less Than 30 Feet													
Acer ginnala	Amur Maple		X		X			Yellow - Red	Small/White clusters/Fragrant	Winged seeds	0.29%	15-20'	Moderate
Acer griseum	Paperbark Maple		X		Moderate	Moderate		Bronze - Red	Inconspicuous	Winged seeds	0.08%	20-30'	Slow
Acer palmatum	Japanese Maple		X					Yellow - Red	Small/Red clusters	Winged seeds	0.02%	15-25'	Slow
Acer spicatum	Mountain Maple	X	X					Yellow - Red	Inconspicuous/Clusters	Winged seeds	0.04%	15-25'	Moderate
Amelanchier spp.	Serviceberry	X	X	X				Orange - Red	White clusters	Red and berry-like	0.93%	10-20'	Moderate
Carpinus caroliniana	American Hornbeam	X	X	X	Moderate			Yellow - Orange	Inconspicuous/Catkins	Yellow clusters contain nuts	0.14%	20-30'	Slow
Cercis canadensis	Eastern Redbud	X	X				X	Yellow	Small/Pink clusters	Small brown pods	0.30%	20-30'	Moderate
Chioanthus retusus	Chinese Fringe Tree		X					Yellow	White upright clusters/Fragrant	Blue and berry-like	0.02%	15-25'	Slow
Cornus kousa	Kousa Dogwood		X		Moderate			Red - Purple	Large/White petals	Large, red and berry-like	0.14%	20-30'	Slow
Cotinus coggyria	Common Smoketree		X		Moderate			Red - Purple	Stalks covered in fine hairs	Stalks covered in fine hairs	0.04%	20-30'	Slow
Crataegus crus-galli inermis	Cockspur Hawthorn	X	X		X			Red - Purple	Small/White clusters/Odor	Large, red and berry-like	0.56%	20-30'	Moderate
Malus spp.	Flowering Crabapple		X					Yellow - Red	Pink or white clusters/Fragrant	Large, green and apple-like	3.40%	15-25'	Moderate
Sassafras albidum	Sassafras	X			X			Yellow- Red	Yellow clusters	Blue and berry-like	0.05%	20-30'	Moderate
Syringa reticulata	Japanese Tree Lilac		X			X		Yellow	Large/White clusters	Small brown capsules	1.73%	20-30'	Moderate

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replace-ment?	Street Tree Class	Growing Conditions	Nursery Type
DECIDUOUS CANOPY TREES								
Acer nigrum	Black Maple	DC	SU/Fall	NOC	YES		SS	SP
Acer nigrum 'Greencolumn'	Black Maple	DC	SU/Fall	~	YES	SC	SS	CO
Acer platanoides	Norway Maple	DC	SU/Fall	EX	NO		SU	CO
Acer pseudoplatanus	Sycamore Maple	DC	SU/Fall	EX	NO		SU	CO
Acer rubrum	Red Maple	DC	SU/Fall	NOC	YES	RC	SU	CO
Acer rubrum 'Bowhall'	Bowhall Red Maple	DC	SU/Fall	~	YES	RC	SU	CO
Acer rubrum 'Franksred'	Red Sunset Red Maple	DC	SU/Fall	~	YES	RC	SU	CO
Acer rubrum tomentosum	Red Maple	DC	SU/Fall	~	YES		SU	SP
Acer rubrum trilobum	Red Maple	DC	SP/SU/FA	~	YES		SU	SP
Acer saccharum	Sugar Maple	DC	SU/Fall	NOC	YES		SU	CO
Acer saccharum 'Commemoration'	Sugar Maple	DC	SU/Fall	~	YES	RC	SU	CO
Acer saccharum 'Green Mountain'	Sugar Maple	DC	SU/Fall	~	YES	RC	SU	CO
Aesculus glabra	Ohio Buckeye	DC	SU/Fall	NOC	YES		SH	CO
Aesculus hippocastanum	Horsechestnut	DC	Spring/SU	EX	NO	SC	SS	SP
Betula alleghaniensis	Yellow Birch	DC	SU/Winter	NOC	YES	PR	WT	SP
Betula nigra	River Birch	DC	SU/Winter	NU	NO		WT	CO
Betula papyrifera	Canoe Birch	DC	SU/Winter	NOC	YES		SU	CO
Carya cordiformis	Bitternut Hickory	DC	SU/Fall	NOC	YES		SU	SP
Carya glabra	Pignut Hickory	DC	SU/Fall	NOC	YES		SU	SP
Carya laciniosa	Big Shellbark Hickory	DC	SU/Fall	NOC	YES		SU	SP
Carya ovata	Shagbark Hickory	DC	SU/Winter	NOC	YES		SU	SP
Celtis occidentalis	Hackberry	DC	Summer	NOC	YES	RC	SU	CO
Cladrastis lutea	Yellowwood	DC	Spring/SU	NU	NO	SC	SU	CO
Fagus grandifolia	American Beech	DC	SU/Winter	NOC	YES		SH	CO
