

CHAPTER 23

PARKING AND LOADING SPACES, LANDSCAPING

AND LIGHTING

SECTION 23.01 PARKING AND LOADING The purpose of these provisions (Section 23.01 through Section 23.09) is to prescribe regulations for off-street parking of motor vehicles, recreational vehicles, trucks and trailers in residential and nonresidential zoning districts, to ensure by the provision of these regulations that adequate parking and access is provided in a safe and convenient manner, and to afford reasonable protection to adjacent land uses from light, noise, air pollution, and other affects of parking areas.

SECTION 23.02 SCOPE.

- (a) At the time any building or structure is erected, enlarged or increased in capacity, or uses established, off-street parking and loading spaces shall be provided in all zoning districts according to the requirements of this Chapter.
- (b) No parking or loading area or space which exists at the time of the adoption of this Chapter shall thereafter be relinquished or reduced in any manner below the requirements established by this Chapter.
- (c) Parking areas must be in the same zoning classification as the property it serves.

SECTION 23.03 GENERAL. In all Zoning Districts, there shall be provided, before any building or structure is occupied or is enlarged or increased in capacity, off-street parking spaces for motor vehicles as follows:

**Table 23-1
PARKING SPACES**

USE	MINIMUM PARKING SPACES REQUIRED
Dwellings	Two (2) for each single or two family dwelling unit, one and one half (1 1/2) for each dwelling unit in a multi-family structure
Lodging, rooming and boarding houses	One (1) for each guest room plus two for management.
Hotels, Motels and tourist homes	1.25 for each guest room or sleeping room plus 30 per 1000 square feet of banquet /mtg. room, plus spaces for restaurant.
Private clubs, health clubs and lodges	One (1) for 3 persons of permitted capacity
Hospitals	Two (2) for each patient bed plus one for each staff doctor and one for each two employees other than doctors.

Use (Cont.)

Minimum Parking Spaces Required(Cont.)

Sanitariums, convalescent or nursing homes	One (1) for each two (2) beds
Homes for senior citizens	Independent care- One (1) for each dwelling/tenant unit. Assisted Living- 0.4 per dwelling unit
Theaters, auditoriums, stadiums	0.33 for each seat
Bowling alleys	Eight (8) for each alley
Private elementary, and junior high schools	Two (2) for each three(3) employees normally engaged in or about the buildings and grounds, plus one (1) additional for each 8 auditorium seats.
Private senior high school and institutions of higher learning	Two (2) for each three(3) regular employees and one(1) additional for each four (4) students enrolled, plus one (1) additional for each eight(8) auditorium seats.
Churches and other places of religious assembly	One (1) for each two (2) seats in the main worship unit
Community center	One (1) for each four (4) persons in the permitted capacity of assembly floor area
Libraries, museums, and Post Offices	One (1) for each four hundred (400) square feet of floor area
Mortuaries or funeral homes	One (1) for each fifty (50) square feet of floor area used for services
Antique shops, second hand sales	1 space/200 sq. ft. floor area,
Stores selling furniture and major appliances only	1 space per 500 sq. ft. area
Shopping centers and general retail sales unless otherwise specifically governed	1 space/200 sq. ft. floor area
Outdoor markets, flea markets, farm markets etc.	1 space/500 sq. ft. sales area, with a minimum of 4 spaces.
Restaurants, grills, dining rooms, dairy bar, soda fountain	One (1) for each two seats based on maximum building occupancy under the BOCA Code
Taverns and bars	Two (2) for each three (3) seats but no less than forty (40) spaces in any event
General business and professional offices including all public offices, except as otherwise specified	1 space/250 sq. ft. floor area with a minimum of 4 spaces
Banks Savings and loan and other financial institutions, title companies	1 space/250 sq. ft. floor area PLUS 5 spaces/teller or teller station,
Medical, dental, veterinary offices and clinics	One (1) for each one hundred fifty (150) sq. ft. of floor area
Health studios	1 space/100 sq. ft. floor area

