

TITLE 14

CHAPTER 9

LANDSCAPING AND SCREENING REQUIREMENTS

A. Intent

The intent of this Chapter is to foster aesthetically pleasing developments which will protect and preserve the appearance, character, health, safety and welfare of the community. Specifically, these regulations are intended to increase the compatibility of adjacent uses requiring a buffer or screen between uses, to minimize the harmful impact of noise, dust, debris, motor vehicle headlight glare, or other artificial light intrusions, and other objectionable activities or impacts conducted or created by an adjoining or nearby land use.

B. Applicability

1. All new development, excluding agricultural use and the individual development of single-family or two-family detached dwelling units, shall comply with the Landscape and Screening Requirements. All development located within office, commercial and industrial zoning classifications as well as non-residential uses in residential districts shall be subject to the Landscape and Screening Requirements.
2. Any parking lot constructed as a result of the expansion of an existing development shall comply with the Landscape and Screening Requirements.
3. Expansion of all existing development which, after the passage of this Ordinance, exceeds twenty-five percent (25%) of the existing gross square footage or any change in use which results in the property becoming a higher impact use as indicated by an increase in average daily trip generation (ADT's) per day, shall comply with the following:
 - a. The site shall be modified to provide at least fifty percent (50%) of the amount of landscaping which would be required for a comparable new development; provided, however, that in the case of an existing site that already has landscaping in excess of the fifty percent (50%) required for a new development no additional landscaping may be required by the Design Review Commission. If it is not feasible to meet the quantity or placement requirements, the required landscaping may be modified with the approval of the Design Review Commission including the introduction of larger plant specimens as a means of compensating for the lack of required landscaping.
 - b. Any change in use which results in a higher impact shall require buffers and screening measures as set forth in the Landscape and Screening Requirements.

C. General Design Parameters

1. The following general design parameters shall be considered in designing landscaping areas:

- a. Landscape design and species shall be used to create visual continuity throughout the development. Landscape coordination shall occur among all phases of the development.
 - b. Landscape areas should be combined to form large clusters at highly visible locations such as landscape courts, plazas or common areas.
 - c. Landscape design should create variety, interest and view corridors for visibility.
 - d. A variety of different species (including both deciduous and evergreen species) shall be incorporated into the site design to provide visual interest, as well as disease and pest resistance. A minimum of twenty (20) percent of the plantings shall be evergreen/coniferous species.
 - e. Required landscape plantings shall be coordinated with the location of utilities, driveways, and traffic clearance zones. Landscape plantings shall be located an adequate distance away from utility lines and easements to avoid damage when such lines are repaired or replaced.
2. All landscape areas shall be irrigated.

D. Tree Preservation and Protection Requirements

1. Tree Preservation: Site plans and plats shall be designed to preserve existing trees and vegetation to the greatest extent possible and shall seek to incorporate existing stands of trees as well as individual trees. Sensitivity to the site grading, storm drainage, building location, public/private utility layouts and easements, and parking lot configurations shall be demonstrated by the developer to ensure tree and vegetation preservation. Particular attention shall be paid to the preservation of trees and their natural understory vegetation on steep or erodible slopes, riparian areas, wetlands, or other environmentally sensitive areas. The intent of these regulations is to recognize the need to alter the landscape during site development activities, while setting out standards necessary to ensure tree preservation and protection of environmentally sensitive areas to the greatest extent possible.
2. Tree Survey: The applicant shall submit a Tree Survey indicating the species, size, and location of trees within the subject site. Unless otherwise specified, the survey shall identify by common and scientific name and indicate by diameter in inches each tree twenty-four (24) inches or greater (or specimen tree), as measured at 4.5 feet above the mean ground level, as well as other trees proposed for retention. The tree survey shall be prepared on a topographic survey of the site to establish the tree elevation at the trunk and shall clearly indicate the drip line of all specimen trees as well as all other trees to be retained on site and at the edge of the drip line for wooded areas. In accordance with the Lakeland Tree Management Ordinance, all other trees not proposed for retention shall be delineated on the survey as a stand and accompanied by a summary table describing species and size distributions. The City Manager or their designee may grant an exception for trees or wooded areas that will not be removed or impacted by site development operations.

