

CHAPTER 23 LANDSCAPING

SECTION 23.10 INTENT

The intent of this chapter is to preserve and protect natural resources and public health through required landscaping and by encouraging the preservation of natural areas. The landscaping requirements of this chapter will ensure the absorption of air pollutants, provide for vegetated buffering between incompatible uses, visually screen certain activities and storage areas to maintain aesthetics, filter stormwater runoff, reduce the heat island effect of large areas of pavement and rooftops, and add value to land. Landscaping and preservation of natural areas are considered essential components to the general welfare of Township residents by maintaining natural beauty, rural character, and high-quality land development projects.

SECTION 23.20 APPLICABILITY

A. NEW BUILDINGS AND PARKING LOTS

The landscaping requirements of this chapter shall apply to all new and expanded buildings and parking lots in the Township.

B. BUILDING ADDITIONS

Any building expansion on a site where the applicable front yard landscaping requirement is nonconforming shall be brought into compliance with the requirements of Section 23.50 in accordance with Table 23.20 B. Any building expansion along the side or rear of an existing building where the applicable buffer is nonconforming shall be brought into compliance with the buffering requirements of Section 23.60 in accordance with Table 23.20 B.

TABLE 23.10 B: SCALED LANDSCAPING COMPLIANCE	
Building Expansion	Minimum Required Compliance
Less than 25%	No scaled compliance required
From 25% to 75%	Front yard landscaping and buffer landscaping (as applicable) counts shall be increased by the corresponding building expansion percentage. However, landscaping shall not be required to exceed the minimum requirements of this chapter.
Greater than 75%	Front yard landscaping and buffer landscaping (as applicable) shall be brought into full compliance with the minimum requirements of this chapter.

C. CHANGE OF USE

Change of use of a building does not require landscaping compliance unless the use is subject to specific use requirements that warrant landscaping prior to establishment.

D. AMENDMENTS THAT REQUIRE SCREENING

Any site plan amendment involving activities, uses, or operations that require screening in accordance with this Ordinance shall conform to all requirements of Section 23.70.

SECTION 23.30 GENERAL REQUIREMENTS

A. REVIEW AND PERMITTING

Applicants are strongly encouraged to meet with the Zoning Administrator to discuss site design concepts or present a preliminary plan prior to submission of a request for site plan approval. These discussions shall not be binding on the applicant or the Township, are strictly at the option of the applicant, and no official action will be taken regarding the discussion or presentation.

B. TIMING OF INSTALLATION

Required landscaping shall be installed before occupancy or establishment of the use unless the Township authorizes occupancy or establishment of the use prior to complete landscape installation based on unforeseen weather conditions or the timing of construction as it relates to the planting season. In cases where deferment is approved, a performance guarantee may be required per Section 25.80, or the certificate of occupancy may be issued on a temporary basis until complete or expired, whichever comes first. Deferred installation timeframes shall not exceed 180 days.

C. CALCULATIONS

1. **Separate Calculations.** All landscape plans shall meet each required calculation individually, and in no case shall any required planting and planting areas be counted towards other landscape requirements.
2. **Rounding.** Landscaping calculations that result in a one-half fraction (1/2) shall be rounded up to the next nearest whole number.

D. TYPE AND VARIETY

1. **Hardiness.** All plant material shall be suitable for Hardiness Zone 6.
2. **Native Planting.** At least 25 percent of planted trees and 25 percent of planted shrubs shall be native to Michigan.
3. **Substitution.** No substitution of plant species or sizes shall be allowed unless approved by the Planning Commission or Zoning Administrator.
4. **Variety.** No one (1) tree species can exceed 50 percent of the total proposed tree count. No one (1) shrub species can exceed 50 percent of the total proposed shrub count.

E. INSTALLATION SPECIFICS

1. **Location.** All plants shall be installed to ensure long-term survival and in locations that are less susceptible to damage.
2. **Soil Volume.** Plants shall be installed in areas with sufficient soil volume to accommodate tree roots and allow for healthy growth to mature sizes. If requested, the applicant shall demonstrate available or proposed soil volumes for specified trees.
3. **Utilities.** All plant material shall be installed in a manner that will not cause damage to utility lines (above and below ground) and public streets. Landscape plans shall consider utility easements, overhead power lines, and underground utilities. Trees planted under overhead powerlines shall be restricted to small

trees (maximum height of 30 feet).

4. **Utilities.** All plant material shall be installed in a manner that will not cause damage to utility lines.
5. **Planting Separations.**
 - a. Trees shall be generally spaced in a manner so as not to overlap crown spread at maturity. See Table 23.50 A.1 for a guide for the space necessary for differing tree sizes.
 - b. Grouping trees of different heights can overlap as long as each tree does not interfere with the growth potential of a nearby required tree.
 - c. Tree and shrub separation shall comply with the minimums of Table 23.30 E.1.