Fagus sylvatica	European Beech	DC	SU/Winter	EX	NO		SU	CO
Ginkgo biloba (male)	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
Ginkgo biloba 'Autumn Gold'	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
Ginkgo biloba 'Magyar'	Ginkgo	DC	Summer	EX	NO	RC	SU	CO
Gleditsia triacanthos	Honeylocust	DC	Summer	NOC	YES		SU	SP
Gleditsia triacanthos inermis	Thornless Honeylocust	DC	Summer	~	YES	RC	SU	CO
Gleditsia triacanthos 'Skyline'	Honeylocust	DC	Summer	~	YES	RC	SU	CO
Gymnocladus dioicus	Kentucky Coffeetree	DC	SU/Winter	NS	YES	SC	SS	CO
Juglans cinerea	Butternut	DC	Summer	NOC	YES		SU	CO
Juglans nigra	Black Walnut	DC	Summer	NOC	YES		SU	SP
Liquidambar styraciflua	Sweetgum	DC	SU/Fall	NU	NO		SU	CO
Liriodendron tulipifera	Tuliptree	DC	SU/Fall	NOC	YES	RC	SS	CO
Nyssa sylvatica	Tupelo	DC	SU/Fall	NOC	YES	SC	SU	CO
Platanus acerifolia 'Columbia'	Columbia Planetree	DC	Summer	EX	NO	SC	SS	CO
Platanus occidentalis	American Sycamore	DC	Summer	NOC	YES	SC	SS	SP
Prunus serotina	Black Cherry	DC	Fall	NOC	YES		SU	SP
Quercus alba	White Oak	DC	Summer	NOC	YES		SU	CO
Quercus bicolor	Swamp White Oak	DC	Summer	NOC	YES	RC	SU	SP
Quercus coccinea	Scarlet Oak	DC	Summer	NOC	YES		SU	SP
Quercus ellipsoidalis	Hill's Oak	DC	SU/Fall	NS	YES		SU	SP
Quercus imbricaria	Shingle Oak	DC	Summer	NS	YES		SU	SP
Quercus macrocarpa	Bur Oak	DC	Summer	NOC	YES	RC	SU	CO
Quercus muehlenbergii	Chinkapin Oak	DC	Summer	NOC	YES		SU	SP
Quercus prinus	Chestnut Oak	DC	Summer	NU	NO		SU	SP
Quercus robur	English Oak	DC	Summer	EX	NO	SC	SU	CO
Quercus robur 'Skymaster'	English Oak	DC	SU/Fall	EX	NO	SC	SU	CO
Quercus rubra	Red Oak	DC	Summer	NOC	YES	RC	SU	CO
Quercus velutina	Black Oak	DC	Summer	NOC	YES		SU	SP
Sophora japonica	Pagoda Tree	DC	Spring/SU	EX	NO	RC	SU	SP
Tilia americana	American Basswood	DC	Summer	NOC	YES	RC	SS	CO
Tilia cordata	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
Tilia cordata 'Chancellor'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
Tilia cordata 'Corzam'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
Tilia cordata 'Greenspire'	Little Leaf Linden	DC	Summer	EX	NO	RC	SU	CO
Tilia platyphyllos	Large-leaf Linden	DC	SU/Fall	EX	NO	RC	SU	
Tilia tomentosa	Silver Linden	DC	Summer	EX	NO	RC	SU	CO

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replace-ment?	Street Tree Class	Growing Conditions	Nursery Type
Tilia x euchlora 'Laurelhurst'	Crimean Linden	DC	Summer	EX	NO		SU	
Zelkova serrata	Zelkova	DC	Summer	EX	NO	SC	SU	CO
CONIFEROUS TREES - see Section 37-8 for woodland replacement ratio								
Abies balsamea	Balsam Fir	LE	Winter	NU	YES	PR	SS	CO
Abies concolor	Concolor Fir	LE	Winter	NU	NO	PR	SU	CO
Larix laricina	Tamarack	LE	Fall	NOC	YES		WT	SP
Metasequoia glyptostroboides	Dawn Redwood	LE	SU/Fall	EX	NO		SU	CO
Picea abies	Norway Spruce	LE	Winter	EX	NO	PR	SU	CO
Picea pungens	Colorado Spruce	LE	Winter	NU	NO	PR	SU	CO
Picea glauca	White Spruce	LE	Winter	NS	YES	PR	SU	CO
Picea mariana	Black Spruce	LE	Winter	NOC	YES	PR	SU	SP
Picea omorika	Serbian Spruce	LE	Winter	EX	NO	PR	SU	CO
Pinus nigra	Austrian Pine	LE	Winter	EX	NO	PR	SU	CO
Pinus resinosa	Red Pine	LE	Winter	NU	YES	PR	SU	CO
Pinus strobus	White Pine	LE	Winter	NOC	YES	PR	SU	CO
Pinus sylvestris	Scotch Pine	LE	Winter	EX	NO	PR	SU	CO
Pseudotsuga menziesii	Douglas Fir	LE	Winter	NU	NO	PR	SS	CO