3. Trees Preserved – Plan Review Determination: The applicant shall prepare and present a tree management plan and statement of intent at time the site plan application is submitted for consideration by the Planning Commission. The plan shall indicate the location and massing of wooded areas, areas with dense shrubbery, and isolated individual mature hardwood trees and designate which areas or trees are to be preserved and which are to be removed. The plan shall also identify the location of all site improvements, buildings, general utility locations including easements, and preliminary site grading. The tree preservation statement shall indicate which trees and wooded areas are to be protected and the measures proposed to protect them during the construction process. The Planning Commission shall have the authority to review and evaluate the information contained in the management plan and to require additional protection measures where deemed appropriate to improve preservation of existing tree cover.
4. Protection of Existing Trees:
 - a. Existing trees and their root protection zones that are to be saved shall be protected from all construction activities, including earthwork operations, movement and storage of equipment and vehicles and placement of construction materials and debris. Erosion protection measures may be required to prevent siltation of the tree preservation areas during construction. Protection zones shall be established by the City Manager or his/her designee to ensure trees and their root zones are adequately protected and are not damaged during site development operations.
 - b. Every effort shall be made to locate utility easements away from tree preservation areas. However, utility easements may be located adjacent to tree preservation areas as long as adequate clearance and protection is provided for the tree preservation easement. When infrastructure systems must cross tree preservation areas, every effort including consideration of the use of directional boring rather than trenching shall be made to minimize tree removal in such areas. If the removal of trees within these areas is determined to be excessive, the City Manager or his/her designee may require the developer to replace such trees or pay into a Tree Preservation Fund.
 - c. To ensure protection of tree preservation areas, protection zones shall be delineated on the site development plans. During construction, such protection zones shall be delineated on the property using standard orange barricade fencing or comparable fencing material approved by the City Forester. Such fencing shall be four (4) feet in height and supported by metal channel posts spaced at a maximum of ten (10) feet on center. Such fencing shall be placed around all trees or wooded areas to be protected and shall remain erected and secure throughout all construction phases.

E. Landscape Islands for Existing Trees

1. The Planning Commission and Design Review Commission may approve variations to the landscape island requirements to preserve existing trees in

interior parking areas. For existing trees, the minimum width of a landscape planter island shall be as follows:

6-inch caliper or less	9-foot minimum width
6-inch to 12-inch caliper	15-foot minimum width
More than 12-inch caliper	20-foot minimum width

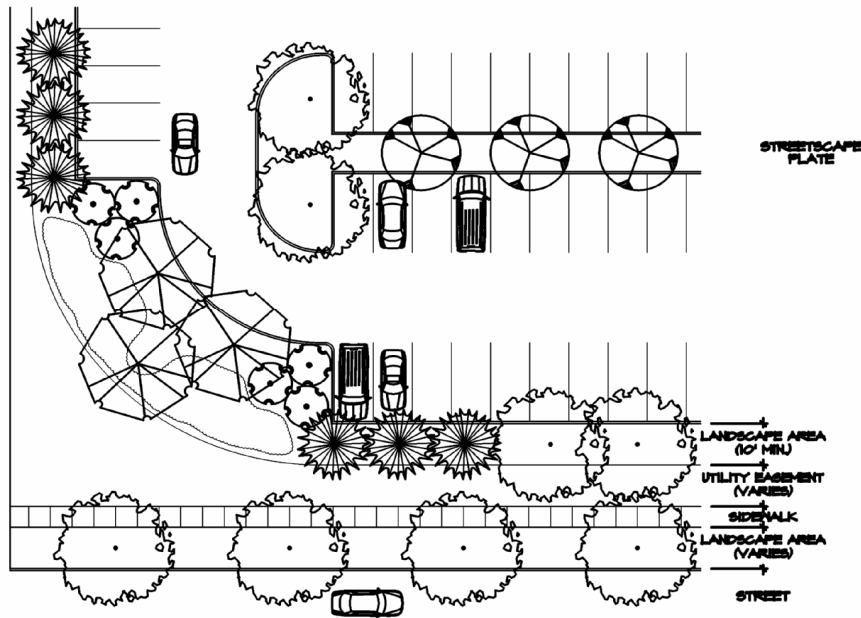


Figure 9-1. Streetscape Landscaping Plate

F. Landscape Restrictions – Sight Triangle Standards

1. A sight triangle is that area located at the intersection of two public streets or a public street and private driveway through which an unobstructed view of approaching traffic is necessary for motorists and pedestrians. Except as permitted in this section, no landscaping or vegetation, or fence, structure, or object shall be included in a sight triangle in a landscape plan, nor shall any such landscaping or object be planted, erected or maintained within a sight triangle. A sight triangle shall be as defined in Table 9-1 and Figure 9-2 below.