TABLE 23.30 E.1: MINIMUM PLANTING SEPARATIONS

Type	Separation from Curb, Driveway, Paved Area, Property Line, and Fences	Min. Separation from Building Corner	Min. Separation from Building Wall
Small Tree (max. height 30 ft. or less)	4 ft.	8 ft.	10 ft.
Medium Tree (max. height 31-70 ft.)	4 ft.	12 ft.	15 ft.
Large Tree (max. height greater than 70 ft.)	4 ft.	15 ft.	20 ft.
Shrub	2 ft.	2 ft.	2 ft.

6. **Lighting.** Landscaping plans shall ensure that the required site illumination is not blocked by the proposed tree installation.
7. **Minimum Installation Size.** Plantings required by this chapter shall be installed at sizes no less than outlined in Table 23.30 E.2. Tree widths are measured at the diameter at breast height (d.b.h.), which is four and a half (4.5) feet above the ground.

TABLE 23.30 E.2: MINIMUM INSTALLATION SIZES

Type	Size
Medium and Large Deciduous Tree	2.5 inches d.b.h.
Small Deciduous Tree	1.5 inches d.b.h.
Evergreen Tree	6 ft. in height
Shrub	18-inch spread or height

F. IRRIGATION

Irrigation is required for all areas landscaped with shrubs and lawns for multi-family building sites and non-residential development unless it is demonstrated by a landscape professional that it is not required. Where necessary to ensure long-term survival of these plantings, an irrigation system shall be planned, installed, and maintained to ensure optimum moisture for healthy growth and survival. Use of water-conserving irrigation techniques, such as the use of a rain sensor or the re-use of rainwater, is encouraged. The use of wells is also encouraged for irrigation.

G. PRESERVATION OF EXISTING TREES

The preservation of existing non-invasive and non-prohibited trees is encouraged and can be credited for satisfying the requirements of this chapter. Trees over six (6) inches (d.b.h.) count as two (2) required trees. All other existing trees count as one (1) tree if they meet or exceed the minimum installation size required by this section.

H. MAINTENANCE

All landscaping shall be regularly watered, pruned, and maintained after installation. The owner or controlling party shall be responsible for maintenance. Diseased or dead plants that were required as part of this chapter shall be replaced within one growing season.

I. BERMS

If incorporated into a site plan, berms shall be:

1. **Slope.** Constructed so as to maintain a side slope not to exceed a one (1) foot rise to a three (3) foot run ratio;
2. **Ground Cover.** Covered with grass or living ground cover maintained in a healthy growing condition unless planted with trees or shrubs; and
3. **Drainage.** Constructed in such a manner so as not to alter drainage patterns on-site or adjacent properties or obstruct vision for reasons of safety, ingress, or egress.

J. PROHIBITED TREES AND SHRUBS

The following trees and shrubs are prohibited because they are not native and also have the potential to harm human health or harm natural, agricultural, or silvicultural resources or are prohibited because they split easily, their wood is brittle and breaks easily, their roots clog drains and sewers, and they are unusually susceptible to disease or insect pests. Additionally, any other tree or shrub listed by the Michigan Department of Natural Resources as “not recommended for planting” is prohibited.

TABLE 23.30 J: PROHIBITED TREES

Common Name	Botanical Name	Reason
Amur Corktree	Phellodendron amurense	Invasive
Amur Honeysuckle	Lonicera maackii	Invasive Shrub
Amur maackia	Maackia amurensis	Invasive
Amur Maple	Acer ginnala	Invasive
Ash	Fraxinus spp.	Emerald Ash Borer
Austrian Pine/Black Pine	Pinus nigra	Invasive, disease issues
Autumn Olive	Elaeagnus umbellata	Invasive Shrub
Black Alder	Alnus glutinosa	Invasive
Black Locust	Robinia pseudoacacia	Invasive, aggressive rooting
Boxelder	Acer negundo	Weak wood, unsuited for urban areas
Butterfly bush	Buddleja davidii	Invasive
Chinese Fringetree	Chiananthus retusus	Invasive
Colorado Blue Spruce	Picea pungens	Disease issues
Common Buckthorn	Rhamnus cathartica	Invasive Shrub
Common privet	Ligustrum vulgare	Invasive

