

MEMORANDUM



TO: BARB MCBETH, CITY PLANNER
FROM: RICK MEADER, LANDSCAPE ARCHITECT
SUBJECT: LANDSCAPE ORDINANCE MODIFICATIONS
DATE: MAY 1, 2026

The landscape ordinance, Section 5.5 of the Zoning Ordinance, and the Landscape Design Manual were last revised in 2020. Since then, requests have been made for additions and revisions by the Planning Commission, and other changes have been deemed necessary to improve the clarity of the documents. Attached are recommended modifications to Section 5.5 and the Landscape Design Manual.

The most significant changes proposed are:

1. The addition of landscape requirements for urban-style multi-family developments, which includes options for gaining landscape credits with alternative landscaping options
 2. The addition of right-of-way buffer landscape requirements for City West developments
 3. The addition of street tree placement requirements for multi-family developments
 4. The change to parking lot landscape requirements to eliminate separate rules for industrial developments
1. During his term, former Planning Commissioner Gary Becker requested the creation of landscape standards for more urban-style multi-family developments that would allow reduced landscaping without the need for multiple waivers. The attached new section requires fewer trees per unit, fewer street trees and a reduced percentage of building faces requiring landscaping. As a partial balance against those significant requirements, new requirements for shrubs to be planted on the site have been added, to provide even more planting diversity than the current ordinance requires. The use of these reduced standards is restricted to zoning districts in the center of the city, where increased housing density is desired. A Planning Commission waiver would be required to use this new standard elsewhere in the city.

In order to promote the adoption of more “green” elements in their developments, a list of options is provided that would offset at least part of the costs of the alternative elements with reductions in the landscaping required. Some of these elements are:

- Green roofs on buildings or carports, which would be offset with a reduction in interior drive trees.

- Living building walls or retaining walls, which would also be offset by a reduction in interior drive trees or multi-family unit trees required.
- Pollinator or butterfly gardens, which would be offset by a reduction in multifamily unit trees or shrubs
- Maintaining existing natural areas on the site, which would be offset by a reduction in multifamily unit trees.

Images of green roofs, living building walls and living retaining walls are provided below as examples:



Green Roof on Carport



Green Building Wall



Living Retaining Wall

2. When the City West zoning ordinance amendment was adopted, it included some landscaping recommendations, but no specific requirements for rights-of-way buffering. Those requirements are added with this revision.
3. Specific requirements for placement of some street trees between the street and buildings of multi-family developments are added with these modifications. These are recommended to enhance the appearance of such developments from the drives through sites and to soften the appearance of long stretches of garage doors. Some recent developments, both built and proposed, do not utilize building designs that allow the required street trees to be placed in front of buildings, so such sites have long expanses of building and pavement, such as is shown below.



4. One of the 2025 Master Plan for Land Use recommendations was to update the landscaping requirements to reduce heat-island effects in large parking lots. A revision to the parking lot interior area requirements was made to remove the reduced landscape areas required in industrial parking lots so all lots meet the same requirements.

The remaining changes proposed to the landscape ordinance and landscape design manual are to simplify the wording, remove unused sections of the ordinance and to clean up minor errors.

Suggested Action:

The recommended ordinance modifications are attached for consideration by the Planning Commission at the May 13th Planning Commission meeting **with the intent for the Planning Commission to make a motion to set a public hearing for the June 10th Planning Commission meeting for formal consideration of the proposed ordinance amendments.** At that time, the Planning Commission's will again review the ordinance changes and make a recommendation to the City Council. The ordinance language will be reviewed by the City Attorney's office prior to its consideration by the City Council.

**PROPOSED
LANDSCAPE ORDINANCE AMENDMENTS
AS HIGHLIGHTED IN COLORED TEXT**

Section 5.5

LANDSCAPE STANDARDS: OBSCURING EARTH BERMS AND WALLS, RIGHTS-OF-WAY BUFFERS, AND INTERIOR AND EXTERIOR LANDSCAPE PLANTINGS

1. **Intent.** The intent of this Section is to achieve landscapes with creative placement and attractive designs that:
 - emphasize the preservation of existing natural resources, the use of native plant materials, and a diversity of plant species;
 - preserve and enhance existing woodlands, wetlands and natural open areas;
 - reduce impervious surfaces, enhance storm water management and prevent soil erosion and soil depletion;
 - provide appealing yet opaque visual and audible buffering between non-compatible land uses; and
 - utilize the best ecological concepts and environmental objectives with preservation and sustainability as a priority,

in order to protect and enhance the well-being of the residents of the City of Novi.

Landscape regulation is intended to establish minimum standards for all property in the City. Property owners and occupants are encouraged to exceed these standards, to minimize paved areas and other run-off areas, and to maximize the areas devoted to attractively designed and well-maintained landscapes.

2. **Landscape Plan Required.** 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% percent increase in the overall square footage of the building or 400 square feet, whichever is less
 - any increase to an existing parking lot of 10 spaces or more (or equivalent area), or 10% of the existing paved area, whichever is less.

With the exception of Section 5.5.3.G, Individual (Non-Subdivision/Non-Site Condominium) Single Family Street Tree Requirements, an owner of a single-family home-site shall not be required to comply with the provisions of this Section.

All landscape plans shall be prepared by a licensed professional landscape architect in accordance with the requirements of this Ordinance and the requirements of the City of Novi Landscape Design Manual, as adopted by the City Council by resolution and which may similarly be amended by Council resolution from time to time.

General Landscape Notes:

- For all numerical calculations, round the required square feet or number of plants to the nearest whole number.
 - Trees are to be located at least 10 feet away from utility structures including catch basins and manholes and underground sanitary lines, and ~~should be~~ at least 5 feet away from other underground utility lines whenever possible.
 - Plantings may be in formal or informal arrangements.
3. **Landscape Requirements.**
 - A. **Residential Adjacent to Non-Residential**
 - i. Intent. To make provision for a visual buffer strip in each zoning and use classification when a non-residential use abuts or is adjacent to any residential zoning district.

- ii. Requirements for Obscuring Landscaped Earth Berms and Walls. In all locations where non-residential uses abut or are adjacent to any residential district (RA, R-1, R-2, R-3, R-4, RT, RM-1, RM-2, MH and any TC district where developed for residential purposes), an obscuring landscaped earth berm and plantings, as described, shall be proposed, installed and maintained in connection with any development or use identified below. See below.

5.5.3.A.ii Use Abutting Residential Berm Requirement Chart	
Use Abutting Residential	Berm Height
New Multi-family residential or Mobile Home adjacent to SF residential	6 ft. to 8 ft. high
Parking	4 ft. 6 in. to 6 ft. high
Special Land Use (churches, schools, nursery schools, day care centers, uses where special land use approval is required)	4 ft. 6 in. to 6 ft. high
Office Service/Tech, R&D	4 ft. 6 in. to 6 ft. high
Commercial	6 ft. to 8 ft. high
Conference	8 ft. to 10 ft. high
Freeway Service	8 ft. to 10 ft. high
Town Center (Non-residential use) ¹	6 ft. high wall
Industrial (I-1 and I-2 districts)	10-15 ft. ht. berm, 6 ft. crest width, 80% winter/90% summer opacity (See Section 3.14.5.C and E)
Auto Wash, Drive-In Restaurants, Service Stations, and Planned Commercial Centers and Regional Shopping Centers	10 ft. to 15 ft. high wall or landscaped berm with 6 foot wide crest
Hospital-Ambulance and Delivery Areas	6 ft. high
Utility Buildings, Stations, and/or Substations	6 ft. high
Note to Table	
1. Applies when residential sections of TC or TC-1 abut non-residential uses within the same development or other adjacent TC or TC-1 developments' non-residential sections.	

- iii. Exceptions. Obscuring landscaped berms and walls are not required to separate identically zoned uses or where uses are separated by a street, road, highway, freeway or railroad.
- iv. Placement. The berm or wall is required to be on the property seeking approval. The berm may be placed upon the adjacent residential property in order to provide continuity with an adjoining berm. In that case, a recorded permanent easement and a maintenance agreement in a form acceptable to the City Attorney will be required from the adjacent property owner.
- v. Berm Requirements. The obscuring berm requirements are as follows:
 - a. The berm height shall be measured as follows:
 - (1) The berm height, as specified in the Residential Adjacent to Nonresidential Berm Requirement Chart (Table 5.5.3.A.ii), shall be

analyzed from the following locations, and the final measurement of the berm shall be made from that location which results in the maximum screening:

- (A) The first-floor elevations of the closest adjacent principal structures;
- (B) The first-floor elevations of the uses requiring screening;
- (C) The elevations of the parking lots closest to the property line when only the parking area requires screening; or
- (D) The elevation of the nearest property line.

Where a range of height is stated for a use on the Chart, the basic berm height shall be deemed to be the lower measurement, with approving body of the City having the discretion to increase the height up to the higher measurement based upon an application of the following considerations on the non - residential property: intensity of use; noise generation customarily associated with the use; height and aesthetic appearance of buildings and structures; topography; distance of buildings, structures and activities from the common property line; and, the extent of disharmony with the adjoining residential use as a result of other considerations.

- (2) The site plan shall include the ~~first floor~~first-floor elevation of the nearest principal structures of the adjacent site's property lines.
 - (3) Where the applicant demonstrates, and the Planning Commission finds, that practical difficulties would result from the strict application of berm height standards, as required herein, the Planning Commission may reduce the height of the berm, or eliminate the berm, and may approve an alternate plan which includes landscape treatment or a wall (subject to Section 5.5.3.A.vi below), or a combination of the two, provided that the approved alternate plan achieves adequate noise attenuation and obscuring screening. The Planning Commission may also reduce the height of the berm, or eliminate the berm, where it determines that an alternative design utilizing landscaping or other materials, including a wall subject to Section 5.5.3.A.vi below, provides adequate and effective noise attenuation and screening, or where such alternative design provides a substantial aesthetic or site design benefit while still providing for noise attenuation and screening to the extent reasonably practicable. The intent of this Section is not to encourage and allow elimination or reduction of berm height for the sake of convenience or cost savings, but rather to allow reasonable development while achieving design excellence not otherwise possible under these requirements.
- b. The berm shall be natural in appearance and have overlapping and undulating changes in elevation, both horizontally and vertically, without compromising the minimum height requirement and/or intent of the berm. Where a range of height is stated on the chart for a use, and the approving body determines berm height based upon the criteria specified in sub-paragraph v.(a), above, the height of the undulations on the berm shall be determined by the approving body as part of site plan approval, taking into consideration the location of improvements and activities to be screened, and the criteria in sub-paragraph v.(a), above.

- c. The obscuring berm shall have no greater than a maximum slope of thirty-three (33) percent. (3 feet of horizontal plane for each 1 foot of vertical height.) More gradual slopes are strongly encouraged.
 - d. Plants shall be specified for any "no mow" areas.
 - e. The crest of the obscuring berm shall have a nearly flat horizontal area of at least five (5) feet in width, unless otherwise specified in the previous Berm Requirement Chart.
 - f. The required earth berm shall be located at the lot line, except where such location would interfere with underground utilities or drainage.
 - g. Where an existing or proposed parking or vehicular use area abuts an existing berm or wall or other durable landscape barrier on an abutting property, said existing landscaping may be used to satisfy the landscape requirements of this part of Section 5.5, provided that it meets all applicable noise attenuation and obscuring screening standards of this Section, and provided that the existing berm, wall, or other durable landscape barrier is required to be maintained consistent with the terms of this Section of the Ordinance and consistent with the approved site plan. Where the existing berm, wall, or other durable landscape barrier is not otherwise required to be maintained in connection with the adjacent property, the applicant shall be responsible for such maintenance and shall obtain and record a permanent easement and maintenance agreement from the adjoining property owner in a form approved by the City Attorney, making provision for such maintenance.
 - h. Where a property has already been lawfully developed for one of the uses listed in the Residential Adjacent to Non-Residential Berm Requirement Chart (Table 5.5.3.A.ii), adjacent residential property which subsequently develops shall provide and maintain the necessary berm.
 - i. See Landscape Design Manual for additional requirements.
- vi. Wall Requirements.
- a. Freestanding walls shall have all exterior sides constructed of face brick or stone with a suitable cap, and the interior constructed of masonry or reinforced concrete. The Planning Commission may consider materials of equal durability and aesthetic quality.
 - b. Walls shall be designed to resist the pressure of the retained material, including live, dead and environmental loads to which they may be subject. Foundations shall be designed to prevent movement due to frost action and a suitable drainage system shall be provided to assure stability. Walls that are 4 feet or greater in height shall be designed and sealed by a professional design or structural engineer. Walls shall not cause flooding or impound water at any time and are subject to Final Site Plan review. (See Design and Construction Standards, Chapter 11, Novi Code of Ordinances)
 - c. All other obscuring conditions of this subsection and the Landscape Design Manual must be met.
 - d. Timber, boulder, and interlocking concrete masonry unit (CMU) retaining walls are permitted as alternatives to poured-in-place retaining walls for the purpose of terracing, with the provision that they meet commonly accepted practices for construction and reinforcement as required.

- vii. Waiver of Landscaped Berm or Wall for Preservation of Wooded Area. The Planning Commission may waive the requirement for an earth berm or obscuring wall adjacent to a residential use district when the proposed development includes the retention of an existing regulated or non-regulated wooded area adjacent to the residential district, or when an existing regulated or non-regulated wooded area is preserved on the adjacent residential property. In either case, the owners of all such area(s), including the owners of the adjacent residential property, shall provide a permanent preservation easement, including requirements for perpetual maintenance and replacement of woodland features, in recordable form acceptable to the City Attorney for such wooded area, and provided all the following conditions are met:
- a. The retained wooded area will provide effective screening consistent with the opacity for visual screening requirements of this Ordinance and intent of this Section.
 - b. The retained wooded area shall be of a depth and height equal to or greater than the screening requirement being waived.
 - c. The failure to retain the wooded area will have a negative impact on the preservation of woodlands within the City of Novi.
 - d. The retained wooded area has been inspected and evaluated by the City relative to the health and desirability of the existing plant material.
 - e. The Planning Commission may require, during construction phases, as a condition to the waiver, additional and/or modified plantings and/or the erection of a temporary chain link fence within or adjacent to the preserved wooded area to meet the opacity requirements and/or other objectives of this Section, and, in the event all or part of the retained wooded area is removed, destroyed, diminished, or altered in any manner such that it no longer provides the screening required under this Section, the berm or wall shall be installed at the applicant's (or its successor's) expense or additional screening material may be required by the City to be installed and maintained at the applicant's (or its successor's) expense in order to achieve the screening objective under this Section.

B. Adjacent to Public Rights-of-Way.

- i. Intent. The intent of the landscape planting buffer requirements along public rights-of-way is to improve the appearance of the rights-of-way including screening off-street parking and vehicular use areas of property abutting public rights-of-way.
- ii. Requirements. Landscape plantings shall be installed and maintained adjacent to existing or proposed public rights-of-way according to the standards set forth on the Right-of-Way Landscape Screening Requirements Chart (Table 5.5.3.B.ii.F), and as otherwise established in this Ordinance, including the individual zoning district, and in the Landscape Design Manual.
 - a. There shall be provided adjacent to the abutting right-of-way or private road a landscape area of sufficient width to accommodate a required berm as indicated in the Right-of-Way Landscape Screening Requirements Chart, except in those use districts or development options that require a greater greenbelt, or except as otherwise provided in the TC and TC-1 districts.
 - b. Berms shall comply with Section 5.5.3.A.v, in terms of construction requirements, with specific requirements as called out in Table 5.5.3.B.ii.f.
 - c. Hedges planted to screen parking areas shall be planted to achieve a minimum opacity of 90 percent during the summer and 80 percent during the winter and provide a continuous visual obstruction height of at least 36 inches.