Taxodium distichum	Bald Cypress	LE	SU/Winter	NU	NO		WT	CO
Tsuga canadensis	Canada Hemlock	LE	Winter	NOC	YES	PR	SS	CO
UPRIGHT EVERGREENS - see Section 37-8 for woodland replacement ratios								
Juniperus virginiana	Eastern Red Cedar	UE	Winter	NOC	YES	~	SU	CO
Thuja occidentalis	Arborvitae	UE	Winter	NOC	YES	~	SS	CO
DECIDUOUS SUBCANOPY TREES - see Section 37.8 for woodland replacement ratios								
Acer campestre	Hedge Maple	DS	Summer	EX	NO	SC	SU	CO
Acer campestre 'Queen Elizabeth'	Hedge Maple	DS	Fall	EX	NO	UO	SU	CO
Acer ginnala	Amur Maple	DS	Fall	EX	NO		SU	CO
Acer griseum	Paperbark Maple	DS	Winter	EX	NO	SC	SU	CO
Acer pensylvanicum	Striped Maple	DS	Fall	NU	YES		SH	SP
Acer spicatum	Mountain Maple	DS	Fall	NOC	YES		SH	SP
Alnus rugosa	Speckled Alder	DS	Fall	NOC	YES	PR	WT	SP
Amelanchier xAutumn Brilliance	Serviceberry	DS	Spring	~	YES	UO	SS	CO
Asimina triloba	Paw Paw	DS	Fall	NOC	YES	PR	SH	SP
Carpinus betulus	European Hornbeam	DS	Winter	EX	NO	UO	SS	CO
Carpinus caroliniana	American Hornbeam	DS	Summer	NOC	YES		SS	CO
Cercis canadensis	Eastern Redbud	DS	Spring	NS	YES		SS	CP
Chionanthus virginicus	Fringetree	DS	Spring	NU	NO		SU	CO
Cornus alternifolia	Alternate-Leaved Dogwood	DS	Summer	NOC	YES	~	SS	CO
Cornus florida	Flowering Dogwood	DS	Spring	NOC	YES	PR	SS	CO
Cornus kousa	Japanese Dogwood	DS	Spring	EX	NO	UO	SS	CO
Cornus mas	Corneliancherry Dogwood	DS	Spring	EX	NO	UO	SS	CO
Crataegus crus-galli inermis	Cockspur Hawthorn	DS	Winter	~	YES	UO		CO
Crataegus phaenopyrum	Washington Hawthorn	DS	Winter	NU	NO	SC		CO
Koelreuteria paniculata	Golden-Rain Tree	DS		EX	NO	SC		CO
Magnolia stellata	Star Magnolia	DS	Spring	NU	NO			CO
Malus hybrids	Flowering Crabapple	DS	Spring	~	NO	UO	SU	CO
Ostrya virginiana	Hophornbeam	DS	Summer	NOC	YES		SS	CO
Ptelea trifoliata	Wafer-Ash	DS	Fall	NOC	YES	SC	SU	SP
LARGE SHRUBS - see Section 37-8 for woodland replacement ratio								
Amelanchier alnifolia	Saskatoon Serviceberry	SL	Spring	NU	NO	~	SS	SP
Amelanchier arborea	Juneberry	SL	Spring	NOC	YES	~	SS	SP
Amelanchier canadensis	Shadblow	SL/DS	Spring	NU	NO	~	SS	CO
Amelanchier laevis	Shadbush	SL/DS	Spring	NOC	YES	~	SS	CO
Aronia melanocarpa (prunifolia)	Black Chokecherry	SS	Summer	NOC	YES	~	SS	CO
Betula pumila	Dwarf Birch	SL	Winter	NOC	YES	~	SU	SP
Calycanthus floridus	Strawberry-Shrub	SL	Summer	NU	NO	~	SS	CO
Cephalanthus occidentalis	Buttonbush	SL	Summer	NOC	YES	~	WT	CO
Cornus amomum	Silky Dogwood	SL	Summer	NOC	YES	~	SS	CO
Cornus foemina	Gray Dogwood	SL	Spring	NOC	YES	~	SS	SP
Cornus rugosa	Round-Leaved Dogwood	SL	Summer	NOC	YES	~	SS	SP

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replace-ment?	Street Tree Class	Growing Conditions	Nursery Type
Cornus stolonifera	Red Osier Dogwood	SL	Winter	NOC	YES	~	SS	CO
Corylus americana	American Hazelnut	SL	Fall	NOC	YES	~	SS	CO
Corylus cornuta	Beaked Hazelnut	SL	Spring	NS	YES	~	SS	SP
Euonymus alatus	Burning Bush	SL	Fall	EX	NO	~	SS	CO
Fothergilla major	Large Fothergilla	SL	Spring	NU	NO	~	SS	CO
Hamamelis vernalis	Vernal Witchhazel	SL	Spring	NU	NO	~	SS	CO
Hamamelis virginiana	Witch-Hazel	SL	Winter	NOC	YES	~	SS	CO
Hibiscus syriacus	Rose-Of-Sharon	SL	Summer	EX	NO	~	SS	CO
Ilex opaca	American Holly	SL	Winter	NOC	NO	~	SS	CO
Ilex verticillata	Winterberry	SL	Fall	NOC	YES	~	SS	CO
Itea virginica	Virginia Willow	SL	Summer	NU	NO	~	SS	CO