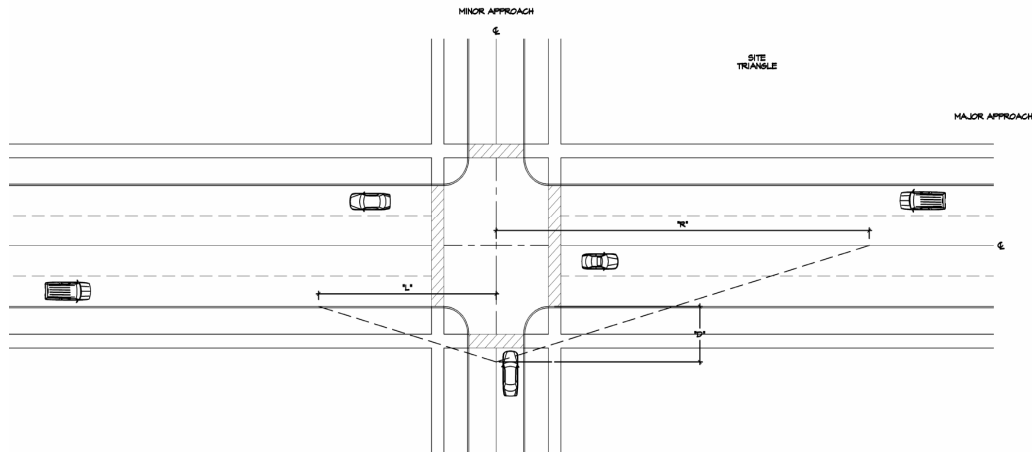


Figure 9-2. Minimum Required Site Triangle

The distance “D” shall measure twenty (20) feet and fifteen (15) feet from the edge of the nearest travel lane for a public street and private driveway, respectively. The distance “L” shall be measured from the centerline of the minor approach to a point at the edge of the nearest travel lane. The distance “R” shall be measured from the centerline of the minor street to a point on the centerline of the major street approach.

**Table 9-1.
Minimum Required Sight Distance for
Different Posted Speed Limits**

<u>Posted Speed Limit (1)</u>	<u>Minimum Sight Distance (Left and Right)</u>
25 mph	200 feet
30 mph	250 feet
35 mph	325 feet
40 mph	400 feet
45 mph	475 feet
50 mph	550 feet
55 mph	650 feet

(1) Posted speed limit on the major approach. Except at a signalized intersection, the speed limit of the approach from which the sight distance is being measured is ignored.

- Sight triangles shall be measured from the minor leg of the intersection of two public streets where the minor approach shall be defined as that approach whose right-of-way is controlled by a stop sign and whose major approach is uncontrolled. At a signalized intersection of two public streets, sight triangles shall be measured for all approaches. For an intersection of a public street and

private driveway, the sight distance is only measured from the private driveway.

G. Parking Lot Landscaping Requirements

To reduce the visual impact of parking lots, landscaping areas and/or architectural features that complement the overall design and character of the development will be integrated into the development.

1. The number of trees required in the internal planting areas in parking lots shall be dependent upon the location of the parking lot in relation to the building, public right-of-way and adjoining land uses. The following minimum tree planting requirements shall apply to parking lots:
 - a. Where the parking lot is located between the building and the public right-of-way, one (1) shade tree for every five (5) parking spaces shall be provided (1:5).
 - b. Where the parking lot is located to the side of the building and partially abuts the public right-of-way, one (1) shade tree for every seven (7) parking spaces shall be provided (1:7).
 - c. Where the parking lot is located behind the building and is not visible from the public right-of-way, one (1) shade tree for every ten (10) parking spaces shall be provided (1:10).
 - d. Each shade tree planted shall be a minimum of three (3) inch caliper at time of planting.
2. Parking lots that abut the public right-of-way shall be screened with one or a combination of the following treatments:
 - a. Low walls made of masonry, stone, or other similar material and not exceeding a maximum height of three (3) feet.
 - b. Raised planter walls planted with a minimum of eighty percent (80%) evergreen shrubs planted in an intertwined planting pattern using plant materials that are a minimum of twenty-four (24) inches in height and spread at time of planting for a minimum overall height including planter of thirty (30) inches at time of planting.
 - c. Landscape plantings consisting of eighty percent (80%) evergreen shrubs planted in an intertwined planting pattern using plant materials that are a minimum of thirty (30) inches in height and spread at the time of planting and interspersed with deciduous and coniferous trees and groundcovers.
3. One (1) deciduous shade tree or two (2) ornamental trees along with a minimum of eight (8) durable evergreen and deciduous shrubs, groundcover, mulch and irrigation shall be provided for every parking landscape island.
4. Landscape aisles and strips shall include medium to large deciduous trees a minimum of one (1) tree every thirty (30) linear feet, in addition to other parking lot landscaping requirements. All landscape aisles and strips shall be irrigated.
5. Primary landscape materials shall be trees which provide shade or are capable of providing shade at maturity. Ornamental trees, evergreen trees, shrubbery, hedges and other planting materials may be used to compliment the landscaping, but shall not be the sole means of landscaping. Effective use of

earth berms and existing topography is also encouraged as a component of the landscape plan.