<u>Use (Cont.)</u>	<u>Minimum Parking Spaces Required(Cont.)</u>
Barber shops, beauty and styling	3 spaces per barber or salons stylist, with a minimum of 4 spaces
Auto repair shops, body and fender shops	1 space/400 sq. ft. floor area
Cabinet, plumbing, heating, electrical shops	1 space/500 sq. ft. floor area
Motor vehicle sales	1 space/500 sq. ft. floor area or 1 space/2000 sq. ft. of outdoor sales area, with a minimum of 4 spaces
Self-serve auto washes	2 spaces/stall
Self-serve laundries and dry cleaners	1 space/3 washing machines
"Drive-in" establishments	Six (6) vehicle waiting spaces for each drive in or drive up service area, plus the parking requirements for building occupancy
Marinas	Two (2) for each slip or mooring
Contractor's storage yards	1 space/3000 sq. ft. lot area
Feed yards, fuel yards, material yards, nurseries	1 space/2000 sq. ft. site area PLUS 1 15' x 30' loading space/acre
Industrial, manufacturing, processing	1 space/2000 sq. ft. gross building floor area for warehousing. 1 space/500 sq. ft. of area devoted to manufacturing 1 space/250 sq. ft. floor area devoted to office use.
Research and development and testing facilities and/or similar uses	One (1) per three hundred (300) square feet of floor area (Amended 5/10/94)

SECTION 23.04 PARKING REQUIREMENTS FOR USES NOT LISTED. The minimum parking space requirements for all uses shall be as listed in the above table. For uses not specifically listed in Section 23.03 the approving official or body may establish the parking requirement by making the determination that the proposed use is similar in parking requirements to a use which is listed in Section 23.03. The approving official or body may refer to engineering or planning manuals, publications and reports, or to the parking requirements used by other municipalities in order to determine the minimum parking requirements.

SECTION 23.05 JOINT USE OF FACILITIES, MIXED OCCUPANCY AND ALTERNATIVE PARKING ARRANGEMENTS.

- (a) In the case of mixed uses in the same building or on the same lot or parcel, the total requirements for off-street parking and loading shall be the sum of the requirements for

the individual uses computed separately, except as outlined in Section 28.4(2) (d).

- (b) Shared Parking - Where a mix of land uses in the same building or on the same lot or parcel creates staggered peak periods of parking, shared parking agreements that have the effect of reducing the total amount of needed parking spaces, may be allowed at the discretion of the approving official or body. Shared parking agreements shall be tied to a specific land use and not the land itself. Retail, office, institutional and entertainment uses may share parking areas. In no case shall shared parking include the parking required for residential uses.
- (c) Joint or Collective Parking provisions of off-street parking areas for buildings or uses on two or more properties shall not be less than the sum of the requirements for the participating individual uses computed separately except that the approving official or body may approve a lesser parking requirement for such uses if evidence of a signed agreement between the owners of both properties agreeing to such joint use is provided to The approving official or body. The lots shall be interconnected for vehicular passage.
- (d) Deferred Parking Construction - In order to avoid excessive amount of impervious surface, the approving official or body may approve a development which provides less than the minimum number of parking spaces required herein if the applicant demonstrates to the satisfaction of the approving official or body that a reduced amount of total parking space will meet the projected parking needs of the project due to:
 - (1) The nature, size, density, location or design of the proposed development, including the design of the circulation and parking plan;
 - (2). Characteristics of the development which will affect the parking needs, including factors such as non-conflicting peak hours of operation and the sharing of spaces by different uses;
 - (3) Any other factors reasonably related to the need for parking for the proposed development; and
 - (4) The availability of vacant or otherwise undeveloped land on the same parcel as shown on the proposed development plan shall remain available to provide additional off-street parking space if additional parking space is subsequently determined to be necessary by the approving official or body to meet the parking needs of the development.
 - (5) The available land must be of sufficient size to accommodate the full amount of parking required under the Zoning Ordinance for the use, may not count as any type of required open space and shall be permanently reserved for parking as outlined in a signed and recorded agreement.

SECTION 23.06 LOCATION OF FACILITIES. Off-street parking facilities shall be located as hereafter specified; when a distance is specified, it shall be the walking distance measured from the nearest point of the parking facility to nearest normal entrance to the building or use that such facility is required to serve.

- (a) For all residential buildings and for all nonresidential buildings and uses in residential Zoning Districts, required parking shall be provided on the lot with the building or use it is required to serve.

- (b) For commercial and all nonresidential buildings and uses in Commercial and Industrial Zoning Districts, required parking shall be provided within three hundred (300) feet. Parking on lots under different ownership within 300 feet of the building it is intended to serve shall also be permitted if such arrangement does not result in a parking deficiency for the other use, and a legal agreement specifying the terms for the parking arrangement, signed by all involved parties is provided.

SECTION 23.07 SIZE OF PARKING SPACES AND AISLES. Off-street parking spaces and aisles for various parking angles shall be provided in accordance with the minimum dimensions indicated in Table 23-2.