Lindera benzoin	Spicebush	SL	Fall	NOC	YES	~	SS	CO
Physocarpus opulifolius	Common Ninebark	SL	Summer	NOC	YES	~	WT	CO
Rhus copallina	Dwarf Sumac	SL	Summer	NOC	YES	~	SU	SP
Rhus glabra	Smooth Sumac	SL	Summer	NOC	YES	~	SU	CO
Rhus typhina	Staghorn Sumac	SL	Summer	NOC	YES	~	SU	CO
Salix discolor	Pussy Willow	SL	Spring	NOC	YES	~	WT	CO
Sambucus canadensis	Common Elder	SL	Summer	NOC	YES	~	SU	CO
Sambucus racemosa (pubens)	Red-Berried Elder	SL	Winter	NOC	YES	~	SU	CO
Staphylea trifolia	Bladdernut	SL	Winter	NOC	YES		SH	SP
Syringa vulgaris	Lilac	SL	Spring	EX	NO	~	SU	CO
Viburnum dentatum	Arrowwood	SL	Spring	NOC	YES	~	SS	CO
Viburnum lantana	Wayfaring Tree	SL	Spring	EX	NO	~	SU	CO
Viburnum lentago	Nannyberry	SL	Spring	NOC	YES	~	SS	CO
Viburnum opulus	European High-Bush Cranberry	SL	Spring	EX	NO	~	SU	CO
Viburnum prunifolium	Black Haw	SL	Winter	NS	YES	~	SS	CO
Viburnum rafinesquianum	Downy Arrowwood	SL	Spring	NOC	YES	~	SS	SP
Viburnum trilobum	High-Bush Cranberry	SL	Spring	NOC	YES	~	SS	CO
SMALL SHRUBS - see Section 37-8 for woodland replacement ratios								
Arctostaphylos uva-ursi	Bearberry	SS	Summer	NU	NO	~	SU	CO
Aronia melanocarpa (prunifolia)	Black Chokecherry	SS	Summer	NOC	YES	~	SS	CO
Berberis thunbergii	Japanese Barberry	SS	Winter	EX	NO	~	SS	CO
Chaenomeles japonica	Japanese Quince	SS	Spring	EX	NO	~	SU	CO
Comptonia peregrina	Sweet Fern	SS	Summer	NOC	YES	~	SS	CO
Euonymus fortunei	Climbing Euonymus	SS	Winter	EX	NO	~	SS	CO
Euonymus kiautschovicus	Climbing Euonymus	SS	Winter	EX	NO	~	SS	CO
Euonymus obovatus	Running Strawberry Bush	SS	Winter	NOC	YES	~	SS	SP
Fothergilla gardenii	Dwarf Fothergilla	SS	Spring	NU	NO	~	SS	CO
Ilex glabra	Inkberry	SS	Winter	NU	NO	~	SS	CO
Juniperus communis	Common Juniper	SS	Winter	NOC	YES	~	SU	CO
Juniperus horizontalis	Trailing Juniper	SS	Winter	NU	NO	~	SU	CO
Potentilla fruticosa	Bush Cinquefoil	SS	Summer	NOC	YES	~	SS	CO
Rhus aromatica	Fragrant Sumac	SS	Summer	NOC	YES	~	SU	CO
Taxus canadensis	Canada Yew	SS	Winter	NOC	YES	~	SH	SP
Viburnum acerifolium	Maple-Leaved Arrowwood	SS	Spring	NOC	YES	~	SS	SP
HERBACEOUS PLANTS - see Section 37-8 for woodland replacement ratios								
Acorus calamus	Sweet-Flag	PG	Spring	NOC	YES	~	WT	SP
Actaea pachypoda	White Baneberry	PG	Summer	NOC	YES	~	SH	SP
Actaea rubra	Red Baneberry	PG	Summer	NOC	YES	~	SH	SP
Adiantum pedatum	Maidenhair Fern	PG	Summer	NOC	YES	~	SH	SP
Aegopodium podagraria	Bishop's Weed	PG	Summer	EX	NO	~	SH	CO
Agastache nepetoides	Yellow Giant Hyssop	PG	Summer	NOC	YES	~	SS	SP
Agrimonia gryposepala	Tall Agrimony	PG	Summer	NOC	YES	~	SH	SP
Agrimonia parviflora	Swamp Agrimony	PG	Summer	NOC	YES	~	SS	SP
Ajuga reptans	Bugleweed	PG	Summer	EX	NO	~	SS	CO
Alcea rosea	Hollyhock	PG	Summer	EX	NO	~	SU	CP
Allium cernuum	Nodding Wild Onion	PG	Summer	NS	YES	~	SS	CO
Allium schoenoprasum	Chives	PG	Summer	NU	YES	~	SU	CO
Allium tricoccum	Wild Leek	PG	Spring	NOC	YES	~	SH	UN
Amorpha canescens	Lead Plant	PG	Summer	NU	YES	~	SU	UN
Amphicarpaea bracteata	Hog Peanut	PG	Summer	NOC	YES	~	SS	SP

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Woodland Replace-ment?	Street Tree Class	Growing Conditions	Nursery Type
Amsonia tabernaemontana	Blue Star	PG	Summer	NU	NO	~	SS	CO
Andropogon gerardii	Big Bluestem	PG	Summer	NOC	YES	~	SU	SP
Andropogon scoparius	Little Bluestem	PG	Summer	NOC	YES	~	SU	SP