- d. All landscape areas between the right-of-way and parking areas that front on the required right-of-way greenbelt shall have a berm meeting the height and crest width requirements of the zoning district as specified in Table 5.5.3.B.ii.f, and shall have a maximum slope of 33%.
- e. A landscape area shall be planted to provide visual interest and yet allow views into the site. Particular care should be taken in the arrangement of greenbelt plantings to provide a view of the main entrance street address for emergency vehicles from a 20-40 degree angle as you drive toward the building along the primary road frontage.
- f. Greenbelts in a Commercial (B-1, B-2 or B-3) district with parking located between the principal building and right-of-way may be planted at a reduced rate, per the greenbelt landscape requirements called for in Table 5.5.3.B.ii.f.
- ~~g. If a wall is provided in accordance with the City standard, a reduction of up to thirty three (33) percent of the required greenbelt plantings is allowed in the right-of-way greenbelt in front of the parking. This reduction does not apply in cases where parking is between the right-of-way and the building and required landscaping is already reduced.~~
- h.g. _____ For a residential development abutting one or more major thoroughfare(s), landscape buffers shall be installed and maintained along the entire property line abutting the right-of-way in a non-access greenbelt. In a single-family site development, the required landscape buffer shall not be part of a residential unit or lot.
- i.h. Necessary access ways from public rights-of-way through required landscaped areas shall be permitted. The width of the access drive(s) shall be subtracted from the lineal dimension used to determine the minimum number of trees and shrubs required for greenbelt landscaping and street trees (see illustration in Table 5.5.3.B.ii.f, Footnote ~~10-5~~ below for points of measurement for each).

5.5.3.B.ii.f Right-of-Way Landscape Screening Requirements									
			Requirements						
Use	Zoning	Berm Located	Greenbelt width (feet)	Min. berm crest width (feet)	Min. Berm Height (feet)	3 Foot Wall/ Fence	Deciduous canopy or large evergreen trees: 1 per X linear feet frontage	Deciduous sub canopy trees: 1 per X linear feet frontage	In <u>the</u> area between sidewalk and curb: 1 deciduous canopy tree per X linear feet frontage
Footnotes				1, 2, 3	1, 2, 3	2, 4	5, 7, 4, 5, 9	5, 6, 7, 9	8, 9, 10, 6
Single Family Residential	R-A R-1 R-2 R-3 R-4		34	4	4		40	25	35
Two-Family Residential	RT	Adjacent to parking	20	2	3		35	25	35
		Not adjacent to parking	30	2	3		40	25	35
Multi Family Residential	RM-1 RM-2 MH	Adjacent to parking	20	2	3		35	25	35

		Not adjacent to parking	34	2	3		35	25	35
Residential PRO (+3)			Avg. 50 Min. 34	4	4		40	25	25

5.5.3.B.ii.f Right-of-Way Landscape Screening Requirements (Continued)									
			Requirements						
Use	Zoning	Berm Located	Greenbelt width (feet)	Min. berm crest width (feet)	Min. Berm Height (feet)	3 Foot Wall/ Fence	Deciduous canopy or large evergreen trees: 1 per X linear feet frontage	Deciduous sub canopy trees: 1 per X linear feet frontage	In area between sidewalk and curb: 1 deciduous canopy tree per X linear feet frontage
Footnotes				1, 2, 3	1, 2, 3	2, 4, 3	4, 5, 7	5, 6, 7	8, 9, 10, 4, 5, 6
Commercial / Office	NCC C OS-1 OSC OST B-1 B-2 B-3	Adjacent to parking	20	2	3		35	20	35
		Not adjacent parking	25	-	-		60	40	35
		Parking between ROW and at least 67% of primary building (+28)	20	2	3		70	40 Plus 3 shrubs per 40 lf	35
Industrial	I-1 I-2	Adjacent to parking	25	3	3		40	35	45
		Not adjacent parking	25	-	-		60	40	45
Downtown	TC TC-1	Adjacent to parking	20	-	-		25 (+17)	15 (+17)	-
		Not adjacent parking	-	-	-		30 (+17)	20 (+17)	-
Misc. Large Use	P-1 EXO RC FS	Adjacent to parking	20	2	3		35	20	45
		Not adjacent parking	25	-	-		45	30	45
Planned Suburban Low Rise	PSLR	Parking and buildings adjacent to a section line road right-of-way ROW	50	4	3	Not Allowed	35	20	35
		Parking adjacent to other right*of-way	To Front of principal building per Zoning Ordinance	4	3	Not allowed	35	20	35

			Section 3.21.2.A.ii					
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Notes to table:

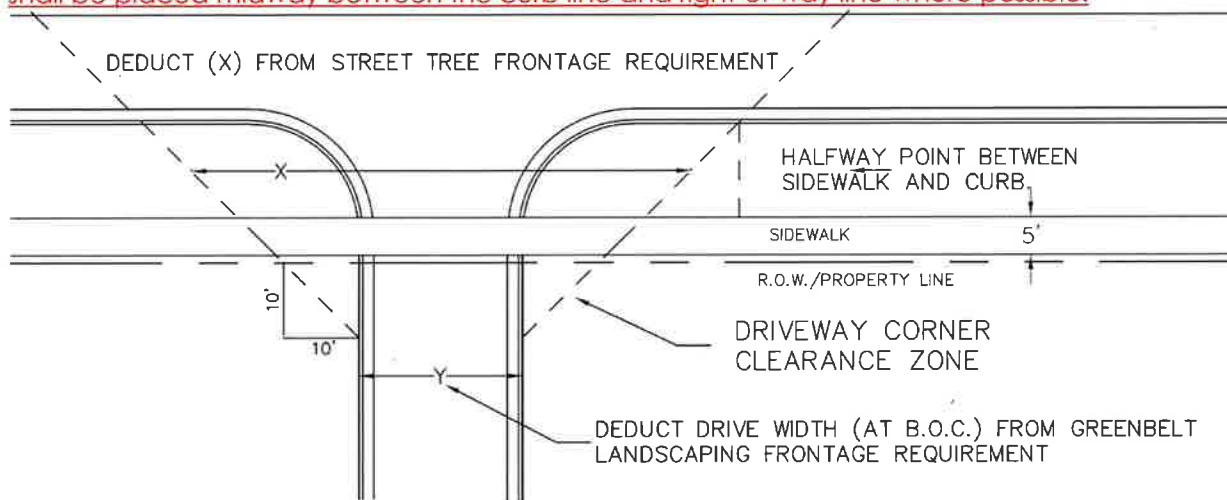
(1) Shrubs in front of parking areas must provide minimum screening opacity of 80% in winter and 90% in summer and be maintained at a height of at least 3 feet. The use of shrubs in place of the required berm requires a Planning Commission Waiver.

(2) A Planning Commission waiver is required to use a wall or an ornamental fence with brick piers and shrubs instead of a berm.

(3) Freestanding walls shall be constructed of masonry or concrete with all exterior sides of face brick with a suitable cap.

(4) Sub-canopy trees are to be used under overhead utilities at a rate of 1.5 sub-canopy trees for each one canopy tree required. If columnar/fastigate varieties are used, 2 sub-canopy trees per canopy tree must be used. Wherever possible, deciduous canopy trees are to be used as street trees.

(5) The width of driveways (X) through the greenbelt shall be deducted from the basis of calculation (see illustration below). In situations where sidewalks are not required, the street trees shall be placed midway between the curb line and right-of-way line where possible.



FRONTAGE MEASUREMENT

(6) Street trees shall not be permitted within the corner clearance zone. Roadways under Road Commission for Oakland County (RCOC) jurisdiction shall utilize RCOC standards for sight distance in locating street trees. If RCOC does not approve any or all of the trees, those trees shall not be planted, with no penalty to the applicant.

(7) In the Town Center districts, deciduous canopy/large evergreen trees or subcanopy trees are required in the greenbelt, but not both. One or the other requirement shall be met, not a reduced combination of both types.

(8) These requirements only pertain to zoning districts B-1, B-2 and B-3.

5.5.3.B.ii.g Right-of-Way Landscape Screening Requirements – City West – Sec 3.34.6

	Minimum requirements						
	Greenbelt width	Berm Crest width	Berm Height	3 Foot Wall	Canopy Trees	Sub-canopy trees	Street Trees ¹
Arterials (Grand River, Beck)							
Adj to pkg	20	0	0	Yes	1 per 30 ft ²	1.5 per 30 ft ²	0
Not adj to pkg	20	0	0	No	1 per 60 ft ²	1 per 40 ft ²	0
Nonresidential collectors and local streets							
Adj to pkg	10	0	0	Yes	0	1 per 15 ft	1 per 50 ft
Not adj to pkg	10	0	0	No	0	1 per 15 ft	1 per 50 ft
Private Drives, Aisles and Shared Access Drives							
Adj to pkg	10	0	0	Yes	0	1 per 15 ft	1 per 50 ft
Not adj to pkg	10	0	0	No	0	1 per 15 ft	1 per 50 ft
I-96 Highway ROW							
Adj to pkg	30	3	4	No	1 per 35 ft	1 per 20 ft	0
Not adj to pkg	75	3	4	No	1 per 60 ft	1 per 40 ft	0

NOTES TO TABLE:

1: Street trees based on overall frontage, not individual lots

2: Canopy trees OR subcanopy trees, not both

5.5.3.B.ii.f Right-of-Way Landscape Screening Requirements (Continued)

Notes to table:

- (1) Shrubs in front of parking areas must provide minimum screening opacity of 80% in winter and 90% in summer and be maintained at a height of at least 3 feet. The use of shrubs in place of the required berm requires a Planning Commission Waiver.
- (2) A wall may be used instead of a berm. If a wall, consistent with footnote (6) below, is provided in front of parking areas, a reduction of up to 33% of the required greenbelt plantings (not street trees) is allowed in the parking greenbelt area. A Planning Commission Waiver is required to use a wall instead of a berm. An ornamental fence with brick piers and shrubs may be used instead of a berm if approved by the Planning Commission as a landscape waiver.
- (3) Freestanding walls shall be constructed of masonry or concrete with all exterior sides of face brick with a suitable cap.
- (4) Sub-canopy trees are to be used under overhead utilities at a rate of 1.5 sub-canopy trees for each one canopy tree required. If columnar/fastigate varieties are used, 2 sub-canopy trees per canopy tree must be used. Wherever possible, deciduous canopy trees are to be used as street trees.
- (5) Sub-canopy trees used in foundation landscaping may also count toward the right-of-way sub-canopy requirement if the building is located at the rear of the required greenbelt width.
- (6) The width of access aisles through the greenbelt shall be deducted from the basis of calculation (see illustration in footnote #10 below). In situations where sidewalks are not required, the street trees shall be placed midway between the curb line and right-of-way line where possible.
- (7) Street trees shall not be permitted within the 25-foot corner clearance zone (Section 5.9). Roads with Road Commission for Oakland County (RCOC) jurisdiction shall utilize RCOC

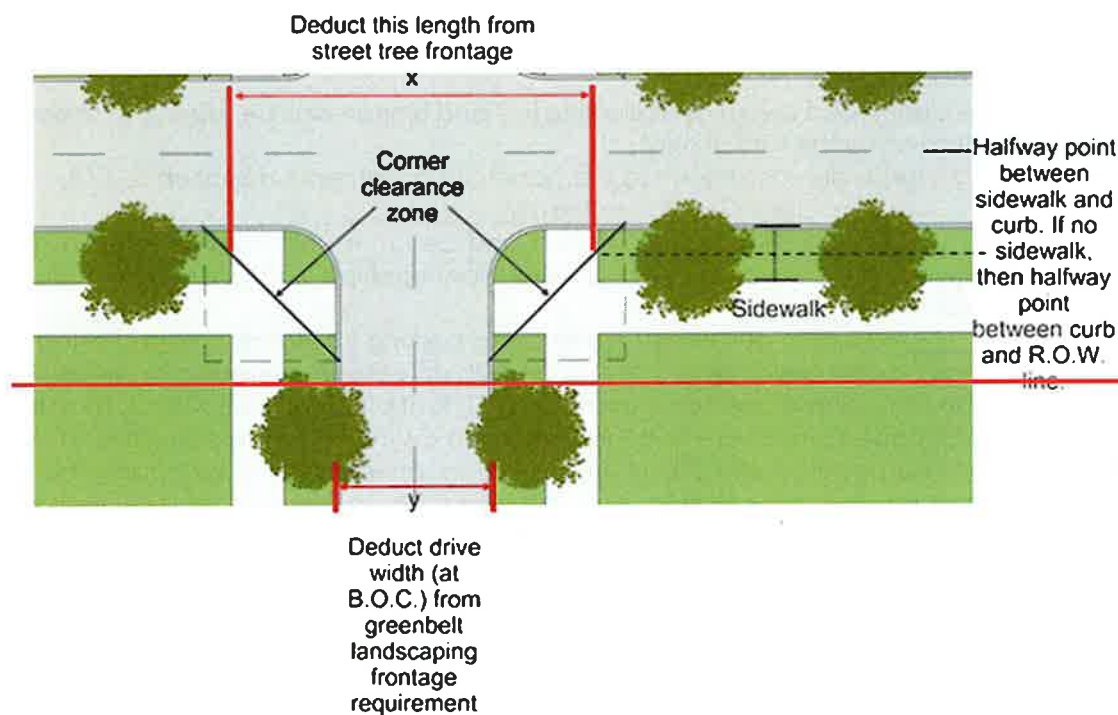
standards for sight distance in locating street trees. If RCOC does not approve any or all of the trees, those trees shall not be planted, with no penalty to the applicant.

(8) In the Town Center districts, deciduous canopy/large evergreen trees or subcanopy trees are required in the greenbelt, but not both. One or the other requirement shall be met, not a reduced combination of both types.

(9) These requirements only pertain to zoning districts B-1, B-2 and B-3.

(10) When the development fronts on one or more major thoroughfare(s), the right-of-way greenbelt along that thoroughfare shall be an average of 50 feet width, with a minimum of 34 feet.

The width(s) of the corner clearance zone(s) shall be deducted from the basis of the calculation for street trees (see illustration below).



- iii. Private Roads. All private roads and access roads not covered in other sections of this ordinance shall be landscaped with deciduous canopy street trees at a rate of 1 tree per 35 linear feet along both sides of the road, with the same allowances for deducting clear vision zones as noted above in 5.5.3.B.ii Footnote 10.
- iv. Reduction or Waiver. Except as provided in Section 5.5.3.A.v.a.(3), which governs relief relative to berm height, the Planning Commission may reduce or waive the landscaping screening/buffer right-of-way requirements when it determines that practical difficulties exist due to the parcel size or configuration, or where the design of the site would be enhanced by an alternative design solution while still meeting the intent of this Section. Examples of such situations include, but are not limited to, when:
 - Preservation of regulated woodlands or wetlands or existing trees will occur;
 - The grade of the site is higher than the road and naturally provides a screen;

- Significant architecture or historic buildings, water features, views of natural resources or vistas will be preserved;

The Commission may, as part of its exercise of such authority, allow the:

- a. Use of a wall instead of a berm; or
- b. Use of a ~~wrought iron~~ decorative metal fence with brick accents or other material of equal aesthetic quality and durability with plantings instead of a berm; or
- c. Use of shrubs/hedge instead of a berm; ~~or;~~
- e.d. A reduction in plantings required.