TABLE 23.30 J: PROHIBITED TREES		
Common Name	Botanical Name	Reason
Glossy Buckthorn	Rhamnus frangula (including 'Angustifolia')	Invasive Shrub
Goldenrain Tree	Koelreuteria paniculata	Invasive
Hedge Maple	Acer campestre	Invasive
Japanese Barberry	Berberis thunbergii	Invasive Shrub
Japanese Honeysuckle	Lonicera japonica	Invasive Shrub
Japanese Tree Lilac	Syringa reticulata	Invasive
Japanese Yew	Taxus cuspidata	Invasive
Lacebark Elm	Ulmus parvifolia	Invasive, weak wood, undesirable
Mimosa/Silk Tree	Albezia julibrissen	Invasive
Multiflora Rose	Rosa multiflora	Invasive Shrub
Norway Maple	Acer platanoides (includes 'Crimson King' cultivar)	Invasive
Oregon grape	Mahonia aquifolium	Invasive, aggressive spreader
Ornamental Pears- All Varieties	Pyrus spp.	Invasive, disease issues, weak wood
Paperbark Maple	Acer griseum	Invasive
Poplars/Aspens/Cottonwood	Populus spp.	Suckering roots, unsuited for urban areas
Rugosa rose	Rosa rugosa	Invasive, aggressive spreader
Scotch Pine/Scot's Pine	Pinus sylvestris	Invasive
Siberian Elm	Ulmus pumila	Invasive, weak wood, disease issues
Silver Maple	Acer saccharinum	Weak wood, unsuited for urban areas
St. Lucie Cherry	Prunus mahaleb	Invasive Potential
Sweet Cherry/ Mazzard Cherry	Prunus avium	Invasive
Sycamore Maple	Acer pseudoplatanus	Invasive
Tartarian Honeysuckle	Lonicera tatarica	Invasive Shrub
Tatarian Maple	Acer tataricum	Invasive Potential
Tree-of-Heaven	Ailanthus altissima	Invasive, hosts many invasive insects
White Mulberry	Morus alba	Invasive, aggressive spreader
Winged burning bush	Euonymus alatus	Invasive
Wingnut	Pterocarya stenotera	Invasive, aggressive roots

SECTION 23.40 LANDSCAPING PLANS

A. SUBMITTAL REQUIREMENTS

1. **Plan.** A landscape plan illustrating compliance with the requirements of this chapter relative to required landscaping and tree protection shall be provided for any application for site plan review.
2. **Sheets.** Unless it can be clearly shown on a plat or site plan sheet, a separate landscape plan sheet shall be drawn at the same scale as the required plat or site plan. The plans shall indicate all existing or proposed utilities and easements to ensure that landscaping is not affected by or interferes with utilities.

B. REQUIREMENTS

The landscape plan, prepared and sealed by a landscape architect licensed in the State of Michigan, shall include the following:

1. The location, botanical name, common name, quantity, and size of all proposed plantings.
2. Existing and proposed contours at intervals not to exceed two (2) vertical feet.
3. All landscaped areas and plants listed in a table by common and scientific name, including quantities and size at installation, and individual calculations describing how the plan complies with the regulations of this chapter.
4. Anticipated mature height shall be indicated, and the crown spread shall be shown on the plan with circles indicating anticipated plant size at maturity. Plans shall illustrate the location, spacing, species, and size of the proposed plant material.
5. Existing natural and man-made landscape features and proposed buildings and structures, as required for the overall site plan, shall be clearly indicated.
6. Limits of grading shall be indicated, and measures to protect existing trees to be saved shall be noted on the plans, including but not limited to protective fencing. When protective fencing is proposed, plans shall include the following statement: "Protective fencing shall be installed prior to site disturbance." Tree preservation fencing shall be established at the drip line of the tree, and a detail of the fence shall be provided.
7. Planting details to ensure proper installation and establishment of proposed plant material.
8. Grass areas and other methods of ground cover.
9. Description of irrigation methods for landscaped areas.
10. Identification of snow storage areas, if proposed on landscaped areas.

SECTION 23.50 FRONT YARD TREES

A. REQUIRED TREES

1. **Detached and Attached Residential.** Front yard trees are required as follows:
 - a. Single-family detached. One (1) deciduous tree for single-family and two-family lots for any newly created lot and building.
 - b. Single-family attached. One (1) deciduous tree for every two (2) dwelling units in a new building.

2. **Multi-Family and Non-Residential- NC District.** Two (2) deciduous trees of any type are required per 100 feet of public or private street frontage.
3. **Multi-Family and Non-Residential Uses All Other Districts.**
 - a. Front yards shall be landscaped with a variety of deciduous and coniferous trees.
 - b. The minimum required number of trees shall be dictated by the size of the tree and the required in Table 23.50 A. The total linear footage of lot frontage, excluding paved driveway areas, shall be planted with trees so that the minimum planting space per tree in its total reaches or exceeds the measured lot frontage.