6. The perimeter of parking areas along side and rear property lines not abutting a public right-of-way shall be landscaped using a combination of evergreen and deciduous plant materials. All perimeter landscape areas shall be irrigated.
7. Groundcover plants shall be planted in a number as appropriate by species to provide fifty percent (50%) surface coverage.
8. Seeding and sodding shall be provided for total coverage within the first growing season. Sod shall be used where necessary to provide coverage and soil stabilization.
9. Stormwater detention and retention basins and ponds shall be landscaped. Landscaping materials shall include a combination of deciduous shade and ornamental trees, coniferous trees, and evergreen and deciduous shrubbery, hedges and groundcovers. Any areas not covered with tree or shrubbery materials shall be seeded and/or sodded to minimize sedimentation within the detention and retention basins and ponds. Depending upon design, stormwater detention and retention basis landscape may require irrigation.
10. Walls and raised planters shall not exceed a maximum height of three (3) feet, unless all of the following are provided:
 - a. Screen treatment does not create a traffic or safety hazard or obstruct visibility.
 - b. Portion of treatment that is above three (3) feet in height is a minimum of seventy-five percent (75%) transparent (i.e., wrought iron fencing, trellis)
 - c. Portion of wall/landscape treatment that is above three (3) feet in height provides added visual interest, detail, and character suitable to the character of the development.
 - d. The raised planter shall be irrigated.
11. Where walls are provided, landscape planting areas shall be a minimum of five (5) feet in width and shall be located adjacent to the public right-of-way.
12. Chain link fencing shall not be permitted to be used to screen or enclose parking along a public right-of-way. In addition, the use of razor ribbon or barbed wire shall be prohibited.
13. Landscape islands shall be protected by curbs a minimum of six (6) inches in height. All parking lot islands shall be excavated completely of all building and paving materials to a minimum depth of twenty-four (24) inches and backfilled with a medium textured planting mix prior to landscape materials being planted.
14. Trees shall be required throughout the life of the development. If any trees within a parking lot or periphery die, become diseased, or are removed for any reason, they shall be replaced at the expense of the owner.

H. Building Façade and Foundation Landscaping Requirements

1. Non-residential developments shall include the following building façade and foundation landscaping standards, unless deviations from these standards are

otherwise approved by the Design Review Commission as part of the landscape plan approval process:

- a. Landscaping and planting areas shall be placed to provide a buffer between the parking lot or drives and building walls or pedestrian circulation. Landscape areas may be placed adjacent to the building wall or adjacent to the curb to coordinate with building overhangs and canopies, if applicable. A variety of shrubs, ornamental trees and/or shade trees are encouraged. Any trees used should accommodate pedestrian circulation.
- b. Along any building façade or foundation that fronts upon a public right-of-way or a parking lot provided for the building, landscape areas shall be provided equivalent to a minimum of fifty percent (50%) of each building façade or foundation. The landscape area may be a continuous area or comprised of several areas. Building facades along service areas are excluded but, shall be screened according to applicable screening requirements of such areas.
- c. Each landscape area shall be planted with shrubbery a minimum of thirty (30) inches in height at time of planting that is of a species capable of reaching thirty-six (36) inches in height above the adjacent parking area or drive, covering a minimum of seventy-five percent (75%) of the length of the landscape area. A mixture of evergreen and deciduous shrubs shall be used to maintain seasonal interest. Ornamental trees (where appropriate), or shade trees should be included in the landscape design to further buffer the building façade from the drives and parking lot areas. In areas where pedestrian circulation is anticipated, trees with a branching habit conducive to walking under shall be used. For example, Pin Oaks are not acceptable in these areas due to their descending branch habit. Consideration should also be given to the presence of thorns, fruit, or other features that will affect pedestrian circulation. Appropriate plant species should be installed so that mature tree limbs can be maintained at a minimum eight (8) foot clearance from ground level and so that shrubs do not exceed thirty-six (36) inches in height for areas where it is important to maintain visibility for security and safety purposes.
- d. Planting areas shall have a minimum width of either six (6) feet or the equivalent of twenty percent (20%) of the building façade height as measured from finished grade to the top of the wall or parapet, whichever is greater.
- e. Building façade and foundation areas shall be irrigated. Bubbler or drip irrigation systems are encouraged in order to reduce water consumption and overspray onto pedestrian circulation areas.
- f. Landscape areas shall generally not be placed beneath overhangs and canopies.

I. Slope Plantings

1. Landscaping of all cuts and fills and/or terraces shall be sufficient to prevent erosion, and all roadway slopes steeper than one foot vertically to three feet

horizontally shall be planted with groundcover appropriate for the purposes and soil conditions, water availability and surrounding environment.