TABLE 23-2
Minimum Standards For Size
Of Parking Aisles And Driveways

<u>Parking Angle</u>	<u>Maneuvering Aisle Width</u>		<u>Parking Stall Width</u>	<u>Parking Stall Length</u>	<u>Total Width of 2 Stalls of Parking Plus Maneuvering Aisle</u>	
	One Way	Two Way			One Way	Two Way
0° parallel	12 feet	22 feet	8.5 feet	22 feet	29 feet	39 feet
Up to 53°	13 feet	22 feet	9.0 feet	18 feet	49 feet	58 feet
54° to 74°	16 feet	22 feet	9.0 feet	18 feet	52 feet	58 feet
75° to 90°	12 feet	24 feet	9.0 feet	18 feet	48 feet	60 feet

SECTION 23.08 GENERAL REQUIREMENTS FOR PARKING AREAS. Every parcel of land hereafter established as an off-street public or private parking area for more than five (5) vehicles, including a municipal parking lot, commercial parking lot, automotive sales and/or service lot, and accessory parking areas for multiple dwellings, businesses, public assembly, and institutions, shall be developed and maintained in accordance with the following requirements:

- (a) The parking lot and its driveways shall be effectively landscaped and screened in accordance with the landscaping regulations of this Chapter.
- (b) The parking lot and its driveway shall be: (1) designed to provide adequate drainage; (2) surfaced with concrete or asphalt pavement; and (3) maintained in good condition, free of dust, trash and debris. In order to reduce the amount of impervious surface and the corresponding storm water runoff as well as improve parking lot aesthetics, the approving official or body may approve alternate parking lot surfaces for overflow parking or other areas reserved or intended for infrequent light loads and traffic. Such alternate parking lot surfaces may include but shall not be limited to gravel, crushed stone, or products which are installed in the ground to support a vehicle but allow grass to grow within the supporting spaces.
- (c) The parking lot and its driveways shall not be used for repair, dismantling, or servicing of any vehicles.

- (d) The parking lot shall be provided with entrances and exits so located as to minimize traffic congestion, in accordance with Chapter 22.
- (e) Lighting facilities shall be so arranged as to reflect the light away from adjoining properties, and shall be in accordance with the lighting regulations of this Chapter.
- (f) Unless a greater distance is specified for a particular zoning district, part of any public or private parking area regardless of the number of spaces provided shall be closer than ten (10) feet to the street right-of-way.
- (g) For seasonal uses such as road side stands and u-pick operations and other farm uses permitted by right (Permitted Uses) in this district, parking facilities may be located on a grass or gravel area for. All parking areas shall be defined by gravel, cut lawn or other visible marking and may not be located within the street right of way.

SECTION 23.09 OFF-STREET LOADING SPACES. For every building or addition to an existing building hereafter erected to be occupied by storage, display of goods, retail store or block of stores, wholesale store, market, hotel, hospital, mortuary, laundry, dry cleaning or other similar uses required the receipt or distribution in vehicles of materials or merchandise, there shall be provided and maintained on the same lot with such building or addition (1) an area or means adequate for maneuvering and ingress and egress for delivery vehicles; and (2) off-street loading spaces in relation to floor areas as follows:

- (a) Up to twenty thousand (20,000) square feet - one (1) space;
- (b) Twenty thousand (20,000) or more but less than fifty thousand (50,000) square feet - two (2) spaces; and
- (c) One (1) additional space for each additional fifty thousand (50,000) square feet or fraction thereof.

Each such loading space shall be at least ten (10) feet in width, thirty-five (35) feet in length and fourteen (14) feet in height. No such space shall be located closer than fifty (50) feet to any lot in any R Zoning District.

SECTION 23.10 OUTDOOR LIGHTING: GENERAL. The following regulations (Section 23.07) shall apply to all commercial, industrial, institutional and multi-family principal and accessory uses in all zoning districts. These provisions shall not apply to agricultural uses and activities protected by the Right to Farm Act and unless the use is one requiring special use permit approval, the provisions shall not apply to single and two family residential uses in any zoning district.

- (a) Unless all outdoor fixtures, including building mounted fixtures, shall be full cut-off fixtures as defined by as Illumination Engineering Society of North America (IESNA). The level of light trespass onto surrounding properties or roads shall not exceed 0.1 foot-candles.
- (b) Parking Lot, Loading and Broad Area Lighting. Broad area lighting shall be designed to provide the minimum lighting necessary to ensure adequate vision and comfort and not to cause glare or direct illumination onto adjacent properties or streets.
 - (1) The mounting heights of fixtures that are located within 200 feet of a residential

use or district shall not exceed 20 feet. The mounting heights of all other standard cut-off fixtures shall not exceed 25 feet.