C. Parking Area Landscaping Requirements.

- i. Intent. The intent of this subsection is to:
 - require curbed landscape islands within parking areas, thereby reducing solid expanses of impervious surfaces
 - decrease runoff
 - shade parking areas, and
 - create aesthetically pleasing and environmentally enhanced parking areas.
- ii. General Requirements.
 - a. The design and layout of all parking lots and islands shall be subject to review and approval by the City of Novi.
 - b. ~~End it~~ Islands are to conform to the general requirements in Section 5.5.3.12.
 - b-c. Interior islands are to conform to Section 5.5.3.C.ii.h
 - e-d. Creative island configuration and design is encouraged, such as islands between rows of parking in long, wide planting strips, and/or depressed islands to detain storm water.
 - e.e. The use of pedestrian walkways in parking lot islands is encouraged, if the islands' paths are at least 5 feet wide with no vehicle overhang or seven (7) feet wide with vehicle overhang and a ten (10) foot planting area width is maintained.
 - e-f. Landscaped islands are to be installed with ~~6-6~~-inch curbs to protect landscaping from damage by vehicles (4 inches where vehicles are to overhang the curb). However, periodic openings in curbs, ~~which do not exceed 2 feet in width,~~ shall be permitted for sidewalks and for the purpose of conveying storm water run-off across an island.
 - f-g. If more than one (1) island is provided in a parking lot, they are to be distributed evenly throughout the lot
 - g-h. Each parking lot landscape island shall have:
 - (1) A minimum of ~~two-hundred~~ two hundred (200) square feet in area.
 - (2) A minimum of ~~two-hundred~~ two hundred (200) square feet in unpaved area per tree planted in an island.
 - (3) A minimum dimension of ten (10) feet in width from back of curb to back of curb.
 - (4) A minimum of three (3) feet between the back of a curb and a tree trunk.
 - (5) Islands that project into the parking lot from the side of the lot may be a minimum of 130 square feet in area if that island is at least 10 feet wide and adjoins 70 square feet or more of green space.
 - h-i. For any development other than a single-family or two-family dwelling, the square footage of landscape islands required shall be as specified in the Interior Parking Area Landscape Islands and Canopy Tree Chart (Table 5.5.3.C.iii).
 - i-j. Wheel stops or raised curbing shall be installed to prevent vehicles from encroaching more than two (2) feet into any parking landscape area. When adjacent ninety (90) degree parking stalls are reduced from nineteen (19) to

seventeen (17) feet in length, the required six (6) inch curbs shall be reduced to four (4) inches in height. This applies to both landscape and sidewalk overhangs. Where vehicles overhang a sidewalk, the sidewalk shall have a minimum width of seven (7) feet.

j.k. No plantings with a mature height greater than twelve (12) inches shall be within ten (10) feet of fire hydrants. Plant materials shall not block the visibility of the hydrant or Fire Department Connections.

k.l. Islands are to have adequate drainage to the nearest catch basin or adequate areas of amended sandy loam soil, as specified on the plan, to achieve proper drainage. Depressed (sunken) islands are allowed if:

- (1) the plantings are salt -tolerant
- (2) the islands are designed to provide drainage adequate for survival of the island plantings
- (3) they meet all City of Novi engineering standards.

l.m. Paint, contrasting brick or concrete pavers may be used to delineate stall lines within parking areas.

m.n. Any area within a parking lot not dedicated to parking use, driveways, or sidewalks exceeding ~~one hundred~~ one hundred (100) square feet, shall be landscaped with a minimum of lawn or other living ground cover.

n.o. All parking lot landscaped areas required herein shall contain at least 1 deciduous canopy tree and lawn or other plantings/ groundcovers.

o.p. The total square footage of required interior landscape islands shall be provided as follows:

- (1) The required square footage shall be provided only within islands that are surrounded by paved parking areas or that project into the parking lot from the perimeter of the parking area, including corner islands, if they meet the requirements of this Section.
- (2) Within the interior of the parking lot, islands shall be distributed evenly across the paved area.
- (3) Areas abutting but not within the interior of the parking area shall not be considered as interior landscape area.
- (4) No bay of parking (defined herein as a single row of ~~side-by-side~~ side-by-side parking spaces) greater than 15 parking spaces in length shall be provided except as noted in (5).
- (5) If the use is primarily vehicular storage (i.e., automobile dealer vehicle inventory areas, vehicle stockpile areas, semi-trailer storage areas), bays of 25 spaces will be allowed but the required interior landscape area per Table 5.5.3.C.iii must be provided.
- (6) In order to count toward the total landscape area requirement, an island must contain at least 1 deciduous canopy tree and have the minimum area required of Section 5.5.3.C.ii.g.
- (7) If the parking lot layout requires more islands/area than the table below would indicate (such as to break up long bays), each of those additional islands must still meet the area and planting requirements of Section 5.5.3.C.ii.g. but perimeter trees may be used in outer and corner islands to help landscape those islands.

- iii. **Parking Lot Greenspace and Tree Requirements.** The following chart is to be used to calculate the square footage of island space and the number of canopy trees required for Parking Area Interior and Perimeter Landscaping.

<p>5.5.3.C.iii Interior Parking Area Landscape Islands and Perimeter Canopy Tree Chart</p>

	A	B	C	D	E
Category 1: All zoning districts except for 1-1 and 1-2 Category 2: 1-1, 1-2	Total square footage of landscaped islands for VUA areas less than or equal to 50,000 square feet equals:	Total square footage of landscaped islands for VUA beyond the initial 50,000 sq. ft. (A) equals:	Total square footage required in interior parking lot islands equals:	Total number of interior landscape deciduous canopy trees:	Perimeter Deciduous Canopy Trees required for parking lot and access drives:
1	VUA × 7.5%	(VUA - 50,000) × 1.0%	A + B	(A + B)/200	Perimeter (LF) /35
2	VUA × 6%	(VUA - 50,000) × 0.5%	A + B	(A + B)/200	Perimeter (LF) /35
Footnotes	1,2	1,2		3,5	4,5

Notes to table:

1. Vehicular Use Area (VUA) includes parking spaces, loading/unloading areas and access aisles within the parking lot. It does not include drives to the Vehicular Use Area or long drives without parking spaces adjacent. (See Figure 5.5.3.C.iii)

2. If a vehicular use area is greater than 50,000 sq. ft., the landscape requirement for the first 50,000 sq. ft. of VUA is to be calculated per Column A, and the requirement for the remaining VUA is to be calculated per Column B.

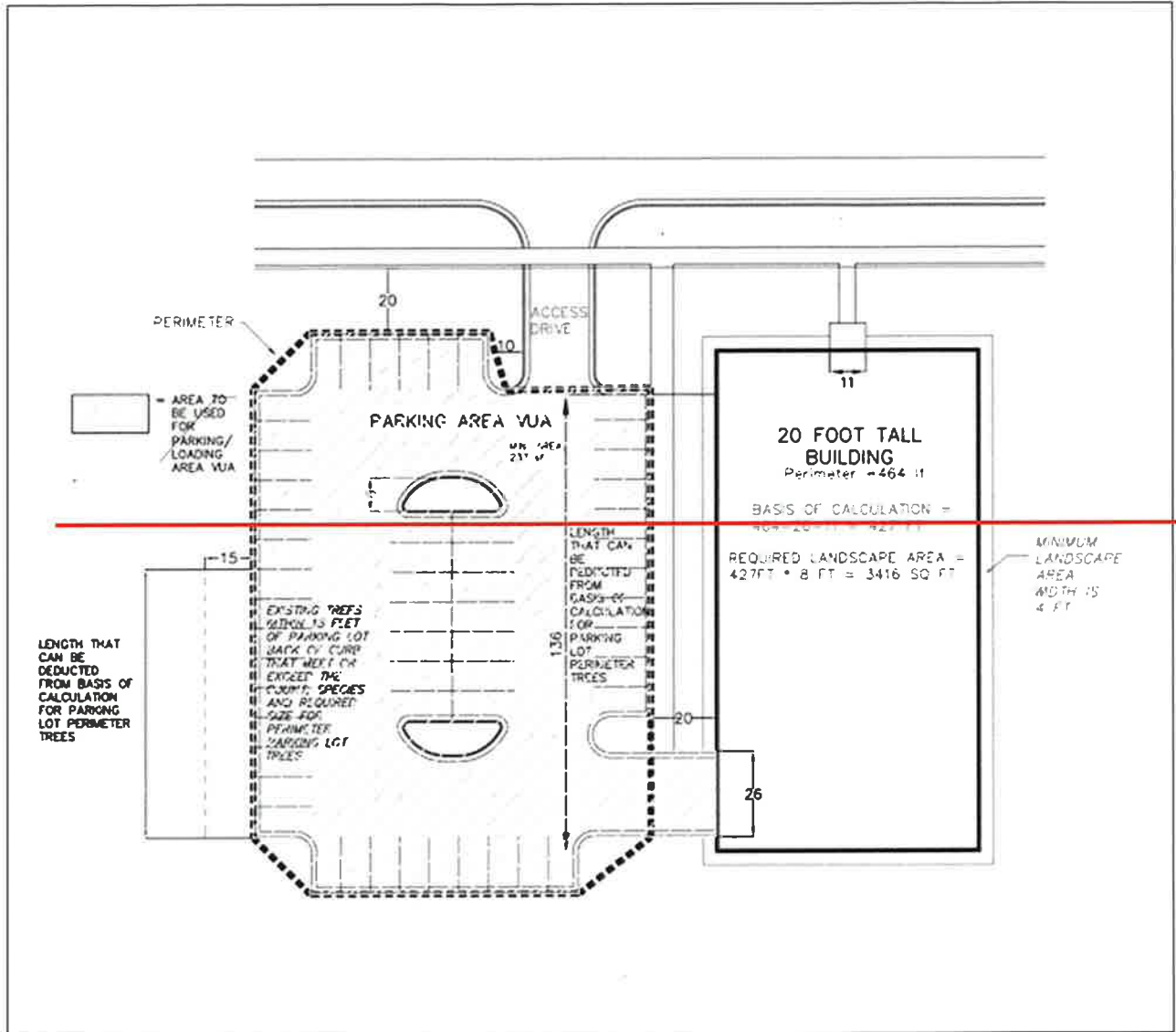
As an example, a 65,000 square foot parking area ~~in Category 1~~ would require 50,000 × 7.5% plus 15,000 × 1% = 3750 sq. ft. + 150 sf = 3900 sq. ft. landscape area within the parking lot boundary.

3. Corner islands projecting into the parking area and areas at the ends of bays must also have trees planted in them and be at least 200 sq. ft. in area. Perimeter trees may be used in corner and edge islands if the required number of interior trees is less than the total number of islands and corners that need trees.

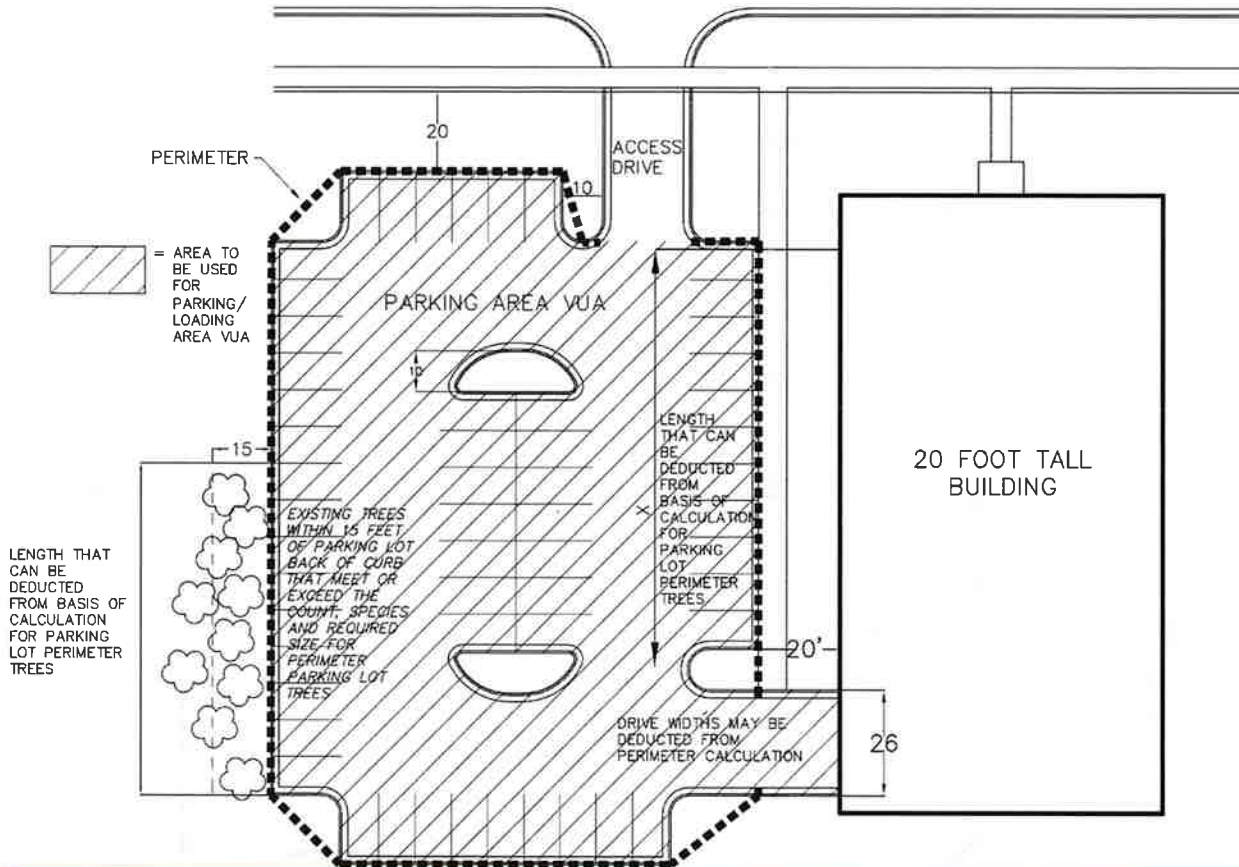
4. Perimeter trees are required for parking areas and access drives to and between parking areas.

5. In areas with overhead utility lines, sub-canopy trees ~~may should~~ be used.

5.5.3.C.iii Parking Lot Landscaping



5.5.3.C.iii Parking Lot Landscaping Figure

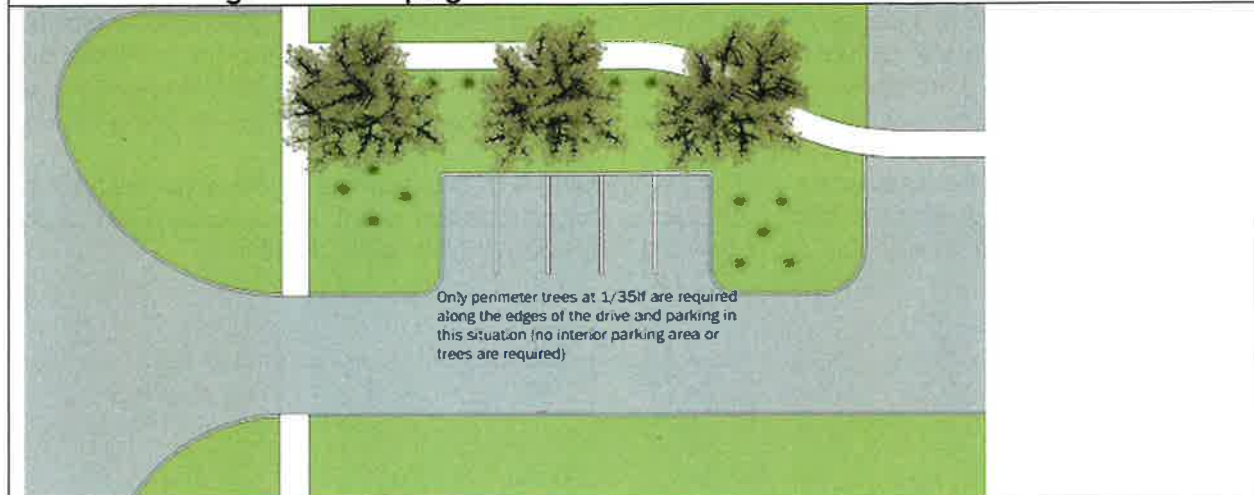


iv. Parking Lot Perimeter Trees

- Deciduous canopy trees are required for the outer edge of parking areas and both sides of access drives to parking areas at a rate of 1 tree per 35 lf of perimeter. See illustration 5.5.3.C.iii for determination of perimeter length and what constitutes an access drive.
- A landscape area at least 10 feet wide-deep (measured perpendicular to the curb) is required along parking lot perimeters and access drives for planting the required trees.
- Existing canopy trees within 15 feet of the parking lot perimeter (as measured to the tree trunk) may be counted as perimeter trees. Dense concentrations of existing trees may not be used to meet requirements for other areas of the parking lot.
- If the front edge of a parking lot is at the rear edge of the greenbelt, canopy trees in the greenbelt within 15 feet of the parking lot's back of curb (as measured to the trunk), existing or proposed, may also be counted toward the perimeter requirement.
- In the case of a project in a Business district (B-1, B-2 or B-3) where parking is between the right-of-way and at least 67% of the primary building, only 1 perimeter tree per 70 lf is required along the front parking lot edge and greenbelt tree canopy trees within 15 feet of the parking lot curb may also be counted toward the perimeter requirement.
- Greenbelt canopy trees within 15 feet of the back of curb of an access drive may double-count toward the access drive perimeter tree requirement, but a tree within 15 feet of both may not be triple-counted.

- g. If a parking lot edge is within 20 feet of a building that frontage does not have to have perimeter trees but sub-canopy trees should be included in building foundation landscaping along that frontage where possible.
- h. While deciduous canopy trees are preferred as perimeter trees, where they would provide desired screening between properties, large evergreen trees may be used for up to 25% of the required perimeter trees. ~~Sufficient space should be provided between the tree and the curb to allow the evergreens to maintain their branches down to ground level when they mature and the lower branches must be maintained as long as they are healthy.~~
- i. If a parking bay abuts a drive but no other parking, only perimeter trees along the drive and parking are required (no interior parking). See illustration 5.5.3.C.iv: ? j. Perimeter canopy trees are also required along access drives with no parking such as, but not limited to, along a building or between parking areas at a rate of 1 tree per 35lf on both sides of the road unless buildings or natural features make such plantings not feasible or undesirable.