J. Removal of Debris

1. All stumps and other tree parts, litter, brush, weeds, excess or scrap building materials or other debris shall be completely removed from the site prior to issuance of a Certificate of Completion by the City.
2. No tree stumps, or portions of tree trunks or limbs shall be buried anywhere in the development.
3. All dead and dying trees, standing or fallen, shall be completely removed from the site upon notification by the City. If trees or limbs are reduced to chips, they may be used as mulch in landscape areas, subject to approval by the City.

K. Plant Materials

1. Quality Standard: All plant material shall be of No. 1 grade, free from plant disease, of typical growth for the species, have a healthy, normal root system, rounded branch pattern, and shall be installed in conformance to the code of standards set forth in the most recent edition of *The American Standard for Nursery Stock (ANSI Z60.1)*, as published by the American Association of Nurserymen.
2. There shall be a minimum of one (1) shade tree for every three (3) understory trees planted. There shall be no more than forty percent (40%) from one genus unless otherwise approved by the City Manager or his/her designee.
3. Recommended Plants: A list of recommended plants within each plant material type is included in Table 9-2. The applicant may propose plants other than those listed if the plant is appropriate for the intended use or the applicant maintains a plant care program sufficient to properly care for the proposed plant material. Plant materials shall be appropriate for the region and local soil conditions and shall be planted in accordance with good horticultural practice. Plants selected should require only low maintenance and should be temperature and drought tolerant.

**Table 9-2.
Recommended Native and Non-Native Landscape Species**

Native Overstory Trees		Non-native Overstory Trees	
Botanic name	Common name	Botanic name	Common name
<i>Acer rubrum</i>	Red maple	<i>Acer platanoides</i>	Norway maple; (locally appropriate cultivars)
<i>Acer saccharum</i>	Sugar maple	<i>Aesculus x carnea</i>	Red horsechestnut
<i>Betula nigra</i>	River birch	<i>Cedrus atlantica 'Glauca'</i>	Atlantic cedar (Blue atlas)
<i>Carya spp.</i>	Mockernut, Bitternut, Pignut, Shagbark hickory	<i>Cedrus deodara</i>	Deodar cedar
<i>Carya illinoensis</i>	Pecan	<i>Cercidiphyllum japonicum</i>	Katsuratree
<i>Diospyros virginiana</i>	Common persimmon	<i>Corylus spp.</i>	Filbert

<i>Halesia Carolina</i>	Carolina silverbell
<i>Hammamelis virginiana</i>	Witch-hazel
<i>Ilex x attenuata 'Fosteri'</i>	Foster's Holly
<i>Ilex x attenuata 'Savannah'</i>	Savannah Holly
<i>Ilex decidua</i>	Possumhaw
<i>Magnolia x soulangiana</i>	Saucer magnolia
<i>Malus spp.</i>	Crabapple (locally appropriate cultivars)
<i>Ostrya virginiana</i>	American hophornbeam
<i>Oxydendrum arboretum</i>	Sourwood
<i>Prunus americana</i>	American plum
<i>Rhamnus caroliniana</i>	Carolina buckthorn
<i>Rhus glabra</i>	Smooth sumac
<i>Rhus typhina</i>	Staghorn sumac
<i>Styrax obassia</i>	Fragrant snowbell
<i>Viburnum rufidulum</i>	Rusty blackhaw

<i>Lagerstroemia indica</i>	Crape-Myrtle (locally appropriate hybrids and cultivars)
<i>Magnolia stellata</i>	Star magnolia
<i>Pistacia chinensis</i>	Chinese pistache
<i>Prunus spp.</i>	Cherry (Asian species; locally appropriate)
<i>Rhus chinensis</i>	Chinese sumac
<i>Styrax japonicus</i>	Japanese snowbell
<i>Viburnum spp.</i>	Asian viburnum (locally appropriate species)

4. Size Requirements When Planted: All plants shall equal or exceed the following measurements when planted. Plants larger than specified may be used, but use of such plants shall not decrease the size requirements of other proposed plants.

L. Plant Size Requirements

1. Canopy and understory trees with single trunks shall be measured by caliper size one (1) foot above the ground line. Multi-trunk trees shall be measured by the number of trunks and caliper size one (1) foot above the ground line.
2. An immediate landscape impact is desired within all landscape areas associated with residential, office, commercial and industrial developments including planned developments. To facilitate this, the following minimum plant size at the time of planting shall be required. Larger sizes are encouraged.