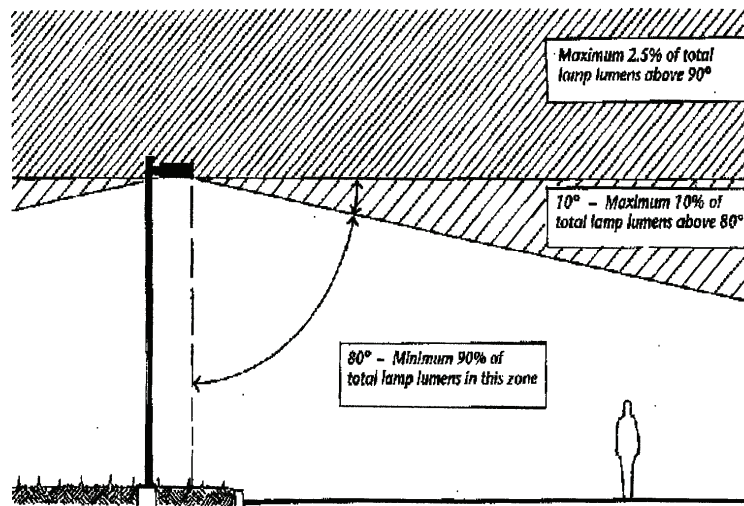
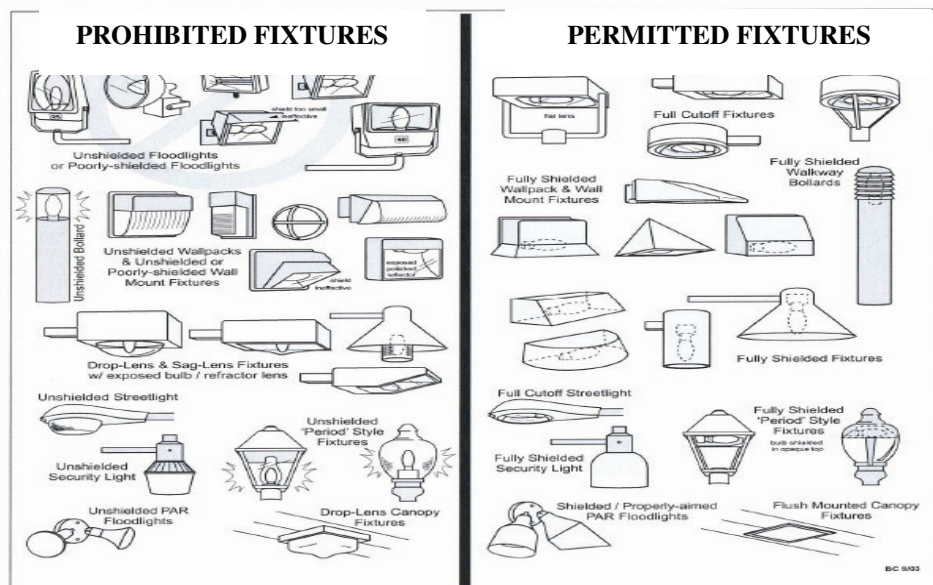


Figure 23.1
Full cut-off Fixture

- (2) The overall lighting design shall prevent light trespass beyond the property line with any adjacent residential district. The acceptable level of light trespass in industrial and commercial districts is 0.5 foot candles.
 - (3) Average horizontal illumination levels shall be no greater than 2.4 foot-candles. There shall be a maximum to minimum illumination level ratio throughout the site of no greater than 10:1 and an average to minimum uniformity ratio not to exceed 4:1.
 - (4) Average horizontal illumination levels within 30 feet of building entrances shall be no greater than 4.0 foot-candles with a maximum to minimum ratio no greater than 10:1 and an average to minimum uniformity ratio not to exceed 4:1.
- (c) **Security Lighting.** The purpose of and need for security lighting (i.e. the lighting located independent of storefront, parking and pedestrian areas) must be demonstrated to the Planning Commission as part of site plan approval.
- All security fixtures shall be shielded and aimed so that illumination is directed only to designated areas and not cast onto other areas. In no case shall lighting be directed above a horizontal plane through the top of the lighting fixture and the fixture shall include shields that prevent the light source or lens from being visible from adjacent properties and roadways. The use of general floodlighting fixtures is prohibited.
- (d) **Illumination of Building Façades.** When buildings and structures are to be illuminated, the Planning Commission shall approve a design for the illumination and the following shall apply:
- (1) Lighting fixtures shall be located, aimed and shielded so that light is directed only onto the building façade. Lighting fixtures shall not be directed toward adjacent streets, roads or properties.