Andropogon virginicus	Broom Sedge	PG	Summer	NS	YES	~	SU	SP
Anemone canadensis	Meadow Anemone	PG	Spring	NS	YES	~	SU	SP
Anemone cylindrica	Prairie Thimbleweed	PG	Spring	NOC	YES	~	SS	SP
Anemone patens	Pasque Flower	PG	Spring	NU	NO	~	SU	UN
Anemone virginiana	Thimbleweed	PG	Summer	NOC	YES	~	SH	SP
Anemonella thalictroides	Rue Anemone	PG	Spring	NOC	YES	~	SH	SP
Angelica atropurpurea	Great Angelica	PG	Spring	NS	YES	~	SU	SP
Apocynum androsaemifolium	Spreading Dogbane	PG	Spring	NOC	YES	~	SS	SP
Aquilegia canadensis	Wild Columbine	PG	Spring	NOC	YES	~	SH	CP
Arisaema triphyllum	Jack-In-The-Pulpit	PG	Summer	NOC	YES	~	SH	CO
Aruncus dioicus	Goat's-Beard	PG	Summer	NU	NO	~	SS	CO
Asarum canadense	Wild Ginger	PG	Spring	NOC	YES	~	SH	CO
Asclepias exaltata	Poke Milkweed	PG	Summer	NOC	YES	~	SH	SP
Asclepias incarnata	Swamp Milkweed	PG	Summer	NOC	YES	~	WT	CO
Asclepias syriaca	Common Milkweed	PG	Summer	NOC	YES	~	SU	SP
Asclepias tuberosa	Butterfly Weed	PG	Summer	NOC	YES	~	SU	CO
Asclepias verticillata	Horsetail Milkweed	PG	Summer	NOC	YES	~	SU	SP
Aster cordifolius	Heart-Leaved Aster	PG	Fall	NOC	YES	~	SH	SP
Aster ericoides	Heath Aster	PG	Fall	NOC	YES	~	SU	SP
Aster laevis	Smooth Aster	PG	Fall	NOC	YES	~	SU	SP
Aster macrophyllus	Big-Leaved Aster	PG	Fall	NOC	YES	~	SH	UN
Aster novae-angliae	New England Aster	PG	Fall	NOC	YES	~	SS	CO
Aster novi-belgii	New Belgium Aster	PG	Fall	NU	NO	~	SU	CO
Aster oolentangiensis	Sky Blue Aster	PG	Fall	NOC	YES	~	SU	SP
Aster pilosus	Hairy Aster	PG	Fall	NOC	YES	~	SU	SP
Aster sagittifolius	Arrow Aster	PG	Fall	NOC	YES	~	SS	SP
Aster sericeus	Silky Aster	PG	Fall	NU	YES	~	SU	SP
Aster umbellatus	Flattop Aster	PG	Fall	NOC	YES	~	SU	SP
Athyrium filix-femina	Lady Fern	PG	Summer	NOC	YES	~	SH	CO
Aureolaria pedicularia	Annual False Foxglove	PG	Summer	NOC	YES	~	SS	SP
Baptisia australis	Blue Wild Indigo	PG	Summer	NU	NO	~	SU	CO
Baptisia leucophaea	Cream Wild Indigo	PG	Summer	NU	YES	~	SU	SP
Bouteloua curtipendula	Sideoats Grama	PG	Summer	NOC	YES		SU	SP
Bromus latiglumis	Vibrant Shade Grass	PG	Summer	NOC	YES		SH	SP
Calamagrostis canadensis	Blue Joint Grass	PG	Summer	NOC	YES		WT	SP
Calla palustris	Water Arum	PG	Spring	NOC	YES	~	WT	CO
Calopogon tuberosus	Grass Pink Orchid	PG	Spring	NOC	YES	~	WT	SP
Caltha palustris	Marsh-marigold	PG	Spring	NOC	YES	~	WT	SP
Campanula glomerata	Clustered Bellflower	PG	Spring	EX	NO	~	SS	CO
Campanula rotundifolia	Bellflower	PG	Spring	NOC	YES	~	SS	SP
Carex sp.	Sedges	PG	Spring	~			WT	SP
Caulophyllum thalictroides	Blue Cohosh	PG	Summer	NOC	YES	~	SH	SP
Ceanothus americanus	New Jersey Tea	PG	Fall	NOC	YES	~	SU	CO
Chasmanthium latifolium	Sea Oats	PG	Summer	NU	YES	~	WT	CO
Chelone glabra	Turtlehead	PG	Fall	NOC	YES	~	SU	CO
Cimicifuga racemosa	Black Cohosh	PG	Fall	NS	NO	~	SH	CO
Cinna arundinacea	Common Wood Reed	PG	Summer	NOC	YES	~	WT	SP
Cirsium discolor	Pasture Thistle	PG	Summer	NOC	YES		SU	SP
Collinsonia canadensis	Citronella Horse Balm	PG	Summer	NOC	YES	~	SH	SP
Convallaria majalis	Lily Of The Valley	PG	Spring	EX	NO	~	SS	CO
Coreopsis grandiflora	Large-Flowered Coreopsis	PG	Fall	NU	NO	~	SU	CO
Coreopsis lanceolata	Sand Coreopsis	PG	Fall	NS	YES	~	SU	CO
Coreopsis palmata	Prairie Coreopsis	PG	Fall	NU	NO	~	SU	SP
Coreopsis tripteris	Tall Coreopsis	PG	Summer	NU	YES	~	SU	SP
Cornus canadensis	Bunchberry	PG	Fall	NOC	YES	~	SS	CO