5.5.3.C.iv Parking Lot Landscaping



- v. Waiver. Based upon a sufficiently documented demonstration by the applicant, the Planning Commission may reduce or waive the parking lot landscape requirements when it determines that practical difficulties exist due to parcel shape or configuration or where the design of the site would be enhanced by an alternative design solution while still meeting the intent of this Section. Such action by the Commission may be taken when any or all of the following conditions will be met:
 - a. Preservation of Regulated Woodlands or Wetlands or existing trees will occur;
 - b. Storm water runoff impacts will be lessened;
 - c. Traffic circulation will be substantially improved;
 - d. Vehicular and pedestrian safety will be enhanced.

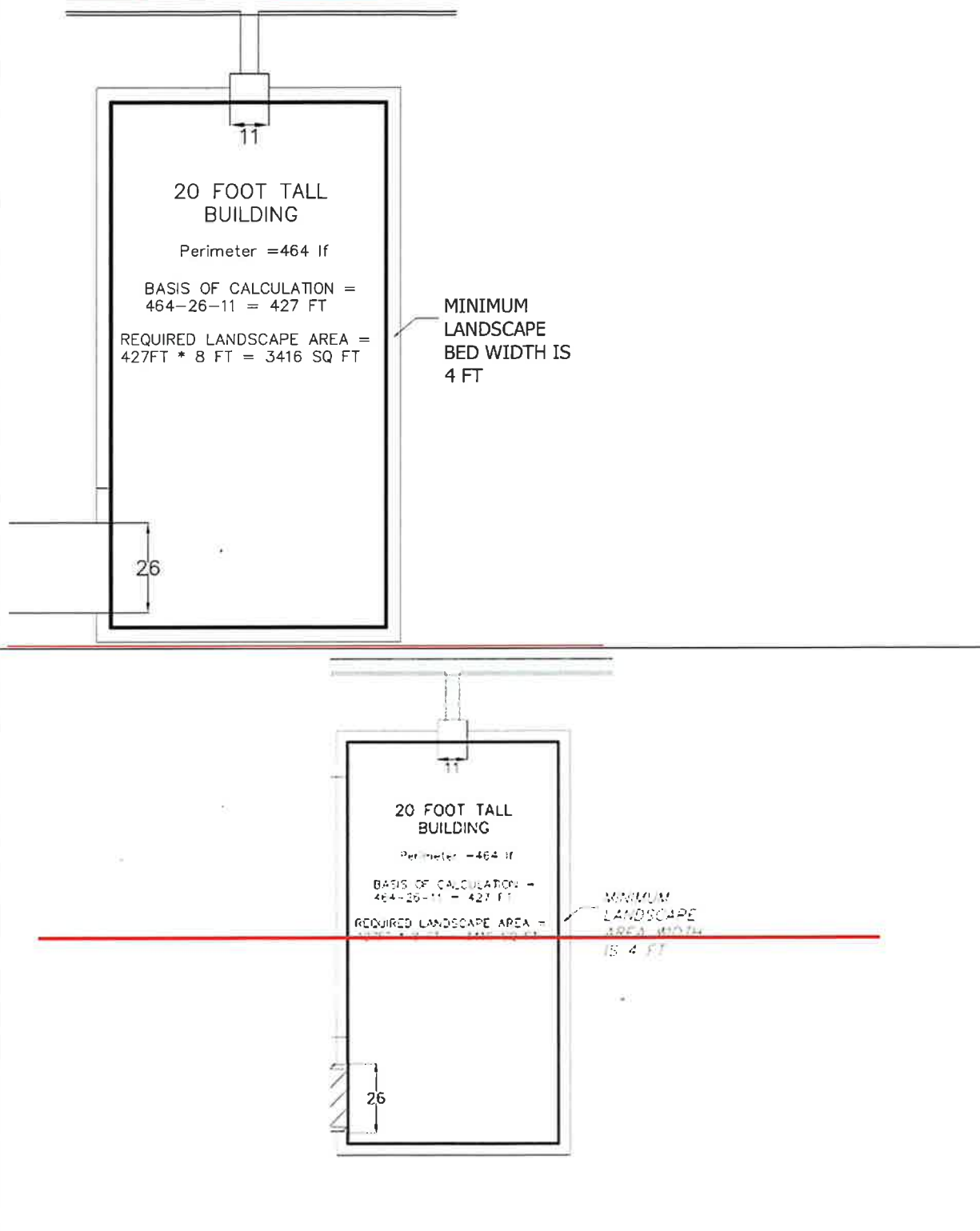
D. Building Foundation Landscape Requirements.

- i. Intent. The intent of this subsection is to provide living landscape space around buildings in order to help integrate them into the surrounding landscape and to improve the aesthetic appearance of the site.
- ii. Requirements. For all buildings or accessory buildings requiring site plan review, the following shall apply:
 - a. There shall be, as a minimum, ~~interior site foundation~~ landscaping square footage equal to the quantity calculated by multiplying the entire perimeter of the building, less ~~the paved access points including walkways to the building (but not~~

~~including those walkways or drives immediately along the building) doorways and vehicular entrance ways to the building interior (i.e., garage doors) by eight (8) feet.~~

- b. Landscaped planting beds shall be placed immediately adjacent to the building for ~~as much of the building as possible, with a minimum no less than of~~ 75% of the building foundation having landscaping, ~~ideally more~~. Landscape beds must have a minimum width measuring four feet from the building. Creativity of the physical configuration of the landscape planting bed shape and dimension is strongly encouraged. ~~Applicant is encouraged to provide additional greenspace adjacent to the building wherever possible.~~
- ~~b.c. Landscape beds shall have a mixture of trees, shrubs, perennials, ornamental grasses and/or annuals. Lawn areas or large areas of mulch shall not be considered as part of the required landscaping area.~~
- ~~e.d. All foundation landscaping areas shall be labeled in square feet on the landscape plan. Lawn areas shall not be considered as part of the required greenspace.~~
- ~~e.e. For the front and any other facades visible from a public street, a minimum of sixty (60) percent of the exterior building perimeter shall be greenspace planted with a mix of trees, shrubs and groundcovers, perennials, grasses, annuals and bulbs. Deciduous canopy and/or large evergreen trees and subcanopy trees may also be included around the building if separated from the building by the appropriate distances.~~
- e.f. If the front and/or a side of the building is at the rear line of the required right-of-way greenbelt, trees included in the foundation plantings of those sides of the building may also count toward the required greenbelt plantings.

5.5.3.D ~~Perimeter Building Perimeter~~ Required Landscaping



f.g. With respect to projects within the TC and TC-1 districts, the Planning Commission may ~~waive the 8-foot width calculation requirements~~ approve a waiver to allow

~~less planted area~~ if equivalent ~~additional planting and/or~~ decorative paving area or amenities are added adjacent to the building.

~~g.h.~~ There shall be landscaping adjacent to patios ~~and~~ outdoor dining areas.

~~h.i.~~ In instances where the building has a first floor overhang greater than 2 feet, the landscaping required under this subsection shall begin at the outside edge of the overhang in order to ensure the landscaping receives sufficient sun and water. In those cases, the extent of the overhang should be shown on the landscape plan with a dashed line or other means.

~~i.j.~~ Foundation landscaping for building perimeter occupied by loading/unloading areas, drivethrough lanes or sidewalks along the building may be located on the outside of these areas without requiring a landscape waiver.

~~j.k.~~ In situations where the building use does not allow landscaping immediately adjacent to the building, alternate placements of required foundation landscaping may be proposed elsewhere on the property. In that case, the alternative area(s) should be clearly labeled as foundation landscaping, with its area in square feet. A Planning Commission waiver is required for the alternate positioning for all cases except as noted above ~~(j)~~.

~~k.l.~~ Plantings shall be no taller than 12 inches when below or adjacent to a building's Fire Department Connection.

iii. Waiver Procedure. The Planning Commission may reduce or waive the building foundation landscaping requirements when it determines that the applicant has established that practical difficulties exist due to parcel size or configuration or where the design of the site would be enhanced by an alternative design solution while still meeting the intent of this Section. Such action will be taken by the Planning Commission when:

- a. Particular pedestrian circulation safety concerns inhibit the application of this requirement; or
- b. Elements or activities that are ancillary to the primary building's function inhibit the application of this requirement;
- c. ~~e.~~ Landscaping has been proposed in other areas on the site that offset the loss of foundation landscaping at the base of the building.

E. Detention/Retention/Sedimentation Basin Landscape Requirements. All detention basins shall be planted with the minimum requirements as set forth in the Landscape Design Manual and shall be designed to have a natural appearance, utilizing ~~natural-looking~~ ~~natural-looking~~ contours whenever possible. Detention basin maintenance shall be provided per Ordinance Chapter 12, Storm Water Management and the plantings shall be maintained per Section 5.5.6 and Section 5.5.7.

F. Subdivision Planting Requirements.

- i. Single-Family Platted Subdivisions or Residential Site Condominiums
 - a. Intent. The intent of this subsection is to create visually appealing single-family residential areas that integrate existing natural resources into the overall landscape design.
 - b. Requirements Adjacent to Major Thoroughfares.
 - (1) That portion of the site abutting major thoroughfare(s) shall include an approved screening plantings and a raised berm per Section 5.5.3.B, contained in a nonaccess greenbelt easement, labeled as such on the plans, and having a minimum width of forty (40) feet.
 - (2) Said non-access greenbelt easement shall be part of the development's open space, not part of a lot or residential unit.

- (3) The screening plantings shall be installed at the time of construction of the subdivision, not individual lots.

c. Street Trees and Boulevard Planting

- (1) Street trees shall be provided in the right(s)-of-way or private access easement for private roads of each lot in accordance with the standards set forth in the Landscape Design Manual, Part I, Section 2.
- (2) The developer shall submit a landscape plan for all of the street trees to be provided within the development, which shall be reviewed by the City.
- (3) A Street Tree Financial Guarantee will be collected at a per tree rate as set by City Council prior to the Full PreConstruction meeting, per Ordinance Chapter 26.5 - Financial Guarantees. There will be no issuance of any Temporary or Final Certificate of Occupancy in the development until this financial guarantee and the Street Tree Maintenance Fee have been paid. No Final Certificate of Occupancy will be granted until the trees have been planted by the developer and inspected and accepted by the City.
- (4) Trees shall be guaranteed by the developer for two (2) growing seasons after installation and approval by the City. All unhealthy and dead plant material shall be replaced by the developer within three (3) months following notice, or early in the next appropriate planting period as determined by the City.

d. Island and Boulevard Planting

- (1) All islands, boulevards and easements shall be landscaped and irrigated. Islands within a cul-de-sac shall not have any plant materials that may obscure vision across the island between heights of three (3) feet to six (6) feet as measured from the established street grade. See the Landscape Design Manual for additional requirements regarding the type and size of plantings.
- (2) Island and boulevard plantings will not count toward the required street tree totals and must be maintained by the developer, property owner or homeowner's association, whichever is applicable.
- (3) A landscape plan shall be submitted to the City for administrative approval by the homeowners association prior to planting any island or entry landscaping revisions.

ii. Single-Family Residential Condominiums without lots/units

- a. Intent. The intent of this subsection is to create visually appealing single-family residential areas that integrate existing natural resources into the overall landscape design.
- b. Requirements Adjacent to Major Thoroughfares
 - (1) That portion of the site abutting major thoroughfare (s) shall include screening plantings and a raised berm per Section 5.5.3.B, contained in a non-access greenbelt easement, labeled as such on the plans, and having a minimum width of 40 feet.
 - (2) The screening plantings shall be installed at the time of construction of the subdivision.

c. Street Trees and Boulevard Planting

- (1) Street trees shall be provided in the right(s) -of-way or private access easement for private roads of each residence at the rate of 1 deciduous canopy tree per dwelling unit.
- (2) The developer shall submit a landscape plan for all of the street trees to be provided within the development, which shall be reviewed by the City.

- (3) A Street Tree Financial Guarantee will be collected at a per tree rate as set by City Council prior to the Full Pre - Construction meeting, per Ordinance Chapter 26.5 – Financial Guarantees. There will be no issuance of any Temporary or Final Certificate of Occupancy in the development until this financial guarantee and the Street Tree Maintenance Fee have been paid. No Final Certificate of Occupancy will be granted until the trees have been planted by the developer and inspected and accepted by the City.
- (4) Trees shall be guaranteed by the developer for two (2) growing seasons after installation and approval by the City. All unhealthy and dead plant material shall be replaced by the developer within three (3) months following notice, or early in the next appropriate planting period as determined by the City.

d. Island and Boulevard Planting

- (1) All islands, boulevards and e a s e m e n t s s h a l l b e landscaped and irrigated. Islands within a cul-de-sac shall not have any plant materials that may obscure vision across the island between heights of three (3) feet to six (6) feet as m e a s u r e d f r o m t h e established street grade. See the Landscape Design Manual for additional requirements regarding the type and size of plantings.
- (2) Island and boulevard plantings will not count toward the required street tree totals and must be maintained by the developer, property owner or homeowner's association, whichever is applicable.
- (3) If an island's or entry's landscaping is to be revised by the homeowner's association, a landscape plan shall be submitted to the City for administrative approval prior to planting.

iii. Multi-Family/Attached Dwelling Units

- a. Intent. The intent of this subsection is to create visually appealing multi-family residential areas that integrate natural resources into the overall landscape design.
- b. Requirements. For all multiple-family or other development with attached dwelling units (other than a single RT dwelling on an individual lot) the following shall apply:
 - (1) Three trees for each dwelling unit on the first floor shall be provided across the site. At least 75% of those trees shall be deciduous canopy or large evergreen trees. The remainder can be sub-canopy or ornamental trees to add diversity to the site.
 - (2) In addition, there shall be one deciduous canopy tree along interior roads for every 35 feet of lineal interior roadway (excluding driveways, interior roads adjacent to public rights-of-way and parking entry drives), along each side of the roadway. The spacing of the deciduous canopy trees along the drive shall be a minimum of 25 feet and a maximum of 35 feet unless driveways require different spacing. In case of overhead utility lines, deciduous sub-canopy trees can be substituted for deciduous canopy trees at a rate of 1.5 sub-canopy tree for each 1 canopy tree. Those sub-canopy trees would not count toward the limit placed in subsection (1) above. For purposes of the Financial Guarantee and Maintenance Bond, the trees along the interior drive can be counted as site landscaping, not street trees. Any street trees along public roads are considered to be street trees for Financial Guarantee and Maintenance Bond purposes.

There shall be trees placed between the interior drive and buildings at or exceeding these minimum rates:

- 3-4 connected units – 1 tree
- 5-7 connected units – 2 trees
- 8 or more connected units – 1 tree per 3 units, rounded up

For purposes of the Financial Guarantee and Maintenance Bond, the trees along private interior drives can be counted as site landscaping, not street trees. Any street trees along public roads shall be considered as street trees for Financial Guarantee and Maintenance Bond purposes.

~~(2)~~(3) A mixture of shrubs, subcanopy trees, groundcovers, perennials, annuals, and/or ornamental grasses shall be provided as foundation plantings covering at least 35% percent of the building perimeter facing the interior drive.

~~(3)~~(4) Parking lots for these developments shall meet the layout and landscaping requirements of Section 5.5.3.C but unit trees from Requirements section (1) may be used to meet the parking lot interior and perimeter tree requirements.

c. Island and Boulevard Planting

(1) All islands, boulevards and easements shall be landscaped and irrigated. Islands within a cul-de-sac shall not have any plant materials that may obscure vision across the island between heights of three (3) feet to six (6) feet as measured from the established street grade. See the Landscape Design Manual for additional requirements regarding the type and size of plantings.

(2) Island and boulevard plantings will not count toward the required street tree totals and must be maintained by the developer, property owner or homeowner's association, whichever is applicable.

(3) If an island's or entry's landscaping is to be revised by the homeowner's association, a landscape plan shall be submitted to the City for administrative approval prior to planting.

iv. Urban Multi-Family/Attached Dwelling Units

a. Intent. The intent of this subsection is to create visually appealing multifamily residential developments in areas where more density is desired. It is not intended for vertically mixed-use projects. It may only be used for projects proposed in the Town Center (TC and TC-1), RC and City West zoning districts. A waiver from the Planning Commission is required to use it in other districts.