**TABLE 23.50 A.1: FRONT YARD TREES REQUIREMENTS:
MEASUREMENT BY TREE TYPE**

Size Classification	Min. Planting Space per Tree
Small Tree (max. height 30 ft. or less)	15 ft.
Medium Tree (max. height 31-70 ft.)	35 ft.
Large Tree (max. height greater than 70 ft.)	45 ft.

- c. No more than 25 percent of required front yard landscaping trees shall be evergreen trees.
- d. For example, a lot with 250 feet of frontage, excluding driveways, could be met by the following combinations:

TABLE 23.50 A.2: EXAMPLE OF COMPLIANT FRONT YARD PLANTING WITH 250 FEET OF QUALIFIED FRONTAGE

Size Classification	Spacing	Number	Result
Small Tree (max. height 30 ft. or less)	15 ft. X	4	= 60 ft.
Medium Tree (max. height 31-70 ft.)	35 ft. X	3	= 105 ft.
Large Tree (max. height greater than 70 ft.)	45 ft. X	2	= 90 ft.
Total		= 9	= 255 ft. (greater than 250 ft.)

B. LOCATION

Trees planted to comply with this section shall be placed between the public street right-of-way or private street easement and the principal building and parking areas within a 15-foot width planting area (not applicable in NC). No trees to the side or behind the principal building and parking areas shall be counted as front yard trees.

SECTION 23.60 BUFFERING

A. REQUIRED BUFFERS

1. **Land Uses.** Buffers are required in accordance with Table 23.60 for multi-family, mixed-used, and non-residential land uses.
2. **Types.** Table 23.60 A indicates the required buffer type for development, which requires landscaping, as stated in Section 23.60 A.1. The zoning designation of the subject property and the abutting property will result in a buffer type A, B, or C. Where indicated with dashes (--), no buffer is required.

TABLE 23.60 A: REQUIRED BUFFER TYPES

Category	Zoning Designation of Subject Property	Abutting Property: Residential Districts				Abutting Property: Commercial and Mixed-Use Districts			Abutting Property: Industrial Districts		
		Agricultural – Rural (ARR)	Suburban Residential (SR)	Village Residential (VR)	Multi-Family Residential (MFR)	Neighborhood Commercial (NC)	General Commercial (GC)	Office and Service (OS)	Mixed Business (MB)	Light Industrial (LI)	Heavy Industrial (HI)
Residential Districts	Agricultural- Rural Residential (ARR)	B	B	B	B	--	--	--	--	--	--
	Suburban Residential (SR)	B	B	B	B	--	--	--	--	--	--
	Village Residential (VR)	B	B	B	B	--	--	--	--	--	--
	Multiple-Family Residential (MFR)	B	B	B	B	--	--	--	--	--	--
Commercial and Mixed-Use Districts	Neighborhood Commercial (NC)	A	A	A	A	--	--	--	--	--	--
	General Commercial (GC)	B	B	B	B	--	--	--	--	--	--
	Office and Service (OS)	B	B	B	B	--	--	--	--	--	--
Industrial Districts	Mixed Business (MB)	B	B	B	B	B	--	--	--	--	--
	Light Industrial (LI)	C	C	C	C	B	B	B	B	--	--
	Heavy Industrial (HI)	C	C	C	C	B	B	B	B	--	--

B. BUFFER PLANTING REQUIREMENTS

1. **Types.** Buffer types A-C are outlined in Table 23.60 B, and the intent of each type is stated. The natural area depth of the buffer is required to be planted and landscaped open space or preserved natural area. Each buffer type includes a minimum number of plantings per 100 feet and includes allowable planting reductions with the incorporation of privacy fencing.
2. **Placement.** Buffers, where required, shall run the entire length of a side or rear property line.

TABLE 23.60 B: BUFFER PLANTING AND DESIGN SPECIFICATIONS

Type	Natural Area Depth	Intent	Minimum Number of Plantings per 100 feet and Allowable Reductions with Privacy Fencing
A	6 feet	Establishment of property boundaries with light softening of visual impact	Three (3) trees of any type and 30 shrubs. For areas screened by a six-foot (6') privacy fence, the planting requirement is waived for the linear footage of the fence.
B	15 feet	Establishment of property boundaries with intermittent semi-opaque plantings and moderate depth for separating uses	A buffer Type B is the same as required by 23.50 A.1 in addition to 30 shrubs. However, 50% of plantings shall be evergreen. For areas screened by a six-foot (6') privacy fence, the planting requirement is reduced by 50 percent for the linear footage of the fence.
C	25 feet	Establishment of property boundaries with mostly opaque landscape plantings and wider area of natural open space between incompatible land uses	Six (6) evergreen trees, one (1) canopy tree, and one (1) ornamental tree. For areas screened by a six-foot (6') privacy fence, the planting requirement is reduced by 50 percent for the linear footage of the fence.