Cryptotaenia canadensis	Honewort	PG	Summer	NOC	YES	~	SH	SP
Dennstaedtia punctilobula	Hay-Scented Fern	PG	Summer	NS	NO	~	SU	CO
Desmodium canadense	Showy Tick Trefoil	PG	Summer	NOC	YES	~	SS	SP
Desmodium glutinosum	Pointed-Leaved Tick-Trefoil	PG	Summer	NOC	YES	~	SH	SP
Dianthus deltoides	Maiden Pink	PG	Spring	EX	NO	~	SU	CO

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Dicentra cucullaria	Dutchman's Breeches	PG	Spring	NOC	YES	~	SH	SP
Dicentra eximia	Wild Bleeding Heart	PG	Spring	NU	NO	~	SS	CO
Dodecatheon meadia	Shooting Star	PG	Spring	NS	NO	~	SS	SP
Dryopteris carthusiana	Spinulose Woodfern	PG	Spring	NOC	YES	~	SH	CO
Echinacea pallida	Pale Purple Coneflower	PG	Fall	NU	NO	~	SU	SP
Echinacea purpurea	Purple Coneflower	PG	Summer	NU	NO	~	SS	CO
Echinops sphaerocephalus	Globe Thistle	PG	Summer	EX	NO	~	SU	CO
Elymus canadensis	Canada Wild Rye	PG	Summer	NOC	YES	~	SS	SP
Elymus virginicus	Virginia Wild Rye	PG	Summer	NOC	YES	~	SS	SP
Eragrostis spectabilis	Purple Love Grass	PG	Summer	NOC	YES	~	SU	SP
Eryngium yuccifolium	Rattlesnake Master	PG	Summer	NU	YES	~	SU	SP
Erythroniuim americanum	Yellow Trout Lily	PG	Spring	NOC	YES	~	SH	SP
Eupatorium maculatum	Joe Pye Weed	PG	Summer	NOC	YES	~	SU	CO
Eupatorium perfoliatum	Common Boneset	PG	Summer	NOC	YES	~	WT	CO
Eupatorium purpureum	Sweet-Smelling Joe Pye	PG	Summer	NOC	YES	~	SH	CO
Eupatorium rugosum	White Snakeroot	PG	Summer	NOC	YES	~	SH	CO
Euthamia graminifolia	Grass-Leaved Goldenrod	PG	Fall	NOC	YES	~	SU	SP
Filipendula rubra	Queen Of The Prairie	PG	Spring	NU	NO	~	SU	CO
Gaultheria procumbens	Wintergreen	PG	Winter	NOC	YES	~	SS	CO
Gentiana andrewsii	Closed Gentian	PG	Summer	NOC	YES	~	SU	SP
Geranium maculatum	Wild Geranium	PG	Spring	NOC	YES	~	SH	SP
Geranium sanguineum	Blood-Red Cranesbill	PG	Spring	EX	NO	~	SS	CO
Geum canadense	White Avens	PG	Spring	NOC	YES	~	SH	SP
Geum triflorum	Prairie Smoke	PG	Fall	NU	NO	~	SU	SP
Glyceria striata	Fowl Meadow (Manna) Grass	PG	Summer	NOC	YES	~	SS	WT
Helenium autumnale	Sneezeweed	PG	Summer	NOC	YES	~	SU	CO
Helianthus divaricatus	Woodland Sunflower	PG	Fall	NOC	YES	~	SU	SP
Helianthus occidentalis	Western (Or Naked) Sunflower	PG	Fall	NOC	YES	~	SU	SP
Helianthus strumosus	Pale-Leaved Sunflower	PG	Fall	NOC	YES	~	SU	SP
Heliopsis helianthoides	False Sunflower	PG	Fall	NOC	YES	~	SU	CO
Heracleum maximum	Cow Parsnip	PG	Summer	NOC	YES	~	WT	SP
Hibiscus moscheutos	Swamp Rose Mallow	PG	Spring	NOC	YES	~	SU	CO
Hosta lancifolia	Plantain Lily	PG	Summer	EX	NO	~	SS	CO
Hydrophyllum virginianum	Virginia Waterleaf	PG	Spring	NOC	YES	~	SH	SP
Hystrix patula	Bottlebrush Grass	PG	Summer	NOC	YES	~	SS	SP
Impatiens capensis	Spotted Touch-Me-Not	PG	Summer	NOC	YES	~	SH	SP
Iris germanica	Flag	PG	Spring	EX	NO	~	SU	CO
Iris pumila	Dwarf Iris	PG	Spring	EX	NO	~	SU	CO
Iris versicolor	Wild Blue Flag	PG	Spring	NU	YES	~	WT	CO
Iris virginica	Southern Blue Flag	PG	Spring	NOC	YES	~	WT	CO
Juncus effusus	Common Rush	PG	Spring	NOC	YES	~	WT	SP
Koehleria macrantha	June Grass	PG	Summer	NOC	YES	~	SU	SP
Kuhnia eupatorioides	False Boneset	PG	Summer	NU	NO	~	SU	SP
Lamium maculatum	Spotted Dead Nettle	PG	Summer	EX	NO	~	SU/SH	CO
Leersia oryzoides	Rice Cut Grass	PG	Summer	NOC	YES	~	WT	SP
Lespedeza capitata	Round Headed Bush Clover	PG	Summer	NOC	YES	~	SU	SP
Liatris aspera	Rough Blazing Star	PG	Summer	NOC	YES	~	SU	SP