<u>Plant Material Type</u>	<u>Minimum Size</u>
Deciduous Shade Tree	
Single Stem/Trunk	3.0-inch caliper
Multi-trunk	10-feet
Evergreen Tree	8-feet

Understory Tree	8-feet
Ornamental Tree	1.5 to 2.0-inch caliper
Ornamental Tree (multi-trunk)	3 or more trunks (1-inch each)
Shrubbery	
Deciduous	30-inches (5 gallon min.)
Evergreen	30-inches (5 gallon min.)
Groundcover	6-inches

M. Installation

1. All landscaping materials shall be installed in accordance with requirements set forth in the most recent edition of *The American Standard for Nursery Stock (ANSI Z60.1)*, as published by the American Association of Nurserymen.
2. Any landscape material that fails to meet the minimum requirements or standards of this Ordinance at the time of installation shall be removed and replaced with acceptable materials.
3. Plant materials shall be placed intermittently against long expanses of building walls, fences, and other barriers to create a softening effect.
4. Ground cover plants shall be planted in a number as appropriate by species to provide fifty percent (50%) surface coverage.
5. Landscaping materials shall not obstruct the operation and maintenance of utilities. Landscaping or plant material may not interfere with the function, safety, and access to any public easement or right-of-way, or the flow of stormwater runoff.
6. No large deciduous or evergreen trees shall be planted within five (5) feet on either side of a water, sewer or drainage line. Trees planted underneath overhead power lines shall be a species that does not, in this region, achieve a mature height that would reach or interfere with such lines, or as recommended by MLGW.

N. Time Landscaping Required

1. All required landscaping materials shall be in place prior to the time of issuance of the Certificate of Completion by the City of Lakeland.
2. In periods of adverse weather conditions, a temporary Certificate of Completion may be issued, subject to the posting of a cash escrow or irrevocable letter of credit in an amount equal to one and one-half (1½) times the estimated cost of the landscaping, with said estimated cost to be certified by a licensed landscaping contractor.
3. The cash escrow or irrevocable letter of credit may be forfeited in the landscaping is not completed in accordance with approved landscape plans within six (6) months after the issuance of the Temporary Certificate of Completion.
4. Forfeiture of any cash escrow or irrevocable letter of credit shall not relieve the owner of the responsibility to complete the required landscaping.

O. Landscape and Irrigation Plan Requirements

1. Qualification to Prepare Plans: Landscape plans submitted for consideration by the Planning Commission or Design Review Commission shall be prepared by a Registered Landscape Architect. Irrigation plans should be prepared by a licensed contractor or Registered Landscape Architect.
2. Landscape Plan Requirements: The following items shall be provided on the required landscape plan:
 - a. Sheet size 24" by 36".
 - b. Scale of 1"=20', or as approved based on size of project.
 - c. North arrow, graphic and written scale.
 - d. Appropriate title.
 - e. Title block, including street address, legal description and date of preparation.
 - f. Name and address of owner.
 - g. Name, address and telephone number of person preparing plan.
 - h. Property line shown with dimensions.
 - i. Existing utilities (water, sewer, stormwater, gas, and electric) and related easements.
 - j. Location, diameter at breast height, and species of all existing trees to be preserved.
 - k. Calculations demonstrating compliance with the minimum density requirements of the Lakeland Tree Management Ordinance, if applicable.
 - l. Location, quantity, size and species of all proposed plant materials
 - m. Maintenance notation indicating maintenance responsibilities upon installation
 - n. Berms and other unique physiographic features
 - o. Visibility triangles for entrances and intersecting streets
 - p. Sealed and dated signature of Landscape Architect
 - q. Plant list
3. Irrigation Plan Requirements: The following items shall be provided on the required irrigation plan:
 - a. Sheet size 24" by 36"
 - b. Scale of 1"=20', or as approved based on size of project.
 - c. North arrow, graphic and written scale
 - d. Appropriate title
 - e. Title block, including street address, legal description and date of preparation
 - f. Name and address of owner
 - g. Name, address and telephone number of person preparing plan
 - h. Property line shown with dimensions
 - i. Existing utilities (water, sewer, stormwater, gas, electric) and related easements (all pipes shall be noted by size in inches)
 - j. Proposed irrigation system (labeled by size)
 - k. All sprinkler heads labeled as to type (key is acceptable)
 - l. Backflow prevention device labeled with type and size
 - m. Location of water meter and connection to water service

- n. Maintenance note indicating maintenance responsibility
- o. Seal and dated signature of professional preparing plan