C. USES AND ACTIVITIES WITHIN NATURAL AREA DEPTH OF BUFFER AREAS

1. **Walkway or Bicycle Pathway.** A required buffer area may contain a walkway or bicycle pathway, provided the required amount of plant material is provided.
2. **Stormwater Retention/Detention Facilities.** Stormwater retention/detention facilities may extend into a buffer area where it can be demonstrated that all planting requirements are met, the desired effects provided by the buffer area will be fully achieved, and ponding will not jeopardize the survival of the plant materials.

SECTION 23.70 SCREENING**A. APPLICABILITY**

Screening of certain uses and activities is required by this Ordinance. Additionally, all dumpsters, commercial trash receptacles, and rolling trash carts shall be screened.

B. TREATMENTS

Acceptable screening treatments include the following:

1. **Wall or Fence.** Solid wall or privacy fence of six (6) feet in height in accordance with Section 17.40. Chain link fences with slats or other comparable screening only qualify when not abutting residential zoned property.
2. **Landscaped Berm.** Berm with landscape treatment, providing screening up to six (6) feet in height, fully obscuring activity, structure, or use intended to be screened.
3. **Evergreens.** Evergreen landscaping providing screening up to six (6) feet in height, fully obscuring activity, structure, or use intended to be screened.

C. DUMPSTER AND TRASH RECEPTACLES

In addition to the screening requirements, enclosures shall be constructed of masonry, concrete, metal, treated wood, or similar materials and must be durable, weather-resistant, rustproof, and easily maintained.

1. **Openings.** The wall or fence may be constructed with openings that do not exceed 20 percent of the wall surface. The openings shall not reduce the intended obscuring effect of the wall.
2. **Access Gate.** Enclosures shall include an access gate, which shall be closed at all times between drop-offs and pickups.
3. **Minimum Height.** The minimum enclosure height for rolling carts or garbage cans shall be no less than four (4) feet.

SECTION 23.80 PARKING LOT LANDSCAPING

A. APPLICABILITY

This section applies to all parking lots with 12 or more spaces.

B. PARKING LOT CANOPY TREES

For every 12 parking spaces, one (1) deciduous canopy tree shall be installed. At least half of the required trees shall be installed within an island, peninsula, or landscape area within a double-row or corner bump-out. The remaining required trees shall be placed within 10 feet of the parking area.

C. SCREENING

Parking rows within yards that abut public right-of-way shall be lightly screened. Screening may consist of one of the following treatments or other alternatives determined to be suitable by the Planning Commission:

1. **Shrub Row.** Shrub row at a rate of two (2) shrubs per parking space fronting the right-of-way; or
2. **Decorative Fence.** Decorative fencing, such as split rail, picket, or wrought iron style, no less than two and one-half (2.5) feet in height.

SECTION 23.90 MULTI-FAMILY BUILDING SITE LANDSCAPING

A. APPLICABILITY

This section applies to all multi-family building sites.

B. LAWN

The land area within 10 feet of a building must be landscaped with a grassed lawn area or mulched planting beds.

C. SHRUBS

1. **Required Number.** One (1) shrub is required for every five (5) feet of building width for each side of a building.
2. **Installation.** Shrubs shall be planted in formal landscaping beds that are mulched or have planted ground cover.
3. **Planting Design.** Shrubs shall be distributed in a uniform manner around the building. Gaps between shrubs shall be no greater than 25 feet.

SECTION 23.100 LANDSCAPING MODIFICATIONS

A. AUTHORITY

The Planning Commission may modify the landscaping and screening requirements within this chapter under certain circumstances.

B. CONSIDERATIONS

The Planning Commission shall consider the following during the review of landscaping modification requests:

1. Will existing vegetation or topographic features make compliance with requirements unnecessary or difficult to achieve?
2. Will the application of requirements result in a significant loss of existing vegetation or natural or cultural features?
3. Will the modification of requirements clearly result in a superior design that could not be otherwise achieved?
4. Can existing vegetation be preserved to meet the intent of the screening and buffering requirements of this chapter?
5. Is the distance between a building, parking area, or use more than 200 feet from a side or rear lot line?
6. Will the site be overplanted, resulting in the loss of required plantings?

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