Liatris cylindracea	Cylindrical Blazing Star	PG	Summer	NOC	YES	~	SU	SP
Liatris spicata	Spiked Blazing Star	PG	Summer	NOC	YES	~	SU	CO
Lilium michiganense	Michigan Lily	PG	Summer	NOC	YES	~	SS	SP
Lilium superbum	Superb Lily	PG	Summer	NU	NO	~	SU	CO
Liriope spicata	Lilyturf	PG	Summer	EX	NO	~	SU/SH	CO
Lobelia cardinalis	Cardinal Flower	PG	Spring	NOC	YES	~	SH	CO
Lobelia siphilitica	Blue Cardinal-Flower	PG	Summer	NOC	YES	~	SU	SP
Lobelia spicata	Pale Spiked Lobelia	PG	Summer	NOC	YES	~	SU	SP
Lycopus americanus	Common Water Horehound	PG	Summer	NOC	YES	~	WT	SP
Lysimachia clethroides	White Loosestrife	PG	Summer	EX	NO	~	WT	CO
Lysimachia nummularia	Moneywort	PG	Fall	EX	NO	~	WT	CO
Lysimachia punctata	Dotted Loosestrife	PG	Summer	EX	NO	~	WT	CO
Matteuccia struthiopteris	Ostrich Fern	PG	Summer	NS	YES	~	SH	CO
Mentha canadensis	Wild Mint	PG	Summer	NOC	YES	~	SU	SP
Mertensia virginica	Virginia Bluebells	PG	Spring	NU	YES	~	SH	CO

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Milium effusum	Millet Grass	PG	Summer	NOC	YES	~	SH	SP
Mimulus ringens	Monkey Flower	PG	Summer	NOC	YES	~	SU	SP
Monarda didyma	Oswego Tea	PG	Summer	NS	NO	~	SU	CO
Monarda fistulosa	Wild Bergamot (Beebalm)	PG	Summer	NOC	YES	~	SS	SP
Oenothera biennis	Common Evening Primrose	PG	Summer	NOC	YES	~	SU	SP
Oenothera fruticosa	Shrubby Sundrops	PG	Summer	NS	NO	~	SU	CO
Oenothera speciosa	Showy Evening Primrose	PG	Summer	NS	NO	~	SU	CO
Onoclea sensibilis	Sensitive Fern	PG	Summer	NOC	YES	~	WT	SP
Osmorhiza claytonii	Hairy Sweet-Cicely	PG	Summer	NOC	YES	~	SH	SP
Osmunda cinnamomea	Cinnamon Fern	PG	Summer	NOC	YES	~	WT	CO
Panicum virgatum	Switch Grass	PG	Summer	NOC	YES	~	SU	CO
Parthenium integrifolium	Wild Quinine	PG	Summer	NU	NO	~	SU	SP
Peltandra virginica	Arrow Arum	PG	Summer	NOC	YES	~	WT	CO
Pennisetum alopecuroides	Fountain grass	PG	Summer	EX	NO	~	SU	CO
Penstemon digitalis	Foxglove Beardtongue	PG	Summer	NOC	YES	~	SS	CO
Penstemon hirsutus	Hairy Beardtongue	PG	Summer	NOC	YES	~	SU	SP
Phlox divaricata	Blue Phlox	PG	Spring	NOC	YES	~	SS	CO
Phlox paniculata	Garden Phlox	PG	Spring	NU	NO	~	SU	CO
Phlox subulata	Moss-Pink	PG	Spring	NU	~	~	SU	CO
Physostegia virginiana	Obedient Plant	PG	Summer	NS	YES	~	SS	CO
Phytolacca americana	Pokeweed	PG	Summer	NOC	YES	~	SH	SP
Podophyllum peltatum	Mayapple	PG	Spring	NOC	YES	~	SH	SP
Polygonatum biflorum	Solomon's Seal	PG	Summer	NOC	YES	~	SH	SP
Polygonum virginianum	Jumpseed	PG	Summer	NOC	YES	~	SH	SP
Polystichum acrostichoides	Christmas Fern	PG	Winter	NOC	YES	~	SH	CO
Pontederia cordata	Pickerel Weed	PG	Summer	NOC	YES	~	WT	SP
Potentilla arguta	Prairie Cinquefoil	PG	Summer	NOC	YES	~	SU	SP
Prenanthes altissima	White Lettuce	PG	Summer	NOC	YES	~	SH	SP
Pycnanthemum virginianum	Mountain Mint	PG	Summer	NOC	YES	~	SU	SP
Ratibida pinnata	Grey-Headed Coneflower	PG	Summer	NS	YES	~	SU	SP
Rudbeckia fulgida	Orange Coneflower	PG	Summer	NOC	YES	~	SU	CO
Rudbeckia hirta	Black-Eyed Susan	PG	Summer	NOC	YES	~	SU	CO
Rudbeckia laciniata	Cut-Leaved Coneflower	PG	Summer	NOC	YES	~	SU	SP
Rudbeckia triloba	Brown-Eyed Susan	PG	Summer	NOC	YES	~	SU	CO
Sagittaria latifolia	Common Arrowhead	PG	Summer	NOC	YES	~	WT	CO
Salvia verticillata	Sage	PG	Summer	EX	NO	~	SU	CO
Sanguinaria canadensis	Bloodroot	PG	Summer	NOC	YES	~	SH	CO
Sanicula marilandica	Black Snakeroot	PG	Summer	NOC	YES	~	SH	SP