Refer to the Town Center Study and the City West Design Manual for design guidelines. Where possible, pocket parks distributed across the development are desired for these urban multi-family residential projects.

b. Requirements. For all multiple family development with attached dwelling units in the districts noted above the following shall apply:

(1) One and one-half (1.5) tree for each dwelling unit on the first floor shall be provided across the site. At least 75% of those trees shall be deciduous canopy or large evergreen trees. The remainder can be sub-canopy or ornamental trees to add diversity to the site.

- (2) In addition, there shall be one deciduous canopy tree along interior roads for every 50 feet of lineal interior roadway (excluding driveways, interior roads adjacent to public rights-of-way and parking entry drives), along each side of the roadway. The spacing of the deciduous canopy trees along the drive shall be a minimum of 35 feet and a maximum of 50 feet unless driveways require different spacing. In case of overhead utility lines, deciduous sub-canopy trees can be substituted for deciduous canopy trees at a rate of 1.5 sub-canopy tree for each 1 canopy tree. Those sub-canopy trees would not count toward the limit placed in subsection (1) above.

There shall be trees placed between the interior drive and the buildings at or exceeding these minimum rates:

- 3-4 connected units – 1 tree
- 5-7 connected units – 2 trees
- 8 or more connected units – 1 tree per 3 units, rounded up

For purposes of the Financial Guarantee and Maintenance Bond, the trees along private interior drives can be counted as site landscaping, not street trees. Any street trees along public roads shall be considered as street trees for Financial Guarantee and Maintenance Bond purposes.

Interior drive trees shall be located along the side of parking bays placed along an interior drive (no additional parking lot perimeter or interior trees are required for such bays).

- (3) At least 2 shrubs per ground floor dwelling unit shall be planted around the development. These shrubs are not to be used as part of the required foundation plantings noted below – ideally, they will be fruiting native shrubs planted in masses on the site to support birds and other wildlife.
- (4) A mixture of shrubs, groundcovers, perennials, annuals, and/or ornamental grasses shall be provided as foundation plantings covering at least 25% percent of the building face(s) fronting on all interior drives.
- (5) Parking lots for these developments shall meet the layout requirements of Section 5.3. Landscaping shall be provided as follows:
- a. 1 interior canopy tree in an island at least 200sf in area per 10 spaces
 - b. Endcap islands with trees are required and may be met with the interior trees noted above
 - c. Perimeter canopy trees shall be provided at 1 per 35lf of perimeter except where buildings are within 20 feet of the parking lot

- (6) Multi-family unit trees may be used to meet the parking lot interior and perimeter tree requirements but not the interior drive requirements.
- (7) Options for Credit – In order to offer design flexibility and incentives to provide "green" design alternatives, the following options are available (calculations for any of the options utilized must be provided on the landscape plan):
- a. Green roof on buildings or carports/garages:
 - 1) Minimum runoff coefficient C factor reduction to 0.45
 - 2) 700sf = 1 interior drive tree (up to 25% of requirement) or 700sf = 1 multifamily unit tree (up to 10% of requirement)
 - b. Green (living) wall on buildings or garages:
 - 1) 700sf = 1 interior drive or multifamily unit tree
 - 2) Up to 10% of required trees
 - c. Living retaining wall – 1000 sf = 1 multifamily unit tree (or drive tree if it's adjacent to a drive).
 - d. Clusters of large native shrubs – in addition to shrub requirements noted above
 - 1) 8 shrubs = 1 multi-family unit tree – more than 8 shrubs can be in a cluster
 - 2) Up to 15% of the multifamily unit canopy tree requirement
 - e. Flower boxes on all windows of at least 3 lowest floors of building – especially for designs with no greenspace at base of building
 - 1) Boxes covering at least 25% of building linear frontage facing road may count toward the building foundation landscaping requirement
 - 2) Box material shall be durable and weather-resistant
 - 3) Developer shall provide initial perennial plantings in all boxes – it is understood that residents may change plantings over time, at no risk to the developer.
 - f. Boulevard with densely-planted center island beyond entry island
 - 1) 700sf = 1 canopy street tree
 - 2) Lawn would not qualify for this credit
 - g. Pollinator/Butterfly/Rain gardens:
 - 1) 700sf = 1 multifamily unit tree or 8 required multifamily unit shrubs (not foundation plantings)
 - 2) No limit on size or reduction
 - h. Natural area preservation within the developed portion of a site:
 - 1) Preserved trees 4" dbh and larger in a natural area can count toward multifamily unit tree requirement (one for one basis) for up to 50% of requirement IF they are desirable Michigan native species (i.e. not boxelder) or non-native species
 - 2) Mulch or limestone fines ADA-compliant pathway is created through nature area

3) Natural groundcover is kept and maintained in a natural condition

4) All invasive species listed below are removed and maintained for 3 years – to be maintained by HOA or owner after that:

- Buckthorn (*Rhamnus spp.*)
- Honeysuckle species (*Lonicera spp.*)
- Autumn olive and Russian olive (*Eleagnus spp.*)
- Multiflora rose (*Rosa multiflora*)
- Privet species (*Ligustrum spp.*)
- Barberry (*Berberis spp.*)
- Oriental bittersweet (*Celastrus orientalis*)
- Garlic mustard (*Alliaria petiolata*)
- Dame's Rocket (*Hesperis matronalis*)

i. All of the above must be maintained on an ongoing basis by owner or HOA. A maintenance plan for any of the above options must be submitted for approval as part of the site plan process and provided to the party responsible for maintenance. If any of the alternatives provided fail and maintenance/restoration is not desired by the responsible party, they must plant the tree(s) for which credit was given on the site.

j. Definitions:

- Green roof – roof of structure planted with grasses, sedges, sedums or other plantings
- Green wall – element of building with living plants along entire face
- Living wall – retaining wall constructed to support living plants and planted with vines, perennials or other long-lived plants

c. Island and Boulevard Planting

(1) All islands, boulevards and easements shall be landscaped. Islands within a cul-de-sac shall not have any plant materials that may obscure vision across the island between heights of three (3) feet to six (6) feet as measured from the established street grade. See the Landscape Design Manual for additional requirements regarding the type and size of plantings.

(2) Island and boulevard plantings will not count toward the required street tree totals and must be maintained by the developer, property owner or homeowner's association, whichever is applicable.

(3) If an island's or entry's landscaping is to be revised by the homeowner's association, a landscape plan shall be submitted to the City for administrative approval prior to planting.

iv. Non-Residential Subdivisions

a. Intent. The intent of this subsection is to create visually appealing non-residential areas that integrate existing natural resources into the overall landscape design.

- b. Requirements. For all ~~non~~-non-residential subdivisions or non-residential site condominiums, the following landscape requirements shall apply:
- (1) Areas abutting the public rights-of-way of major roadways shall be landscaped according to Section 5.5.3.B.ii and provided prior to lot development.
 - (2) Required landscape screening, where adjacent to residential, per Section 5.5.3.A.ii, is to be installed prior to development of any lots.
 - (3) Parking lot landscaping requirements per Section 5.5.3.C shall apply to each lot.
 - (4) Building foundation landscape requirements per Section 5.5.3.D shall apply to each lot.
 - (5) Screening of outdoor storage, motor vehicles, off street parking, and areas used for vehicle repair, deliveries, unloading, loading or transport is to be provided per Sections 3.14, 3.15, 4.55, 4.56 and Section 5.-5-.
 - (6) Interior streets of the non-residential subdivision shall be landscaped per each lot as they are built upon as follows (Note: These planting requirements are in place of those in Zoning Section 5.5.3.B except for along public rights -of -way):
 - (A) The greenbelt width shall be equal to the required zoning district setbacks for buildings and parking lots.
 - (B) 1 deciduous canopy or one large evergreen tree per 35 linear feet of street frontage is required. Evergreen trees shall be no closer than 20 feet from the street. At least 1 of these trees per 50 linear feet, shall be planted as a street tree (within 15 feet of the street).
 - (C) 1 sub-canopy tree and 2 shrubs per 40 feet of total linear frontage along the street are required (these shrubs are in addition to the parking lot screening requirement below).
 - (D) Massing of ornamental grasses, perennials, and/ or annuals and bulbs is required for 10% of total linear footage adjacent to the street. Use of them is especially encouraged at entry points or to highlight significant design. (Also reference Section 5.9 Corner Clearance).
 - (E) The width of the access drive(s) shall be deducted from the frontage in calculating the above landscape requirements.
 - (F) In addition to the above, evergreen shrubs are required to provide screening of parking areas. Shrubs are to be at least 30" in height at planting, 3 feet tall at maturity and/or maintained at a minimum height of 3 feet. A minimum opacity shall be provided and maintained at 80% during winter and 90% percent during summer within 2 years of acceptance by the city. This applies to all sections of parking visible from the street(s).
 - (G) An undulating berm with a minimum height of 36" may be used in place of the evergreen hedge to screen the parking lot. However, if the berm is found to be lower than 36", an evergreen hedge will be required to provide the required screening. No landscape waiver is required to use a berm in place of shrubs.

G. Individual (non-subdivision/non-site condominium) single-family requirements.

- i. Street trees shall be provided in front of each single-family parcel, in accordance with the standards set forth in the Landscape Design Manual Section 2.a for lots within single-family platted subdivisions.

- ii. The developer/builder or homeowner shall depict the street trees on the plot plan, which shall be reviewed by the City.
- iii. A Street Tree Financial Guarantee will be collected at a per tree rate set by City Council prior to the issuance of a building permit, in accordance with the provisions of Chapter 26.5 of the Novi Code of Ordinances.
- iv. No Final Certificate of Occupancy will be granted until the street trees have been planted by the developer/builder or homeowner and inspected and approved by the City. Once the trees have been approved, the Financial Guarantee will be reduced to a Maintenance Bond established in Section 26.5, or a minimum amount set by City Council, whichever is higher. The Street Tree Financial Guarantee will not be reduced until the trees have been planted and accepted by the City.
- v. Trees shall be guaranteed by the developer/builder or homeowner for two (2) growing seasons after installation and approval. All unhealthy and dead trees shall be replaced by the developer/ builder or homeowner within three (3) months following notice, as determined by the City. At the conclusion of the two--year maintenance period, the owner or builder shall request an inspection of the trees. If the trees are healthy, the Maintenance Bond will be returned to the payer. If required, the maintenance bond will be used to replace any trees not replaced by the developer/builder or homeowner.

4. Landscape Plan Review Standards.

The landscape plan shall be reviewed relative to:

- A. The intent of the overall design of the site and the design of the proposed landscape materials to achieve unique, attractive and significant landscaping on the site as a whole;
- B. The proper type, spacing, height, placement and location of plant materials in order to ensure that the intent of this Ordinance is met;
- C. The choice and selection of plant materials so as to ensure that root systems will not interfere with public utilities and so that fruit and other debris, except leaves, will not constitute a nuisance within public rights-of-way or to abutting property owners;
- D. The choice and selection of plant materials so as to ensure that the type of plantings selected will be of a type that will survive and thrive in the area in which they are to be located;
- E. The proper relationship between deciduous and evergreen plant materials exists so as to assure that the desired obscuring effect will be accomplished; and
- F. All requirements of this Section and of the Landscape Design Manual.

5. Installation Specifications.

- A. Approved Planting Plan. Wherever in this Ordinance landscape plantings are required or permitted, they shall be planted in accordance with the approved final stamped landscape plan.
- B. Time of Planting. All plant materials shall be installed between March 15 and November 15. All installed landscapes including plant materials, mulch, staking, irrigation, and sodding, must be installed and inspected by the City prior to issuance of a Temporary Certificate of Occupancy. At that time, a financial guarantee as set in Chapter 26.5 of the Code of Ordinances to cover any deficiencies will be held until inspection occurs for a Final Certificate of Occupancy. In order to receive a Final Certificate of Occupancy, the deficiencies must be addressed within 30 days during the March 15 to November 15 planting season. Under extraordinary circumstances related to the inability to plant during the approved installation period, a financial guarantee as set in Chapter 26.5 to cover of any deficiencies will be held until the inspection for a Final Certificate of Occupancy. If the deficiencies are not addressed in the time period outlined above, the City will cash in the amount being held for the outstanding items

and remedy those items. Note: For street trees, a separate financial guarantee is set in Chapter 26.5.

- C. Inspections. A City representative will perform landscape inspections following a request from the developer. The inspection time period is from April 15 to November 15 (actual inspection scheduling depends on plants being in condition to inspect early in the spring or late in fall). If an inspection is requested between November 16 and April 15, a financial guarantee is to be provided based on the amount set in Chapter 26.5 for the material cost of incomplete items for a Temporary Certificate of Occupancy as outlined above. Beginning April 15, the Applicant then has thirty (30) days to complete items or the City will cash in the amount being held and finish the job with the financial guarantee funds.
- D. Establishment Period. The establishment period for the plant material guarantee will begin at the Final Certificate of Occupancy inspection approval and continue to two (2) years from that date. All plantings shall be properly planted and be in a healthy, growing condition at commencement of the establishment period. At the end of the establishment period, any plantings which are twenty (20) percent dead or disfigured (or more) shall be replaced before a final maintenance period inspection is requested. At that time, all plantings shall be brought up to the condition of the approved landscaping by the developer. If they are not, the City will cash in the amount being held as a maintenance bond for the landscaping and remedy those items.
- E. Notice of Installation/Minor Changes
 - i. The owner or developer must notify the City of the installation schedule. The City may reject any material which is defective or in generally poor condition.
 - ii. Minor changes due to, lack of plant availability or minor placement changes due to conditions discovered during construction may be approved in writing by the City Landscape Architect when there is no reduction in the quality of plant materials, no significant change in size or location of plant material, the new plant material is compatible with the area and is the same general type (deciduous/ evergreen), exhibiting same design characteristics (mature height, crown), as the material being replaced. If the applicant purchases and/or installs unapproved material, they do so at the risk that they may need to be removed if the change is not approved.
 - iii. If these criteria are not fulfilled or changes from the approved plan are significant in terms of number of plantings changed or in planting layout, such that the provided plan is not predominately representative of the actual installed plantings, a revised or as-built plan will be required. An additional review fee or approval by the Planning Commission may also be required, depending on the extent of revisions. An additional inspection fee shall be charged for any landscaping inspection required beyond two.

6. Maintenance.

- A. Maintenance shall be carried out on an ongoing basis.
 - i. Maintenance of required plantings by the owner shall be carried out so as to present a healthy, neat and orderly appearance, free from dead plants, weeds, refuse, and debris.
 - ~~ii. It shall be unlawful to intentionally abuse or injure any tree on public or private property.~~
 - ~~iii. Trees shall be trimmed or pruned in a natural and proportionate manner per the species/cultivar's natural appearance, in accordance with best management practices of the landscape industry. If severe or aggressive trimming or pruning of a tree that was required to be planted as part of a development plan occurs such that the ordinance's intent for the trees is compromised, the property shall be considered in non-conformity with this~~

~~ordinance, and the Director of Community Development or the City's Forester may require the removal and replacement of such tree in accordance with this Chapter.~~

~~B. To insure proper maintenance and as a condition of Final Site Plan approval, the City shall require the property owner to enter into and record with the office of the Oakland County Register of Deeds a Landscape Maintenance Agreement, or include such provisions as part of subdivision restrictions or condominium master deed, each of which shall be approved by the City Attorney. Such instrument shall identify the minimum plan of maintenance, the person or entity responsible for maintenance, and shall provide the procedure, authority and finance for City cure of breaches by the responsible entity. Such instrument shall also include provisions that:~~

~~iv.ii. All unhealthy and dead material shall be replaced within three (3) months, or the next appropriate planting period, whichever is deemed appropriate by the City;~~

~~iii. Plantings shall be guaranteed for 2 growing seasons after the date of the acceptance of the installation; and~~

~~iv. Tree stakes, guy wires and tree wrap are to be removed after one winter season;~~

v. All landscaped areas shall be provided with a method of providing water for the landscaping during establishment and long-term survival. A permanent irrigation system or other method of providing water on a regular basis must be installed if plantings that require a consistent source of water for survival are part of the landscape;

vi. The use of plantings that don't require regular watering once established (xeriscaping), is encouraged. In that case, the applicant must provide a method for providing sufficient water for establishment, and a backup source of water, such as hose bibbs or a statement that water trucks or other means will be used in times of extreme drought. Locations of hose bibbs on the building must be shown on the landscape plan if they will be used;

~~vii.i. Tree stakes, guy wires and tree wrap are to be removed after one winter season;~~

~~viii.i. Plantings shall be guaranteed for 2 growing seasons after the date of the acceptance of the installation; and~~

vii. If grass or weeds exceed the height specified in Chapter 21 of the Novi Code of Ordinances, or if shrubs are allowed to obstruct vision across any portion of parking or boulevard islands, or within corner clearance vision zones, and the responsible party is unwilling to rectify the problem, the City will abate such violations and shall assess the cost of such abatement measures in the manner proposed by the developer and approved by the City in such instrument.