P. Maintenance Requirements for Landscaping and Irrigation

1. Maintenance of Landscaping: Maintenance includes all reasonable and regular irrigation, weeding, weed control, fertilizing, pruning as well as removal of tree wrap and staking per standard horticultural practices and the City Code. Plant materials that show signs of insect infestation, diseases and/or damage shall be appropriately treated. Dead plant material will be replaced according to the approved landscape plan.
2. Inspection Authority: All landscaping and irrigation systems will be subject to periodic inspection by the City's Code Enforcement Officer. Should landscaping not be installed, maintained and replaced as needed to comply with the approved plan, the owner and its agent(s) shall be considered in violation of the terms of the Certificate of Completion and this Ordinance.
3. The developer and subsequent owner shall be responsible for the perpetual maintenance of all landscaping materials and irrigation systems and shall keep them in proper, neat and orderly appearance, free from weeds, refuse and debris at all times. This shall include mowing, edging, pruning, fertilizing, watering, weeding, and other such activities common to the maintenance of landscaping.
4. Landscaped areas shall be kept free of trash, litter, weeds and other material or plants not a part of the landscaping. All plant materials shall be maintained in a healthy and growing condition as is appropriate for the season of the year. All irrigation heads or lines that are broken and flow water shall be replaced or repaired immediately to prevent the waste of water.
5. The developer and subsequent owner shall be responsible for maintaining the landscaping on all adjacent rights-of-way as shown on an approved landscape plan or as existing if an approved landscape plan does not exist, unless a maintenance agreement is reached with another entity. The City, at its discretion, may add, remove, replace, or maintain landscaping within the right-of-way per City standards.
6. The developer may request City maintenance of primary greenways, or the City may approve an alternative maintenance plan. If no agreement is reached, maintenance of primary greenways shall be the responsibility of the developer and subsequent homeowners association. The following standards shall apply:
 - a. Installation of all landscaping and improvements in the greenway shall meet or exceed City standards.
 - b. The developer will maintain the improvements for at least one (1) year following construction acceptance by the City of such improvements, and thereafter until the City has granted final acceptance for maintenance for those improvements.
7. Plant Replacement: Should a plant or portion of the required landscaping die, the owner shall be responsible for replacing said plantings with a plant or plants that have similar characteristics and form. The developer and/or owner

shall be responsible for replacing all plant materials which shows dead branching over seventy-five percent (75%) or more of the normal branching pattern and repair irrigation system for a period of one year from the date of issuance of the Certificate of Completion by the City of Lakeland. Plant materials which die shall be replaced with plant material of similar variety and similar size. The owner shall make such necessary replacements within thirty (30) days of notification by the City.

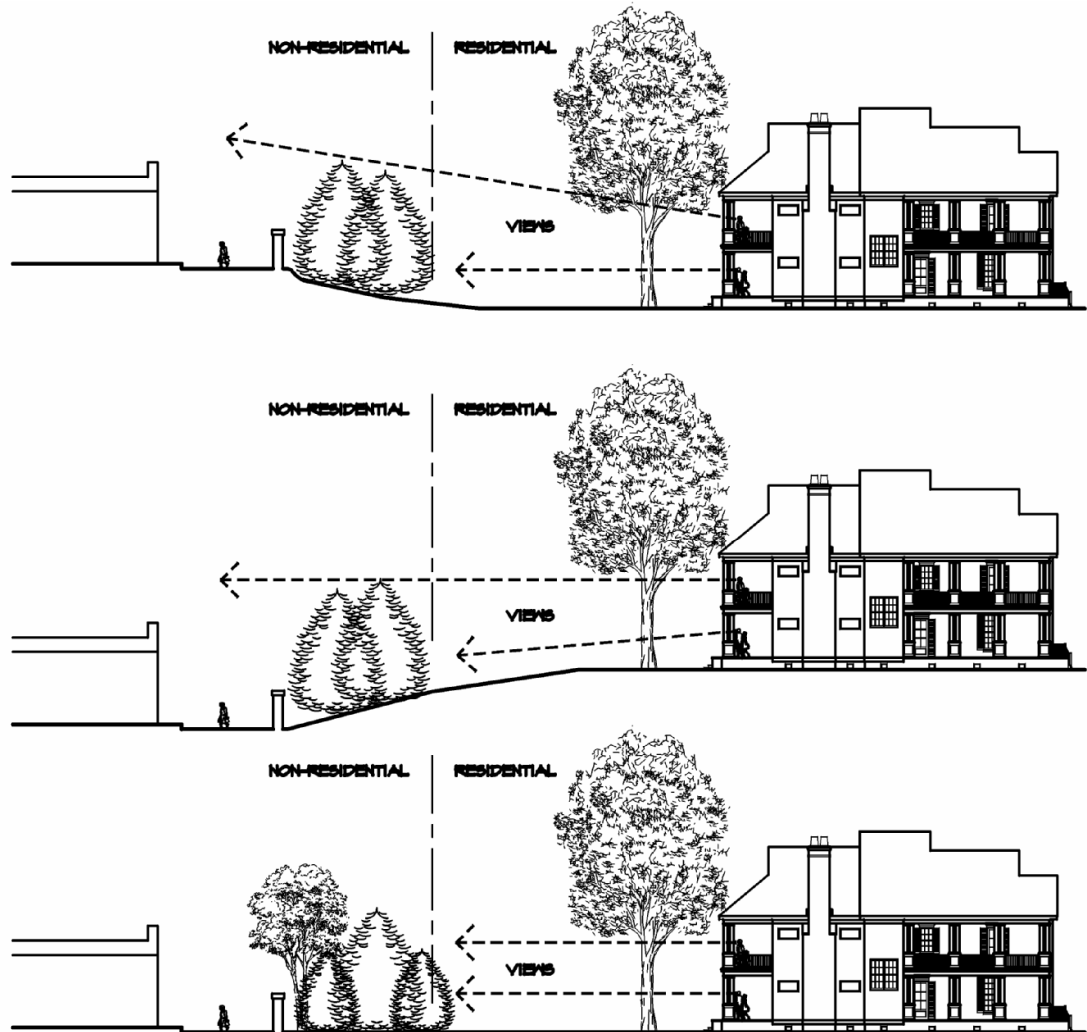
8. Pruning: Topping trees or the severe cutting of limbs to stubs larger than three (3) inches in diameter within the tree crown to such a degree as to remove the normal canopy is not proper maintenance to trees as required by this Ordinance. This maintenance requirement shall be subject to oversight by the City Manager or his/her designee.