Scirpus atrovirens	Dark Green Rush	PG	Summer	NOC	YES	~	WT	SP
Scirpus validus	Great Bulrush	PG	Summer	NOC	YES	~	WT	SP
Silphium terebinthinaceum	Prairie Dock	PG	Summer	NOC	YES	~	SU	SP
Smilacina racemosa	False Solomon's Seal	PG	Summer	NOC	YES	~	SH	SP
Solidago caesia	Blue Stemmed Goldenrod	PG	Summer	NOC	YES	~	SH	SP
Solidago flexicaulis	Zig Zag Goldenrod	PG	Summer	NOC	YES	~	SH	SP
Solidago nemoralis	Gray Goldenrod	PG	Summer	NOC	YES	~	SU	SP
Solidago ohioensis	Ohio Goldenrod	PG	Summer	NOC	YES	~	SS	SP
Solidago riddellii	Riddell's Goldenrod	PG	Summer	NOC	YES	~	SU	SP
Solidago rigida	Stiff Goldenrod	PG	Summer	NOC	YES	~	SU	SP
Solidago speciosa	Showy Goldenrod	PG	Summer	NOC	YES	~	SU	CO
Solidago sphacelata	Goldenrod	PG	Summer	NS	NO	~	SU	CO
Sorghastrum nutans	Indian Grass	PG	Summer	NOC	YES	~	SU	CO
Spartina pectinata	Prairie Cordgrass	PG	Summer	NOC	YES	~	WT	SP
Sporobolus heterolepis	Prairie Dropseed	PG	Summer	NS	YES	~	SU	SP
Stipa spartea	Porcupine Grass	PG	Summer	NOC	YES	~	SU	SP
Teucrium canadense	American Germander	PG	Summer	NOC	YES	~	SH	SP
Thalictrum diocum	Early Meadowrue	PG	Summer	NOC	YES	~	SH	SP
Tradescantia ohioensis	Spiderwort	PG	Summer	NS	YES	~	SS	SP
Trillium erectum	Stinking Benjamin	PG	Spring	NOC	YES	~	SS	CO
Trillium grandiflorum	Large White Trillium	PG	Spring	NOC	YES	~	SS	CO
Trillium spp.	Trillium	PG	Spring	~	~	~	SH	SP
Triosteum aurantiacum	Horse Gentian	PG	Spring	NOC	YES	~	SH	SP
Typha angustifolia	Narrow-Leaved Cattail	PG	Summer	EX	NO	~	WT	CO
Typha latifolia	Common Cattail	PG	Summer	NOC	NO	~	WT	CO

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Uvularia grandiflora	Bellwort	PG	Spring	NOC	YES	~	SH	CO
Verbena hastata	Blue Vervain	PG	Summer	NOC	YES	~	SU	CO
Verbena uruicifolia	White Vervain	PG	Summer	NOC	YES	~	SU	SP
Vernonia missurica	Ironweed	PG	Summer	NS	YES	~	SU	SP
Veronica longifolia	Garden Speedwell	PG	Summer	EX	NO	~	SU	CO
Veronicastrum virginicum	Culver's Root	PG	Summer	NOC	YES	~	SU	CO
Zizia aptera	Heart-Leaf Meadow Parsnip	PG	Summer	NU	NO	~	SS	CO
Zizia aurea	Golden Alexanders	PG	Summer	NOC	YES	~	SU	SP
Eupatorium fistulosum	Hollow Joe-Pye Weed	PS	Summer	NS	YES	~	WT	SP

SUGGESTED PLANT LIST KEY								
Note: Plants must be grown in Upper Midwest/Great Lakes Region								
Legend								
Plant Type								
	DC	Deciduous Canopy Tree						
	LE	Large Evergreen Tree						
	SL	Large Shrub						
	PG	Perennial/Grass						
	DS	Deciduous Sub-canopy Tree						
	SS	Small Shrub						
	UE	Upright Evergreen Tree						
Interest								
	SP	Spring						
	SU	Summer						
	FA	Fall						
	WI	Winter						
Native to Michigan?								
	EX	Exotic or Non-Hardy						
	NOC	Native to Oakland County						
	NS	Native SE Michigan						
	NU	Native US/Canada						
Woodl. Repl. * subcanopy trees, shrubs, herbaceous plants require greater numbers - see Sec 37-8								
	YES	Can be used as woodland replacement						
	NO	Can not be used as woodland replacement						
Street Tree								
	RC	Recommended						
	UO	Recommended Under Overhead Utilities						
	SC	Special Circumstances						
	PR	Prohibited						
	~	Does not apply						
Growing Conditions								
	SH	Shade						
	SS	Sun/Shade						
	SU	Sun						
	WT	Wet						
Nurseries								
	CO	Commonly found most nurseries						
	SP	Specialty nurseries						
	UN	Unknown						