- (2) The illumination of landscaping, monuments or flags shall not direct light beyond the feature being illuminated.
- (e) **Lighting of Gasoline Stations/Convenience Store Aprons and Canopies.**
 - (1) Areas on the apron away from the gasoline pump islands used for parking or vehicle storage shall be illuminated in accordance with the requirements for parking areas set forth in this ordinance. If no gasoline pumps are provided, the entire apron shall be treated as a parking area.
 - (2) Areas around the pump islands and under canopies shall be illuminated so that the horizontal average at grade level is no more than 22 foot-candles with a maximum to minimum ratio no greater than 10:1 and an average to minimum uniformity ratio not to exceed 4:1.
 - (3) Light fixtures mounted under canopies shall be recessed so that the lens cover is recessed or flush with the bottom surface (ceiling) of the canopy and/or shielded by the fixture or the edge of the canopy so that light is restrained to no more than 85 degrees from vertical.
 - (4) Gas Pump Canopy. Indirect lighting may be used where light is beamed upward and then reflected down from the underside of the canopy. Light fixtures must be shielded so that direct illumination is focused exclusively on the underside of the canopy. Lights shall not be mounted on the top or sides (fascias) of the canopy.
- (f) **Luminaire (Light Fixture) Illustrations.** The following luminaire illustrations shall be used as a guideline to help determine appropriate and inappropriate lighting fixtures, which offer different levels of shielding. Please note that these graphics are representative and do not comprise a complete inventory of permitted and prohibited fixtures.

Figure 23-2



SECTION 23.11 LANDSCAPING, BUFFERS AND SCREENING. Landscaping and screening are important elements of the use, development and preservation of land and are significant factors in preserving and enhancing the value of land and buildings in the Township. The purpose of this chapter is to promote the public health, safety and general welfare by establishing minimum standards for the design, installation and maintenance of landscaping in front yards, parking lots and greenbelts between uses and along roadways.

The standards and requirements of this chapter are intentionally made flexible, so as to encourage innovative and creative landscape design, consistent with the purposes of this chapter. To further improve the function, appearance and value of properties within the Township applicants are also encouraged to provide landscaping in excess of the minimum required.

SECTION 23.12 SCOPE AND APPLICABILITY OF LANDSCAPING PROVISIONS, VARIATIONS AND SUBSTITUTIONS.

- (a) Except as otherwise stated herein, the standards and requirements specified in this chapter shall apply to any land use governed under the site plan review provisions of Chapter 19, Special Land Uses (unless exempted under Section 23.17) and any land use undergoing review under the provisions governing planned unit developments. The requirements for landscaping as outlined in this chapter shall not apply to an individual single family detached dwelling, an individual two-family dwelling or a residential or agricultural accessory building except that residential accessory buildings classified as special land uses may be required to satisfy certain buffer and screening requirements as determined by the approving official or body.
- (b) The landscaping and screening requirements of this chapter shall be complied with at the time of site plan or development plan review and approval insofar as they are reasonably applicable. In its review of a landscape plan, the board or body having final approval authority, may in its sole discretion consider alternatives to the standards and requirements herein and may allow variations and substitutions to the requirements, if the purposes of requirement will nevertheless be achieved. In approving any such modifications, the approving body shall consider the following criteria:
 - (1) The amount of space on the site available for landscaping and/or screening.
 - (2) Existing landscaping and screening vegetation on the site and on adjacent and nearby properties.
 - (3) The type of land use on the site and the size and scope of the development
 - (4) Existing and proposed adjacent and nearby land uses.
 - (5) Existing native vegetation on the site, and the extent to which strict application of the regulations of this chapter may result in less effective screening and landscaping than alternative landscape designs which incorporate the native vegetation on the site.
 - (6) The topographic and other features of the site which when combined with the strict application of the standards of this chapter will result in less effective screening and landscaping than alternative landscape designs.
- (c) When requesting any variations or substitutions from the provisions of this chapter, the

applicant shall identify the site conditions that warrant the requested variations or substitutions and provide an explanation of how the alternatives will satisfy the intent and purposes of the standard(s) that are the subject of the proposed variation or substitution.

SECTION 23.13 LANDSCAPE PLAN REQUIRED.