~~B. It shall be unlawful to intentionally abuse or injure any tree on public or private property.~~

~~C. Trees shall be trimmed or pruned in a natural and proportionate manner per the species/cultivar's natural appearance, in accordance with best management practices of the landscape industry. If severe or aggressive trimming or pruning of a tree that was required to be planted as part of a development plan occurs such that the ordinance's intent for the trees is compromised, the property shall be considered in non-conformity with this ordinance, and the Director of Community Development or the City's Forester may require the removal and replacement of such tree in accordance with this Chapter.~~

C.D. Phragmites and Japanese Knotweed Control

i. If Phragmites australis (commonly known as Giant Reed) or Japanese Knotweed (Fallopia japonica ~~or and~~ related species) are found on the

property, all populations of it in the immediate areas of the project shall be shown on the plan. A plan for the species' removal shall be added to the site plan that includes treatment by a licensed pesticide applicator, using MDEQ approved means, at the time of site preparation, or the soonest appropriate time after that, and follow up treatments shall be performed as necessary. The City's Landscape Architect shall determine the extent to which such treatment is required, given the size and condition and other factors related to the property.

- ii. The invasive species' population(s) will be inspected by the City's Landscape Architect at the time of the landscape inspection for approval of the installed landscape. If they were treated prior to such inspection, a copy of the invoice from the vendor who performed the work shall be provided to the City. If it is to be treated after the inspection, the invoice shall be sent to the City when the work is complete. A note to this effect shall be included in the plans with the other notes regarding treatment of the Phragmites and/or Knotweed on the site. In any case, all treatment reports shall be provided to the City Landscape Architect or designated alternate.
- iii. Follow-up treatments during the 2-year maintenance period or beyond may be necessary to completely eradicate regrowth of those populations. Such treatments must be completed as necessary.
- iv. A follow-up inspection of the status of the invasive species' removal will be done as part of the 2-year landscape maintenance inspection. If further treatment to remove either of the species is determined to be required, such removal shall be done by a licensed pesticide applicator at the appropriate time (per MDEQ recommendations). The 2-year landscape maintenance bond required by this Section will be held until proof of any required follow-up treatment in the form of an invoice for the treatments is provided to the City's Landscape Architect or other approved official.
- v. Following the 2-year inspection, the landowner is expected to maintain the project location in a condition free of Phragmites and/or Japanese knotweed to the extent reasonably practical.

7. Responsibility and Certificates of Occupancy. The owner of the property subject to the requirements of this Section shall be responsible for installing and maintaining landscaping per the approved final landscape plan as specified in this Section. Where the property is occupied by a person other than the owner, the occupant shall also be responsible for maintenance. All landscaping work required pursuant to this Section shall be treated as a site improvement for purposes of Sections 7.7.8 and 7.7.9.

(Amended by Ord. No. 18-283, Pt. 1, 6-5-2017; Ord. No. 18.293, Pt. 1, 10-26-2020; Ord. No. 18.301, Pt. XXIV, 7-22-2024)

**PROPOSED
LANDSCAPE DESIGN MANUAL AMENDMENTS
AS HIGHLIGHTED IN COLORED TEXT**

CITY OF NOVI

LANDSCAPE DESIGN MANUAL

(Adopted by City Council Resolution dated 8-25-03) – revised 2020, 2026

TABLE OF CONTENTS

Part I.	Supplemental Requirements and Procedures
Part II	Screening Opacity Diagrams
Part III.	Standard Planting Details
Part IV.	Street Tree List
Part V.	Suggested Plant Material List

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:

<u>Ordinance Section #</u>	<u>Title/Relevant Section</u>
3.6	Notes to District Standards
3.6.M:	Wetland/Watercourse setback
3.9.7	MH-Mobile Home district buffer
3.11:	GE Gateway East District – particularly section 6
3.12:	Special Development Option (SDO) for the GE District
3.14.4, 3.14.5.B&E:	I-1
3.15.1.B, 3.15.2:	I-2
3.19.3&7.D:	OST Retail Service Overlay
3.20.2.A&C:	OST Required Conditions
3.21.2.A.iii&iv:	PSLR Overlay
3.22	P-1
3.23.1.vi	Conference District
3.27.1. C,D,F	TC and TC-1 Required Conditions
3.28.6&10	One Family Clustering Option
3.29.2	RUD buffering
4.12.1	Day Care screening

4.13.2	Recreation Areas/Centers
4.19.2.F	Accessory Uses – Refuse Bin
4.37.4	Drive-in businesses
4.40.2.F	Fast food restaurants
4.55	Outdoor Storage Yards
4.58	Junkyards
4.74	Parking for Sale of Motor Vehicles in P-1 District
4.80.1.B & 2.B	Open Air Businesses
4.86.H	Other Uses not Included in a District – Towers
5.2	Off-Street Parking
5.3	Off-Street Stacking, Parking Lot Layout Standards
5.4.2	Loading Zone Screening for Business and Other Commercial Zoning
5.9	Corner clearance
5.11	Fences

CODE OF ORDINANCES

Ordinance Section #	Title/Relevant Section
11-143	Design Considerations – drainage/slopes
12 Article V, 12-275	Wetland and Watercourse Protection
29	Soil – including Sedimentation Control
36	Waterways
37	Woodlands Protection

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) The berm shall be landscaped and maintained in a clean, orderly, and growing condition.
- (b) The berm must be planted with a combination of trees, shrubs, sod or other living ground covers.
- (c) 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. (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.
- (d) 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. 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.
- (e) 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.
- (f) 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:

(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).

Table 1.a.(1)(f): 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

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

(g) 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. Developments Adjacent to Public Rights of Way PRIVATE ROAD REQS?

(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	Distance 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 in front of each lot in the right-of-way in accordance with the following standards for large deciduous canopy trees :

Table 2.a.(2) Street Tree Requirements for Single Family Residential Lots

Lineal Frontage*	Trees Required
<70 feet	1 tree
> or =70 feet	2 trees

> or =105 feet	3 trees
> or =140 feet	4 trees
> or =175 feet	5 trees

* Driveway width and corner clearance zones may be subtracted from the lineal frontage.

- (a) Corner lots shall have trees planted along both streets in accordance with the above requirements for each frontage, provided that trees are not planted within the 25 foot corner clearance zone (Section 5.9) or Road Commission for Oakland County (RCOC) required clear vision zone.
 - (b) Subdivision open spaces shall have street trees located within the right-of-way at a rate of 1 tree per 35lf (not including frontage in clear vision zones).
 - (c) Trees shall not be planted closer than 10 feet from any driveway.
 - (d) Distances between trees and curbs or sidewalks shall be:
 - 1. At least (4) feet for deciduous canopy trees and 2.5' for subcanopy trees.
 - 2. At least 5 feet for shrubs behind curbs with angled or perpendicular parking
 - (e) 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).
 - (f) 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.
- b. Single-family or residential site condominiums with no lot lines.
- (1) **Street Tree Requirement:** 1 canopy or 1.5 ornamental trees per residential unit.
 - (2) **Tree Placement:** In front of residential unit in the area between the sidewalk and the curb as described in the Charts below:

Minimum planting area widths:

Table 2.b.(1) 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

- 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 area shall be landscaped with a combination of 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. OKAY WITH USING WOODLAND REPLACEMENTS FOR THIS – HOW DO WE CODIFY IT?
- 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 should be clustered at a distance approximately 10 feet from the permanent water level line or pond bottom but shouldn't be 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.
- 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.
- e. Contact the City's wetland consultant when specifying basin seed mix. The seed mix(es)' species composition and cover crop(s) should 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 should 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 remove soil compaction. The seeding area shall be prepared per the recommendations of the native seed vendor.
- g. 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 or landscape architect 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.

- 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.e: 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.
- f. Woodland tree replacement species shall have roughly the same composition as the native trees removed in order to maintain 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.
 - iii. The counts of woodland replacement trees shall not be included in the breakdown described above (items a-d).

- 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 above adjacent paving for clear sight distance within 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 necessary.
- f. 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 adjacent to vehicular use areas.

6. Transformers/Utility Boxes/Irrigation Control Boxes

All transformer and utility boxes 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.

- 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 (refer to Section 5.9).
 - h. A solid fence or wall may be approved if warranted by safety or site limitations.
7. **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.
8. **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.

9. **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 of 5 spaces or more to a parking lot, or equivalent paving area

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

The landscape plan shall contain the following information:

- a. Name, address and telephone number of the owner and developer or association.
- ~~b.a. 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.~~
- e.b. A legal description or boundary line survey of the site on which the work is to be performed.
- ~~d.c. Project Name and address (or other information showing the site location).~~
- e.d. Zoning districts of the proposed site and adjacent properties.
- e. Miss Dig contact information on all sheets.
- f. 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.
- ~~f.a. Miss Dig contact information on all sheets.~~
- g. The seal of a Registered or Licensed Landscape Architect responsible for the plans (on Final Site Plans and Stamping Sets). **Live signature of the landscape architect is required on Stamping Sets.**

- h. 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.
- i. A plan of the site at a scale that matches other plans in the plan set and is legible with proper north indication. In addition, for reviewing purposes, the landscape plan shall be submitted in a scale not to exceed 1"=20' for detailed areas, 1"=60' for large areas. 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) Tree protection fence locations must be shown on Removal/Demolition and Grading Plans/Soil Erosion Control plans.
 - (e) All trees 8" dbh or greater within 50 feet of construction shall also be included in the tree survey.
 - (f) 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.
 - (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) Location, type and size of all proposed plant materials. For Final Site Plan submittals, plants shall be indicated with actual plant material names or symbols linked to a plant list.

- (5) 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.)
- (6) 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).
- (7) An indication of area(s) clear of trees or shrubs for snow depositing areas in winter.
- j. Right-of-way greenbelt, street tree, foundation and other landscaping calculation requirements, including the amount required and the amount provided. Include labels in square feet for all landscape areas intended to satisfy landscape requirements.
- k. Parking lot landscaping calculations, including interior and perimeter requirements, should include the amount required and the amount provided. Include labels in square feet for all landscape areas intended to satisfy landscape requirements.
- l. A planting schedule 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.
(At least 50% of all species used, not including those used for woodland replacements, or in seed mixes, shall be species native to Michigan, and preferably Oakland County. (www.michiganflora.net may be used as a reference to determine whether a species is native).
- m. 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.
- n. 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).
- o. A plan for site preparation, seeding, establishment and maintenance of any native seed mixes per the direction of the native seed vendor.
- p. 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).
- q. Wall detail(s), when applicable, with notes indicating materials, height and type of construction and footings. Wall designs and calculations for any walls greater than or equal to 3 ½ feet/48 inches in height must be provided by a design or structural engineer and approved with building plans
- r. Fencing details – tree protection, screening and decorative fencing
- s. Notes required:

- (1) A note indicating the proposed estimated planting dates (should be between March 15 and November 15).
 - (2) 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.
 - (3) A note indicating that the plants should be Upper Midwest/Great Lakes grown.
 - (4) 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 growing period.
- t. 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.
 - u. If an irrigation system will be used, plans for it must be provided with final site plans.
 - v. 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.

10. 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.
- (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 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.

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.

(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: CHANGES???

Table 10.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

(2) Proposed Plant Material

(a) Plant Sizes.

i. The minimum sizes are as follows:

Table 10.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. QUESTIONS
- (5) Multi-stem trees are to be eight to ten (8-10) foot 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 10.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)

c. 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 10.c – Prohibited Plants

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

<i>Salix babylonica</i> **	Weeping Willow	Deciduous Canopy Tree
<i>Salix nigra</i> **	Black Willow	Deciduous Canopy Tree
<i>Ulmus americana</i> *	American Elm	Canopy Deciduous Tree
<i>Ulmus pumila</i>	Siberian Elm	Canopy Deciduous Tree
<i>Vinca minor</i>	Common Periwinkle	Groundcover

* Disease resistant cultivars are acceptable

** Allowed under special circumstances

d. Recommended Trees for Planting Under Overhead Utilities:

Table 10.d – Trees for Under and Near Overhead Utility lines

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

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

e. Collected or Transplanted Trees

- (1) All collected trees shall be from on site and inspected by the City. Trees may be rejected for reasons of 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 **be in good health and** conform to standards set forth in Section **910**.

- (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.

11. 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 rootball'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.

**PROPOSED REVISED
STREET TREES SPECIES CHARACTERISTICS LIST**

City of Novi

PART IV: APPROVED TREE SPECIES LIST

Latin 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	Mature Height	Growth Rate	Special Notes
LARGE DECIDUOUS TREES - Mature Height Greater Than 40 Feet													
<i>Acer rubrum</i>	Red Maple	X					X	Yellow- Red	Small/red-petaled clusters	Winged seeds	40-60'	Fast	
<i>Acer saccharum</i>	Sugar Maple	X						Yellow - Red	Small/pale yellow clusters	Winged seeds	60-75'	Moderate	Sweet sap can be boiled down into maple syrup
<i>Acer x freemanii</i>	Autumn Blaze Maple	X			X	Moderate		Orange - Red	Inconspicuous/ Clusters	Winged seeds	40-60'	Fast	
<i>Betula papyrifera</i>	Paper Birch	X				X		Yellow	Inconspicuous/ Catkins	Cone-like clusters	50-70'	Fast	Distinct white, peeling bark
<i>Carya cordiformis</i>	Bitternut Hickory	X						Yellow - Brown	Small/Green catkins	Large, pear-shaped nuts	50-70'	Slow	
<i>Carya glabra</i>	Pignut Hickory	X			Moderate			Golden brown	Small/Green catkins	Large, pear-shaped nuts	60-100'	Slow	
<i>Carya ovata</i>	Shagbark Hickory	X			X			Golden brown	Small/Green catkins	Large, rounded nuts	60-80'	Slow	
<i>Celtis occidentalis</i>	Hackberry	X			X	Moderate	X	Yellow	Inconspicuous/ Clusters	Small, fleshy drupes	40-60'	Fast	Susceptible to ice damage; weak wood; fruit persists through winter
<i>Cercidiphyllum japonicum</i>	Katsuratree					Moderate	X	Yellow	Small/red-petaled clusters	Small pods	40-60'	Moderate	Shallow-rooted and sensitive to drought; only female trees produce fruit
<i>Cladrastis lutea</i>	Yellowwood				Moderate	Moderate	X	Yellow	Long/White/ catkins/Fragrant	Large pods	30-50'	Moderate	Susceptible to ice damage; weak wood; fruit persists through winter
<i>Diospyros virginiana</i>	Persimmon				X			Yellow - Red	Small/ white/fragrant	Large, orange berry	30-60'	Slow	Only female trees produce fruit; produces root suckers
<i>Eucommia ulmoides</i>	Hardy Rubbertree				X	Moderate		No color change	Inconspicuous	Waxy, winged capsule	40-60'	Moderate	When torn leaves produce elastic, rubbery substance
<i>Ginkgo biloba</i>	Ginkgo				X	X		Gold	Inconspicuous	Fleshy with strong odor	50-80'	Slow	Only female trees produce fruit; unique fan-shaped leaves
<i>Gleditsia triacanthos inermis</i>	Thornless Honeylocust	X			X	X	X	Gold	Inconspicuous/ Spikes	Large brown pods	30-70'	Fast	Drops debris; don't plant near sidewalks
<i>Gymnocladus dioicus</i>	Kentucky Coffeetree	X			X	X		Yellow	Long/White clusters	Large leathery pods	60-75'	Slow	Only female trees produce fruit; showy flower blooms
<i>Juglans nigra</i>	Black Walnut	X			Moderate		X	Yellow	Inconspicuous/ Clusters	Large nut in green husk	50-75'	Moderate	Drops large fruit
<i>Liquidambar styraciflua</i>	Sweetgum			X	X	X	X	Red - Purple	Inconspicuous/ Spikes	Round, spiky capsules	60-75'	Moderate	
<i>Liriodendron tulipifera</i>	Tuliptree	X					X	Gold	Yellow/Tulip-like	Cluster of winged seeds	70-90'	Fast	Leaf yellowing/drop in hot, dry conditions; showy flower blooms
<i>Nyssa sylvatica</i>	Blackgum	X			Moderate	Moderate		Red	Long/White clusters	Small, purple drupes	30-50'	Slow	
<i>Platanus occidentalis</i>	American Sycamore	X			X		X	Brown	Dense clusters on stalks	Dense ball of seeds	75-100'	Fast	Drops a lot of debris

<i>Prunus serotina</i>	Black Cherry	X			Moderate	X		Yellow - Orange	Small/White clusters	Small, purple cherries	50-60'	Fast	Self-seeding, susceptible to ice damage; showy flower blooms
<i>Quercus alba</i>	White Oak	X			X			Red	Green catkins	Small acorns	50-80'	Slow	
<i>Quercus bicolor</i>	Swamp White Oak	X		X	X	Moderate		Gold - Orange	Green catkins	Small acorns	50-60'	Moderate	
<i>Quercus coccinea</i>	Scarlet Oak				Moderate	X		Red	Green catkins	Small acorns	40-75'	Moderate	
<i>Quercus ellipsoidalis</i>	Hill's Oak	X			X			Red	Green catkins	Small acorns	40-75'	Moderate	
<i>Quercus imbricaria</i>	Shingle Oak	X			X			Yellow - Brown	Green catkins	Small acorns	50-60'	Slow	Distinct unlobed leaves unlike other oak trees
<i>Quercus macrocarpa</i>	Bur Oak	X			X	Moderate		Yellow - Brown	Green catkins	Large, fringed acorns	70-80'	Slow	
<i>Quercus muehlenbergii</i>	Chinkapin Oak	X			X			Yellow - Orange	Green catkins	Small acorns	50-80'	Slow	Grows best in alkaline soils
<i>Quercus palustris</i>	Pin Oak	X		X			X	Red - Brown	Green catkins	Small acorns	60-70'	Fast	Highly intolerant of alkaline soils
<i>Quercus rubra</i>	Red Oak	X			X	Moderate	X	Red	Green catkins	Small acorns	60-75'	Moderate	
<i>Quercus shumardii</i>	Shumard Oak	X			X	X		Red	Green catkins	Small acorns	40-60'	Moderate	
<i>Quercus velutina</i>	Black Oak	X			X			Yellow	Green catkins	Small acorns	50-60'	Moderate	Prefers drier sites
<i>Tilia americana</i>	American Basswood	X			Moderate			Yellow	Yellow clusters/Fragrant	Small nuts	60-80'	Moderate	Susceptible to ice damage
<i>Tilia cordata</i>	Little Leaf Linden				X	Moderate	X	Yellow	Yellow clusters/Fragrant	Small nuts	60-70'	Moderate	Prone to Japanese beetle attack
<i>Tilia tomentosa</i>	Silver Linden					X	X	Yellow	Yellow clusters/Fragrant	Small, egg-shaped nuts	50-70'	Moderate	
<i>Ulmus americana</i>	American Elm	X			X		X	Yellow	Inconspicuous	Winged seeds	40-60'	Moderate	Vulnerable to Dutch Elm Disease
<i>Ulmus parvifolia</i>	Chinese elm				X	X	X	Yellow - Red	Inconspicuous	Winged seeds	50-70'	Fast	Self-seeding; resistant to Dutch Elm Disease; weak wood
<i>Ulmus rubra</i>	Slippery Elm	X			Moderate	Moderate	X	Yellow	Inconspicuous	Winged seeds	40-60'	Fast	Vulnerable to Dutch Elm Disease
<i>Zelkova serrata</i>	Zelkova				X	X		Orange - Red	Inconspicuous	Small drupe	50-80'	Fast	Susceptible to ice damage
MEDIUM DECIDUOUS TREES - Mature Height Between 25-40 Feet													
<i>Acer campestre</i>	Hedge Maple		X		X			Light yellow	Inconspicuous/ Green clusters	Small winged seeds	25-35'	Moderate	Spreads aggressively
<i>Aesculus hippocastanum</i>	Horsechestnut							Yellow	White or red upright clusters	Seed in a prickly husk	30-40'	Moderate	Leaf scorch/drop in hot, dry conditions; showy flower blooms
<i>Betula nigra</i>	River Birch			X		Moderate		Yellow	Inconspicuous/ Catkins	Cone-like clusters	25-40'	Fast	
<i>Carpinus betulus 'Fastigiata'</i>	European Hornbeam		X		X			Yellow	Inconspicuous/ Catkins	Nuts in dangling clusters	30-40'	Slow	Only plant this cultivar where utilities present conflicts
<i>Catalpa bignonioides</i>	Eastern Catalpa				X			No fall color	White upright clusters	Long pods	30-40'	Moderate	Showy flower blooms
<i>Cornus florida</i>	Flowering Dogwood	X	X					Red	White or red petals	Bright red and berry-like	20-40'	Slow	Shallow roots; sensitive to road salt/pollution; showy flower blooms
<i>Koelreuteria paniculata</i>	Golden Rain Tree				X			Yellow	Yellow upright clusters	Seeds in yellow capsules	25-40'	Moderate	Self-seeding; showy flower blooms
<i>Magnolia spp.</i>	Magnolia		X					Yellow	Varies by cultivar	Pink aggregate structure releases seeds	Varies by cultivar	Moderate	Plant in spring only; showy flower blooms
<i>Ostrya virginiana</i>	Ironwood	X			X			Yellow	Inconspicuous/ Catkins	Hops-like clusters	25-40'	Slow	Sensitive to salt, but resistant to diseases/pests

SMALL DECIDUOUS TREES - Mature Height Less Than 30 Feet

<i>Acer ginnala</i>	Amur Maple		X		X			Yellow - Red	Small/White clusters/Fragrant	Winged seeds	15-20'	Moderate	Spreads aggressively
<i>Acer griseum</i>	Paperbark Maple		X		Moderate	Moderate		Bronze - Red	Inconspicuous	Winged seeds	20-30'	Slow	Distinct, peeling bark
<i>Acer palmatum</i>	Japanese Maple		X					Yellow - Red	Small/Red clusters	Winged seeds	15-25'	Slow	Susceptible to anthracnose and verticillium wilt; showy flower blooms
<i>Acer spicatum</i>	Mountain Maple	X	X					Yellow - Red	Inconspicuous/ Clusters	Winged seeds	15-25'	Moderate	
<i>Alnus rugosa</i>	Speckled Alder	X	X	X	Moderate		X	No fall color	Yellow or red catkins	Cone-like clusters	15-25'	Fast	Thicket-forming
<i>Amelanchier spp.</i>	Serviceberry	X	X	X				Orange - Red	White clusters	Red and berry-like	10-20'	Moderate	showy flower blooms
<i>Carpinus caroliniana</i>	American Hornbeam	X	X	X	Moderate			Yellow - Orange	Inconspicuous/ Catkins	Yellow clusters contain nuts	20-30'	Slow	
<i>Cercis canadensis</i>	Eastern Redbud	X	X				X	Yellow	Small/Pink clusters	Small brown pods	20-30'	Moderate	Shallow-rooted and sensitive to drought; showy flower blooms
<i>Chioanthus retusus</i>	Chinese Fringe Tree		X					Yellow	White upright clusters/Fragrant	Blue and berry-like	15-25'	Slow	Sensitive to drought; showy flower blooms
<i>Cornus alternifolia</i>	Pagoda Dogwood	X	X					Red - Purple	White clusters	Blue and berry-like	15-25'	Slow	
<i>Cornus kousa</i>	Kousa Dogwood		X		Moderate			Red - Purple	Large/White petals	Large, red and berry-like	20-30'	Slow	Shallow roots; havy clay soil may cause rot; showy flower blooms
<i>Cotinus coggyria</i>	Common Smoketree		X		Moderate			Red - Purple	Stalks covered in fine hairs	Stalks covered in fine hairs	20-30'	Slow	Fine hairs on stalks present the illusion of smoke around the tree
<i>Crataegus crus-galli inermis</i>	Cockspur Hawthorn	X	X		X			Red - Purple	Small/White clusters/Odor	Large, red and berry-like	20-30'	Moderate	Fruits persist through the winter; showy flower blooms
<i>Malus spp.</i>	Flowering Crabapple		X					Yellow - Red	Pink or white clusters/Fragrant	Large, green and apple-like	15-25'	Moderate	Showy flower blooms
<i>Sassafras albidum</i>	Sassafras	X			X			Yellow- Red	Yellow clusters	Blue and berry-like	20-30'	Moderate	Only female trees produce fruit; unique mitten-shaped leaves
<i>Syringa reticulata</i>	Japanese Tree Lilac		X			X		Yellow	Large/White clusters	Small brown capsules	20-30'	Moderate	Showy flower blooms

**PROPOSED REVISED
PART V
OTHER SUGGESTED MATERIALS LIST**

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
CONIFEROUS TREES - see Section 37-8 for woodland replacement ratio						
<i>Abies balsamea</i>	Balsam Fir	LE	Winter	Yes	SS	CO
<i>Abies concolor</i>	Concolor Fir	LE	Winter	No	SU	CO
<i>Larix laricina</i>	Tamarack	LE	Fall	Yes	WT	SP
<i>Metasequoia glyptostroboides</i>	Dawn Redwood	LE	SU/Fall	No	SU	CO
<i>Picea abies</i>	Norway Spruce	LE	Winter	No	SU	CO
<i>Picea glauca</i>	White Spruce	LE	Winter	Yes	SU	CO
<i>Picea mariana</i>	Black Spruce	LE	Winter	Yes	SU	SP
<i>Picea omorika</i>	Serbian Spruce	LE	Winter	No	SU	CO
<i>Pinus resinosa</i>	Red Pine	LE	Winter	Yes	SU	CO
<i>Pinus strobus</i>	White Pine	LE	Winter	Yes	SU	CO
<i>Pseudotsuga menziesii</i>	Douglas Fir	LE	Winter	No	SS	CO
<i>Taxodium distichum</i>	Bald Cypress	LE	SU/Winter	No	WT	CO
<i>Tsuga canadensis</i>	Canada Hemlock	LE	Winter	Yes	SS	CO
UPRIGHT EVERGREENS - see Section 37-8 for woodland replacement ratios						
<i>Juniperus virginiana</i>	Eastern Red Cedar	UE	Winter	Yes	SU	CO
<i>Thuja occidentalis</i>	Arborvitae	UE	Winter	Yes	SS	CO
DECIDUOUS SUBCANOPY TREES - see Section 37.8 for woodland replacement ratios						
<i>Acer pensylvanicum</i>	Striped Maple	DS	Fall	Yes	SH	SP
<i>Acer spicatum</i>	Mountain Maple	DS	Fall	Yes	SH	SP
<i>Alnus rugosa</i>	Speckled Alder	DS	Fall	Yes	WT	SP
<i>Amelanchier xAutumn Brilliance</i>	Serviceberry	DS	Spring	Hybrid	SS	CO
<i>Asimina triloba</i>	Paw Paw	DS	Fall	Yes	SH	SP
<i>Cornus mas</i>	Corneliancherry Dogwood	DS	Spring	NOC	SS	CO
<i>Crataegus phaenopyrum</i>	Washington Hawthorn	DS	Winter	NOC		CO
<i>Koeleruteria paniculata</i>	Golden-Rain Tree	DS		NOC		CO
<i>Magnolia stellata</i>	Star Magnolia	DS	Spring	NOC		CO
<i>Ostrya virginiana</i>	Hophornbeam	DS	Summer	Yes	SS	CO
<i>Ptelea trifoliata</i>	Wafer-Ash	DS	Fall	Yes	SU	SP
LARGE SHRUBS - see Section 37-8 for woodland replacement ratio						
<i>Amelanchier alnifolia</i>	Saskatoon Serviceberry	SL	Spring	NU	SS	SP
<i>Amelanchier arborea</i>	Juneberry	SL	Spring	Yes	SS	SP
<i>Amelanchier canadensis</i>	Shadblow	SL/DS	Spring	NOC	SS	CO
<i>Amelanchier laevis</i>	Shadbush	SL/DS	Spring	Yes	SS	CO
<i>Aronia melanocarpa (prunifolia)</i>	Black Chokecherry	SS	Summer	Yes	SS	CO
<i>Betula pumila</i>	Dwarf Birch	SL	Winter	Yes	SU	SP
<i>Calycanthus floridus</i>	Strawberry-Shrub	SL	Summer	No	SS	CO
<i>Cephalanthus occidentalis</i>	Buttonbush	SL	Summer	Yes	WT	CO
<i>Cornus amomum</i>	Silky Dogwood	SL	Summer	Yes	SS	CO
<i>Cornus foemina</i>	Gray Dogwood	SL	Spring	Yes	SS	SP
<i>Cornus rugosa</i>	Round-Leaved Dogwood	SL	Summer	Yes	SS	SP
<i>Cornus stolonifera</i>	Red Osier Dogwood	SL	Winter	Yes	SS	CO
<i>Corylus americana</i>	American Hazelnut	SL	Fall	Yes	SS	CO
<i>Corylus cornuta</i>	Beaked Hazelnut	SL	Spring	Yes	SS	SP
<i>Euonymus alatus</i>	Burning Bush	SL	Fall	No	SS	CO
<i>Fothergilla major</i>	Large Fothergilla	SL	Spring	No	SS	CO
<i>Hamamelis vernalis</i>	Vernal Witchhazel	SL	Spring	No	SS	CO
<i>Hamamelis virginiana</i>	Witch-Hazel	SL	Winter	Yes	SS	CO
<i>Hibiscus syriacus</i>	Rose-Of-Sharon	SL	Summer	No	SS	CO
<i>Ilex opaca</i>	American Holly	SL	Winter	No	SS	CO
<i>Ilex verticillata</i>	Winterberry	SL	Fall	Yes	SS	CO

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
Itea virginica	Virginia Willow	SL	Summer	No	SS	CO
Lindera benzoin	Spicebush	SL	Fall	Yes	SS	CO
Physocarpus opulifolius	Common Ninebark	SL	Summer	Yes	WT	CO
Rhus copallina	Dwarf Sumac	SL	Summer	Yes	SU	SP
Rhus glabra	Smooth Sumac	SL	Summer	Yes	SU	CO
Rhus typhina	Staghorn Sumac	SL	Summer	Yes	SU	CO
Salix discolor	Pussy Willow	SL	Spring	Yes	WT	CO
Sambucus canadensis	Common Elder	SL	Summer	Yes	SU	CO
Sambucus racemosa (pubens)	Red-Berried Elder	SL	Winter	Yes	SU	CO
Staphylea trifolia	Bladdernut	SL	Winter	Yes	SH	SP
Syringa vulgaris	Lilac	SL	Spring	No	SU	CO
Viburnum dentatum	Arrowwood	SL	Spring	Yes	SS	CO
Viburnum lantana	Wayfaring Tree	SL	Spring	No	SU	CO
Viburnum lentago	Nannyberry	SL	Spring	Yes	SS	CO
Viburnum opulus	European High-Bush Cranberry	SL	Spring	No	SU	CO
Viburnum prunifolium	Black Haw	SL	Winter	Yes	SS	CO
Viburnum rafinesquianum	Downy Arrowwood	SL	Spring	Yes	SS	SP
Viburnum trilobum	High-Bush Cranberry	SL	Spring	Yes	SS	CO
SMALL SHRUBS - see Section 37-8 for woodland replacement ratios						
Arctostaphylos uva-ursi	Bearberry	SS	Summer	Yes	SU	CO
Aronia melanocarpa (prunifolia)	Black Chokecherry	SS	Summer	Yes	SS	CO
Berberis thunbergii	Japanese Barberry	SS	Winter	No	SS	CO
Chaenomeles japonica	Japanese Quince	SS	Spring	No	SU	CO
Comptonia peregrina	Sweet Fern	SS	Summer	Yes	SS	CO
Euonymus fortunei	Climbing Euonymus	SS	Winter	No	SS	CO
Euonymus kiautschovicus	Climbing Euonymus	SS	Winter	No	SS	CO
Euonymus obovatus	Running Strawberry Bush	SS	Winter	Yes	SS	SP
Fothergilla gardenii	Dwarf Fothergilla	SS	Spring	No	SS	CO
Ilex glabra	Inkberry	SS	Winter	No	SS	CO
Juniperus communis	Common Juniper	SS	Winter	Yes	SU	CO
Juniperus horizontalis	Trailing Juniper	SS	Winter	Yes	SU	CO
Potentilla fruticosa	Bush Cinquefoil	SS	Summer	Yes	SS	CO
Rhus aromatica	Fragrant Sumac	SS	Summer	Yes	SU	CO
Taxus canadensis	Canada Yew	SS	Winter	Yes	SH	SP
Viburnum acerifolium	Maple-Leaved Arrowwood	SS	Spring	Yes	SS	SP
HERBACEOUS PLANTS - see Section 37-8 for woodland replacement ratios						
Acorus calamus	Sweet-Flag	PG	Spring	Yes	WT	SP
Actaea pachypoda	White Baneberry	PG	Summer	Yes	SH	SP
Actaea rubra	Red Baneberry	PG	Summer	Yes	SH	SP
Adiantum pedatum	Maidenhair Fern	PG	Summer	Yes	SH	SP
Aegopodium podagraria	Bishop's Weed	PG	Summer	No	SH	CO
Agastache nepetoides	Yellow Giant Hyssop	PG	Summer	Yes	SS	SP
Agrimonia gryposepala	Tall Agrimony	PG	Summer	Yes	SH	SP
Agrimonia parviflora	Swamp Agrimony	PG	Summer	Yes	SS	SP
Ajuga reptans	Bugleweed	PG	Summer	No	SS	CO
Alcea rosea	Hollyhock	PG	Summer	No	SU	CP
Allium cernuum	Nodding Wild Onion	PG	Summer	Yes	SS	CO
Allium schoenoprasum	Chives	PG	Summer	No	SU	CO
Allium tricoccum	Wild Leek	PG	Spring	Yes	SH	UN
Amorpha canescens	Lead Plant	PG	Summer	Yes	SU	UN
Amphicarpaea bracteata	Hog Peanut	PG	Summer	Yes	SS	SP
Amsonia tabernaemontana	Blue Star	PG	Summer	No	SS	CO
Andropogon gerardii	Big Bluestem	PG	Summer	Yes	SU	SP