- (a) A landscape plan is a required element of a site plan, development plan or sketch plan and shall be submitted as part of the required application for site plan, planned development or special land use review and approval. The landscape plan may be incorporated within a site plan or it may be a separate plan, but it shall have sufficient detail and clarity to enable evaluation of all aspects of the proposed landscaping and to determine whether the plan complies with the provisions of this chapter.
- (b) A landscape plan shall include, but is not necessarily limited to, the following:
 - (1) Existing vegetation on the site and a clear indication of which existing plants, if any, will be retained.
 - (2) Existing and proposed contours of the site, shown at reasonable intervals.
 - (3) Typical straight cross-section, including the slope, height and width of berms.
 - (4) The location, spacing and size of each plant type proposed to be used in all landscaped areas.
 - (5) A list of all plants, showing the required and proposed quantities thereof.
 - (6) Topographic features of the site which will be utilized as a part of the landscaping of the site.
 - (7) Methods and details for protecting during construction activity any existing trees and other existing vegetation that is to be retained on the site.
 - (8) Description of a proposed landscape maintenance program, including a statement that all diseased, damaged or dead plant materials shall be promptly replaced.
- (c) Exceptions. Notwithstanding the above requirements, the landscape or screening plan submitted for a special land use occurring in association with single family residential property needs only to consist of photographs and or sketches. The photographs and sketches shall illustrate the relative locations, sizes and general types of existing and proposed vegetation, trees and structures along each property line separating the proposed structure and use from adjoining property.

SECTION 23.14 GENERAL LANDSCAPE REGULATIONS.

- (a) All required landscaping shall be planted prior to the issuance of a certificate of occupancy; provided, however, that if a certificate of occupancy is ready to be issued, but inclement weather prevents the completion of required landscaping, the certificate may nevertheless be issued, but upon the specific condition that the remaining required landscaping shall then be installed as soon as weather conditions permit, or not later than a date to be specified in the certificate. As a condition of the issuance of the certificate of occupancy in such circumstances, a financial guarantee shall be provided in accordance with subsection (e) of this Section 23.14.

- (b) For the purpose of applying the landscape requirements of this chapter, a corner lot shall be considered as having a front yard along each intersecting street, and accordingly, the required front yard landscaping shall be provided for both street frontages.
- (c) Plant materials shall be planted and maintained so as not to create any site obstruction near street intersections. In addition, applicants shall give consideration to utilizing plant materials to assist in storm water management on the site, including the establishing of rain gardens and other bio-retention measures as noted in Section 23.24.
- (d) Landscaping shall be provided adjacent to buildings if the landscaping serves to enhance the general appearance of the building.
- (e) If required by the Township, the applicant shall provide a financial guarantee sufficient to assure the installation of all required landscaping. The financial guarantee may be included with any other such financial guarantee required by the Township with respect to the land use being approved. The financial guarantee may be in the form of a cash deposit, an irrevocable bank letter of credit or a performance bond, with a surety acceptable to the Township.

SECTION 23.15 PRESERVATION OF EXISTING TREES AND OTHER LANDSCAPE ELEMENTS.

- (a) A landscape plan shall provide for the preservation of existing trees of reasonable quality whenever preservation is feasible, particularly in buffer strip areas. Relocation of existing trees within the site is also encouraged.
- (b) Existing trees may be utilized for the purpose of complying with landscape requirements if the trees are in healthy growing condition, are of a variety not prone to disease and if they comply with minimum size requirements.
- (c) If a tree which is designated for preservation and for which landscaping credit is given, should die, then the applicant shall replace the tree with a tree of the same or equivalent species, or with a tree which will in approximately the same time attain the same height, spread and growth of the tree which is being replaced. Any replacement tree shall be a minimum of two and one-half inch caliper.
- (d) Existing trees and other vegetation that are to be preserved shall be labeled “to remain,” or with some comparable legend, on the landscape plan. During construction, protective measures shall be taken so as to protect all plants that are to be preserved, including the installation of temporary fencing or other barriers.

SECTION 23.16 INSTALLATION AND MAINTENANCE OF PLANT MATERIALS.

- (a) All landscaping shall consist of hardy plant materials, which shall be maintained thereafter in a healthy condition. Withered and/or dead plant materials shall be replaced within one growing season.
- (b) All landscaping and landscape elements shall be planted, and all earth moving or grading shall be performed, in a sound manner and according to generally accepted planting, grading and other landscaping practices.

- (c) All landscaped areas shall be provided with a readily available water supply, sufficient in quantity and reasonably convenient, so as to assure adequate water for maintaining plant materials in a healthy growing condition.

SECTION 23.17 REQUIREMENTS AND EXEMPTIONS FOR CERTAIN SPECIAL LAND USES OCCURRING ON SINGLE FAMILY RESIDENTIAL PROPERTY.

As pertains to special land uses occurring on property where the principle use remains single family residential, the approving body may, at the time of special use authorization, and as conditions of approval, require the preservation of existing vegetation and/or the installation of reasonable tree and shrub plantings, and/or the installation of fencing or other screening device for the purpose of shielding adjacent conflicting uses and activities wherever such conflicts appear significant. Special land uses occurring on property where the principle use remains residential are hereby exempt from the subsequent provisions of this chapter.