PART V: OTHER SUGGESTED MATERIALS

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

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
Coreopsis tripteris	Tall Coreopsis	PG	Summer	Yes	SU	SP
Cornus canadensis	Bunchberry	PG	Fall	Yes	SS	CO
Cryptotaenia canadensis	Honewort	PG	Summer	Yes	SH	SP
Dennstaedtia punctilobula	Hay-Scented Fern	PG	Summer	Yes	SU	CO
Desmodium canadense	Showy Tick Trefoil	PG	Summer	Yes	SS	SP
Desmodium glutinosum	Pointed-Leaved Tick-Trefoil	PG	Summer	Yes	SH	SP
Dianthus deltoides	Maiden Pink	PG	Spring	No	SU	CO
Dicentra cucullaria	Dutchman's Breeches	PG	Spring	Yes	SH	SP
Dicentra eximia	Wild Bleeding Heart	PG	Spring	No	SS	CO
Dodecatheon meadia	Shooting Star	PG	Spring	Yes	SS	SP
Dryopteris carthusiana	Spinulose Woodfern	PG	Spring	Yes	SH	CO
Echinacea pallida	Pale Purple Coneflower	PG	Fall	No	SU	SP
Echinacea purpurea	Purple Coneflower	PG	Summer	No	SS	CO
Echinops sphaerocephalus	Globe Thistle	PG	Summer	No	SU	CO
Elymus canadensis	Canada Wild Rye	PG	Summer	Yes	SS	SP
Elymus virginicus	Virginia Wild Rye	PG	Summer	Yes	SS	SP
Eragrostis spectabilis	Purple Love Grass	PG	Summer	Yes	SU	SP
Eryngium yuccifolium	Rattlesnake Master	PG	Summer	Yes	SU	SP
Erythronium americanum	Yellow Trout Lily	PG	Spring	Yes	SH	SP
Eupatorium maculatum	Joe Pye Weed	PG	Summer	Yes	SU	CO
Eupatorium perfoliatum	Common Boneset	PG	Summer	Yes	WT	CO
Eupatorium purpureum	Sweet-Smelling Joe Pye	PG	Summer	Yes	SH	CO
Eupatorium rugosum	White Snakeroot	PG	Summer	Yes	SH	CO
Euthamia graminifolia	Grass-Leaved Goldenrod	PG	Fall	Yes	SU	SP
Filipendula rubra	Queen Of The Prairie	PG	Spring	No	SU	CO
Gaultheria procumbens	Wintergreen	PG	Winter	Yes	SS	CO
Gentiana andrewsii	Closed Gentian	PG	Summer	Yes	SU	SP
Geranium maculatum	Wild Geranium	PG	Spring	Yes	SH	SP
Geranium sanguineum	Blood-Red Cranesbill	PG	Spring	No	SS	CO
Geum canadense	White Avens	PG	Spring	Yes	SH	SP
Geum triflorum	Prairie Smoke	PG	Fall	Yes	SU	SP
Glyceria striata	Fowl Meadow (Manna) Grass	PG	Summer	Yes	SS	WT
Helenium autumnale	Sneezeweed	PG	Summer	Yes	SU	CO
Helianthus divaricatus	Woodland Sunflower	PG	Fall	Yes	SU	SP
Helianthus occidentalis	Western (Or Naked) Sunflower	PG	Fall	Yes	SU	SP
Helianthus strumosus	Pale-Leaved Sunflower	PG	Fall	Yes	SU	SP
Heliopsis helianthoides	False Sunflower	PG	Fall	Yes	SU	CO
Heracleum maximum	Cow Parsnip	PG	Summer	Yes	WT	SP
Hibiscus moscheutos	Swamp Rose Mallow	PG	Spring	Yes	SU	CO
Hosta lancifolia	Plantain Lily	PG	Summer	No	SS	CO
Hydrophyllum virginianum	Virginia Waterleaf	PG	Spring	Yes	SH	SP
Hystrix patula	Bottlebrush Grass	PG	Summer	Yes	SS	SP
Impatiens capensis	Spotted Touch-Me-Not	PG	Summer	Yes	SH	SP
Iris germanica	Flag	PG	Spring	No	SU	CO
Iris pumila	Dwarf Iris	PG	Spring	No	SU	CO
Iris versicolor	Wild Blue Flag	PG	Spring	Yes	WT	CO
Iris virginica	Southern Blue Flag	PG	Spring	Yes	WT	CO
Juncus effusus	Common Rush	PG	Spring	Yes	WT	SP
Koeleria macrantha	June Grass	PG	Summer	Yes	SU	SP
Kuhnia eupatorioides	False Boneset	PG	Summer	Yes	SU	SP
Lamium maculatum	Spotted Dead Nettle	PG	Summer	No	SU/SH	CO
Leersia oryzoides	Rice Cut Grass	PG	Summer	Yes	WT	SP
Lespedeza capitata	Round Headed Bush Clover	PG	Summer	Yes	SU	SP
Liatris aspera	Rough Blazing Star	PG	Summer	Yes	SU	SP

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
<i>Liatris cylindracea</i>	Cylindrical Blazing Star	PG	Summer	Yes	SU	SP
<i>Liatris spicata</i>	Spiked Blazing Star	PG	Summer	Yes	SU	CO
<i>Lilium michiganense</i>	Michigan Lily	PG	Summer	Yes	SS	SP
<i>Lilium superbum</i>	Superb Lily	PG	Summer	No	SU	CO
<i>Liriope spicata</i>	Lilyturf	PG	Summer	No	SU/SH	CO
<i>Lobelia cardinalis</i>	Cardinal Flower	PG	Spring	Yes	SH	CO
<i>Lobelia siphilitica</i>	Blue Cardinal-Flower	PG	Summer	Yes	SU	SP
<i>Lobelia spicata</i>	Pale Spiked Lobelia	PG	Summer	Yes	SU	SP
<i>Lycopus americanus</i>	Common Water Horehound	PG	Summer	Yes	WT	SP
<i>Lysimachia clethroides</i>	White Loosestrife	PG	Summer	No	WT	CO
<i>Lysimachia nummularia</i>	Moneywort	PG	Fall	No	WT	CO
<i>Lysimachia punctata</i>	Dotted Loosestrife	PG	Summer	No	WT	CO
<i>Matteuccia struthiopteris</i>	Ostrich Fern	PG	Summer	Yes	SH	CO
<i>Mentha canadensis</i>	Wild Mint	PG	Summer	Yes	SU	SP
<i>Mertensia virginica</i>	Virginia Bluebells	PG	Spring	Yes	SH	CO
<i>Milium effusum</i>	Millet Grass	PG	Summer	Yes	SH	SP
<i>Mimulus ringens</i>	Monkey Flower	PG	Summer	Yes	SU	SP
<i>Monarda didyma</i>	Oswego Tea	PG	Summer	Yes	SU	CO
<i>Monarda fistulosa</i>	Wild Bergamot (Beebalm)	PG	Summer	Yes	SS	SP
<i>Oenothera biennis</i>	Common Evening Primrose	PG	Summer	Yes	SU	SP
<i>Oenothera fruticosa</i>	Shrubby Sundrops	PG	Summer	Yes	SU	CO
<i>Oenothera speciosa</i>	Showy Evening Primrose	PG	Summer	Yes	SU	CO
<i>Onoclea sensibilis</i>	Sensitive Fern	PG	Summer	Yes	WT	SP
<i>Osmorhiza claytonii</i>	Hairy Sweet-Cicely	PG	Summer	Yes	SH	SP
<i>Osmunda cinnamomea</i>	Cinnamon Fern	PG	Summer	Yes	WT	CO
<i>Panicum virgatum</i>	Switch Grass	PG	Summer	Yes	SU	CO
<i>Parthenium integrifolium</i>	Wild Quinine	PG	Summer	No	SU	SP
<i>Peltandra virginica</i>	Arrow Arum	PG	Summer	Yes	WT	CO
<i>Pennisetum alopecuroides</i>	Fountain grass	PG	Summer	No	SU	CO
<i>Penstemon digitalis</i>	Foxglove Beardtongue	PG	Summer	Yes	SS	CO
<i>Penstemon hirsutus</i>	Hairy Beardtongue	PG	Summer	Yes	SU	SP
<i>Phlox divaricata</i>	Blue Phlox	PG	Spring	Yes	SS	CO
<i>Phlox paniculata</i>	Garden Phlox	PG	Spring	No	SU	CO
<i>Phlox subulata</i>	Moss-Pink	PG	Spring	No	SU	CO
<i>Physostegia virginiana</i>	Obedient Plant	PG	Summer	Yes	SS	CO
<i>Phytolacca americana</i>	Pokeweed	PG	Summer	Yes	SH	SP
<i>Podophyllum peltatum</i>	Mayapple	PG	Spring	Yes	SH	SP
<i>Polygonatum biflorum</i>	Solomon's Seal	PG	Summer	Yes	SH	SP
<i>Polygonum virginianum</i>	Jumpseed	PG	Summer	Yes	SH	SP
<i>Polystichum acrostichoides</i>	Christmas Fern	PG	Winter	Yes	SH	CO
<i>Pontederia cordata</i>	Pickeral Weed	PG	Summer	Yes	WT	SP
<i>Potentilla arguta</i>	Prairie Cinquefoil	PG	Summer	Yes	SU	SP
<i>Prenanthes altissima</i>	White Lettuce	PG	Summer	Yes	SH	SP
<i>Pycnanthemum virginianum</i>	Mountain Mint	PG	Summer	Yes	SU	SP
<i>Ratibida pinnata</i>	Grey-Headed Coneflower	PG	Summer	Yes	SU	SP
<i>Rudbeckia fulgida</i>	Orange Coneflower	PG	Summer	Yes	SU	CO
<i>Rudbeckia hirta</i>	Black-Eyed Susan	PG	Summer	Yes	SU	CO
<i>Rudbeckia laciniata</i>	Cut-Leaved Coneflower	PG	Summer	Yes	SU	SP
<i>Rudbeckia triloba</i>	Brown-Eyed Susan	PG	Summer	Yes	SU	CO
<i>Sagittaria latifolia</i>	Common Arrowhead	PG	Summer	Yes	WT	CO
<i>Salvia verticillata</i>	Sage	PG	Summer	No	SU	CO
<i>Sanguinaria canadensis</i>	Bloodroot	PG	Summer	Yes	SH	CO
<i>Sanicula marilandica</i>	Black Snakeroot	PG	Summer	Yes	SH	SP
<i>Scirpus atrovirens</i>	Dark Green Rush	PG	Summer	Yes	WT	SP

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
<i>Scirpus validus</i>	Great Bulrush	PG	Summer	Yes	WT	SP
<i>Silphium terebinthinaceum</i>	Prairie Dock	PG	Summer	Yes	SU	SP
<i>Smilacina racemosa</i>	False Solomon's Seal	PG	Summer	Yes	SH	SP
<i>Solidago caesia</i>	Blue Stemmed Goldenrod	PG	Summer	Yes	SH	SP
<i>Solidago flexicaulis</i>	Zig Zag Goldenrod	PG	Summer	Yes	SH	SP
<i>Solidago nemoralis</i>	Gray Goldenrod	PG	Summer	Yes	SU	SP
<i>Solidago ohioensis</i>	Ohio Goldenrod	PG	Summer	Yes	SS	SP
<i>Solidago riddellii</i>	Riddell's Goldenrod	PG	Summer	Yes	SU	SP
<i>Solidago rigida</i>	Stiff Goldenrod	PG	Summer	Yes	SU	SP
<i>Solidago speciosa</i>	Showy Goldenrod	PG	Summer	Yes	SU	CO
<i>Solidago sphacelata</i>	Goldenrod	PG	Summer	No	SU	CO
<i>Sorghastrum nutans</i>	Indian Grass	PG	Summer	Yes	SU	CO
<i>Spartina pectinata</i>	Prairie Cordgrass	PG	Summer	Yes	WT	SP
<i>Sporobolus heterolepis</i>	Prairie Dropseed	PG	Summer	Yes	SU	SP
<i>Stipa spartea</i>	Porcupine Grass	PG	Summer	Yes	SU	SP
<i>Teucrium canadense</i>	American Germander	PG	Summer	Yes	SH	SP
<i>Thalictrum diocum</i>	Early Meadowrue	PG	Summer	Yes	SH	SP
<i>Tradescantia ohioensis</i>	Spiderwort	PG	Summer	Yes	SS	SP
<i>Trillium erectum</i>	Stinking Benjamin	PG	Spring	Yes	SS	CO
<i>Trillium grandiflorum</i>	Large White Trillium	PG	Spring	Yes	SS	CO
<i>Trillium spp.</i>	Trillium	PG	Spring	Yes	SH	SP
<i>Triosteum aurantiacum</i>	Horse Gentian	PG	Spring	Yes	SH	SP
<i>Typha angustifolia</i>	Narrow-Leaved Cattail	PG	Summer	No	WT	CO
<i>Typha latifolia</i>	Common Cattail	PG	Summer	Yes	WT	CO
<i>Uvularia grandiflora</i>	Bellwort	PG	Spring	Yes	SH	CO
<i>Verbena hastata</i>	Blue Vervain	PG	Summer	Yes	SU	CO
<i>Verbena uruicifolia</i>	White Vervain	PG	Summer	Yes	SU	SP
<i>Vernonia missurica</i>	Ironweed	PG	Summer	Yes	SU	SP
<i>Veronica longifolia</i>	Garden Speedwell	PG	Summer	No	SU	CO
<i>Veronicastrum virginicum</i>	Culver's Root	PG	Summer	Yes	SU	CO
<i>Zizia aptera</i>	Heart-Leaf Meadow Parsnip	PG	Summer	No	SS	CO
<i>Zizia aurea</i>	Golden Alexanders	PG	Summer	Yes	SU	SP
<i>Eupatorium fistulosum</i>	Hollow Joe-Pye Weed	PS	Summer	No	WT	SP

PART V: OTHER SUGGESTED MATERIALS

Scientific Name	Common Name	Plant Type	Interest/ Bloom Time	Native to Michigan?	Growing Conditions	Nursery Type
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				
	SL	Large Shrub				
	PG	Perennial/Grass				
	DS	Deciduous Sub-canopy Tree				
	SS	Small Shrub				
	UE	Upright Evergreen Tree				
Interest						
	SP	Spring				
	SU	Summ				
	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	Prohibit				
	~	Does not apply				
Growing Conditions						
	SH	Shade				
	SS	Sun/Shade				
	SU	Sun				
	WT	Wet				
Nurseries						
	CO	Commonly found most nurseries				
	SP	Specialty nurseries				
	UN	Unkno				