SECTION 23.18 BUFFER STRIPS AND PLANTING SCREENS. Except as required under Section 23.20, side and rear yard area tree plantings are not generally required between like uses and districts. For any special land use and for any use listed in Subsection (c) below the approving body may however, require the installation of a buffer strip and planting screen for the purpose of shielding adjacent conflicting uses and activities wherever such conflicts appear significant.

- (a) At minimum and at the time a development is approved, a buffer strip and planting screen shall be provided along the abutting lot line when any of the districts or uses listed below abuts a single or two family residential use, an R-1, R-1a, R-2, or R-3 residential zoning district, a residential planned unit development, or an agricultural zoning district planned for residential uses according to the Township Master Plan:
- (1) C-1, and I-1 Districts and uses.
 - (2) Institutional, religious and governmental uses
 - (3) Multi-family Development
 - (4) Manufactured Home parks
- (b) A buffer strip shall have a minimum width of 20 feet.
- (c) Unless otherwise required under the terms of this Section a buffer strip shall at a minimum consist of two staggered rows of evergreen trees planted eight to ten feet apart, center to center. The minimum height of the trees shall be 5 feet. For reasons of conflicting uses, unfavorable topography or other unique or extenuating physical circumstances the approving body may increase required landscape plantings and or require more intensive screening if an increase is found to be necessary to reasonably achieve screening and aesthetic objectives. The remainder of the buffer strip shall be landscaped with other trees and other natural landscape material, including but not limited to grass, ground cover and shrubbery.
- (d) Berms, walls and fences may be included within a buffer strip. In its discretion, the approving body may reduce the amount of required plantings, or may revise the required placement of such plantings, if a berm, fence or wall assists in achieving the intent and

purposes of this section.

- (e) Access ways from public or private streets may run perpendicularly through required buffer strips. Pedestrian trails may be located lineally within a buffer strip so long as the requisite degree of buffering and screening between uses is accomplished and is approved.
- (f) Where the required 20 feet of width of the buffer strip cannot be achieved or where there is a need to provide a greater visual, noise or dust barrier for the benefit of adjacent lands or uses the approving body may substitute or require:
 - (1) The installation and maintenance of a solid wall, of such height and materials as the approving body may determine.
 - (2) An intensive landscape screen. In such cases, the screening required within the buffer strip may consist of earthen berms and/or plant material designed and installed so as to maintain after two growing seasons a minimum opacity of at least 80 percent for the first 6 feet above average grade and 40% in the area between 6 feet and 10 feet above grade. For purposes of this requirement, opacity shall be measured by the observation of any two square yard area of landscape screen between a point one foot above the established average grade at the foot of the screen and the above referenced heights above average grade, from a point 25 feet off sight.
 - (3) Any combination of screening walls and landscaping.

SECTION 23.19 FRONT YARD LANDSCAPING.

- (a) Except for necessary driveways, frontage roads, service drives, trails or walkways, the front yard shall be landscaped in accordance with the following minimum requirements:
 - (1) Front yard landscaping required by the terms of this section, shall be within a greenbelt that extends from the street right of way into the front yard. The minimum depth of front yard green strips shall be as follows:
 - a. M-40: Twenty (20) feet
 - b. All other streets ten (10) feet
 - (2) One canopy tree, two evergreen trees and one ornamental tree for each 50 feet in length of street frontage, or any combination thereof, shall be planted and maintained as front yard landscaping; provided, however, that the approving body may in its discretion modify this requirement.
 - (3) As an alternative to formal groupings of trees, and in order to provide more variety in landscaping, applicants are encouraged to incorporate natural vegetation, native grasses, wildflower plantings, perennials and other materials which may carry out the purposes of this chapter.
- (b) For the purpose of obscuring or moderating the view of parked vehicles from the adjacent street the approving body may require additional landscaping to be planted and maintained within the front yard. Other screening devices, such as earthen berms or other land contouring may also be utilized or required.

SECTION 23.20 PARKING AREA LANDSCAPING. All off-street parking areas shall be landscaped according to the following minimum requirements:

- (a) There shall be parking area perimeter landscaping consisting of at least one canopy tree installed and maintained for each ten vehicle parking spaces or fraction thereof in the parking area. Landscaping required for buffer strips and front yard greenbelts that abut parking areas will be counted as meeting required parking lot perimeter landscaping. Trees required within landscaped interior islands shall not be applied toward the requirements of this subsection.
- (b) Paved parking lots shall contain interior landscaped islands, peninsulas or other unpaved and planted surfaces in order to provide shade and to vary the visual monotony of paved parking areas. There shall be one landscaped interior space for every 18 lineally adjacent parking spaces, provided, however, that the approving body may waive this requirement in the case of parking lots of such small size that an interior landscaped space is determined to be impractical or unnecessary.
 - (1) An interior landscaped space shall be at least eight feet wide and at least 150 square feet in area; provided, however, the approving body may require that interior spaces be 16 feet in width and 300 square feet in area where the size of the parking area is such that larger interior landscape space will be more effective at moderating visual monotony and providing benefits of shade, and rainwater absorption than the smaller interior spaces.
 - (2) Interior landscape space shall be planted with at least one canopy tree and four shrubs, for each 150 square feet of landscape area, or such other equivalent as the approving official or body may approve. Any shrubs planted within an interior planting space shall be maintained at a maximum height of three feet. The base of plantings shall be at least three feet from the edge of the landscaped island or peninsula.
- (c) Landscaping in paved parking areas shall be arranged so as not to obscure traffic signs or fire hydrants or obstruct the sight distance of drivers within the parking area or at driveway entrances.
- (d) Rain gardens and other bio-retention measures may be considered as partial alternatives to interior islands, and applicants are encouraged to consider such measures as elements of parking area landscaping. In its discretion, the approving official or body may modify parking area landscaping requirements to allow rain gardens and other bio-retention measures as noted in Section 23.21.

SECTION 23.21 ROADWAYS, ACCESS DRIVES AND WALKWAYS.

- (a) In its consideration and approval of a landscape plan, the approving body may require that shade trees be planted and that rain gardens be established along one side of existing roadways, access drives and walkways, where these features abut the site, and also along one or both sides of the roadways, access drives and walkways that are proposed to be located within a development or other land use.
- (b) Shade trees required to be planted and maintained under the terms of this section shall be

spaced no greater than 40 feet apart along one or both sides of each roadway, access drive or walkway. Such plantings shall not be required for rear access lanes or alleys.

SECTION 23.19 MINIMUM REQUIREMENTS FOR LANDSCAPE PLANTINGS.

- (a) Plantings shall comply with the following minimum requirements, except that the approving official or body may in its discretion permit variations in the size of plantings, in order to achieve the intent and purposes of this chapter.
 - (1) Evergreen trees – 5 feet height when planted.
 - (2) Deciduous canopy trees – 2 inch caliper when planted.
 - (3) Deciduous ornamental trees – 1 ½ inch caliper when planted.
 - (4) Upright evergreen and deciduous shrub – 2 feet height when planted.
 - (6) Spreading evergreen shrub – 18 inch spread when planted.
- (b) Types of trees to be planted shall include those that are listed on the current Township List of Approved Landscape Trees and Other Plant Materials, maintained in the Township office, or such other types of trees as are approved by the approving official or body in its approval of a landscape plan.

SECTION 23.20 COMPOSITION OF LANDSCAPING, BERMS AND OTHER FEATURES.

- (a) Plant material shall be free of disease and insect infestation and shall be suitable for planting within the Township, given local climatic conditions. The use of native plant species is encouraged.
- (b) A mixture of plant material is recommended as a protective measure against insect and disease infestation. A limited mixture of hardy species is recommended, rather than a large quantity of many different species.
- (c) Berms shall be constructed with slopes not to exceed a 1:3 gradient, with side slopes designed, graded and planted to prevent erosion. A berm shall have a rounded surface at least two feet in width at the highest point of the berm, extending for the length of the berm. The slopes of berms shall be protected with sod, seed, shrubs or other forms of natural ground cover.
- (d) Rain gardens and other bio-retention measures may be included in landscape plans, and their installation and use is encouraged as an effective aid in reducing storm water runoff.

SECTION 23.21 RAIN GARDENS.

- (a) Rain gardens are landscaped areas that are designed, planted and maintained to absorb rain water and other storm water runoff, and thereby help to reduce the total storm water runoff from the property on which the garden is located.
- (b) Applicants are encouraged to include rain gardens in landscape plans and in the landscaping for the types of land uses covered by this chapter; provided, however, that rain gardens will not serve in the place of required landscaping unless approved by the

approving official or body in its approval of a landscape plan.

- (c) The Township also encourages applicants to utilize other bio-retention practices and other storm water control measures in landscape plans and in approved landscaping under the terms of this chapter; provided, however, that other bio-retention practices or measures may not take the place of required landscaping and stormwater management measures unless approved by the Township and the Alleagan County Drain Commission, as applicable. In considering bio-retention measures that are included in a landscape plan, the approving official or body may obtain the advice and recommendations of the Township Engineer or Drain Commission, as applicable and other Township consultants. Such other bio-retention measures may include grass waterways, vegetated storm water drainage channels and the use of existing or enhanced swales to control and moderate the flow of storm water within landscaped areas.