Q. Buffering Requirements

1. Function and Materials: Buffering shall provide a year round visual screen in order to minimize adverse impacts. It may consist of fencing, evergreens, berms, mounds, or combinations thereof to achieve the same objectives.
2. When Required: Every development shall provide sufficient buffering when topographical or other barriers do not provide reasonable screening and when the Planning Commission determines that there is a need (1) to shield neighboring properties from any adverse external effects of a development; or (2) to shield the development from negative impacts of adjacent uses such as streets or railroads. Buffers shall be measured from side and rear property lines, excluding driveways.
3. Amount of Buffering Required: The following buffering requirements shall apply:
 - a. Where an Office zoned development abuts a residential zoning district, a buffer strip twenty-five (25) feet in width shall be required. Where site conditions do not allow a natural buffer of twenty-five (25) feet in width, a solid privacy fence or wall may be substituted along with sufficient berms and evergreen and deciduous plantings, as determined by the Planning Commission and the Design Review Commission.
 - b. Where a Neighborhood Commercial zoned development abuts a residential zoning district, a buffer strip twenty-five (25) feet in width shall be required. Where site conditions do not allow a natural buffer of twenty-five (25) feet in width, a solid privacy fence or wall may be substituted along with sufficient berms and evergreen and deciduous plantings, as determined by the Planning Commission and Design Review Commission.
 - c. Where a General Commercial zoned development abuts a residential zoning district, a buffer strip fifty (50) feet in width shall be required. Where site conditions do not allow a natural buffer of fifty (50) feet in width, a solid privacy fence or wall may be substituted along with sufficient berms and evergreen and deciduous plantings, as determined by the Planning Commission and Design Review Commission.

- d. Where an Industrial zoned development abuts a residential zoning district, a buffer strip one hundred (100) feet in width shall be required. Where site conditions do not allow a natural buffer of one hundred (100) feet in width, a solid privacy fence or wall may be substituted along with sufficient berms and evergreen and deciduous plantings, as determined by the Planning Commission and Design Review Commission.
4. Design: Arrangement of plantings in buffers shall provide maximum protection to adjacent properties and avoid damage to existing plant materials. Possible arrangements include planting in parallel, serpentine, and broken rows. If planted berms are used, the minimum top width shall be five (5) feet and the maximum side slope shall be 3:1. Examples of buffers are depicted in Figure 9-3 below.

Figure 9-3.
Examples of Buffering Techniques Between Contrasting Land Uses

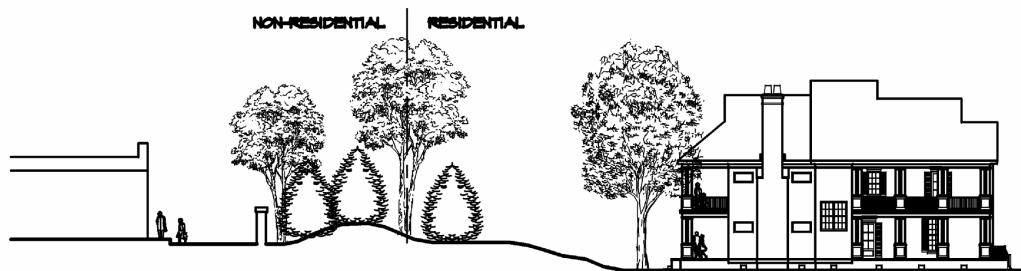


5. Planting Specifications: Plant materials should be sufficiently large and planted in such a manner that a year-round screen at least ten (10) feet in height shall be produced within one (1) growing season. All plantings shall be installed according to accepted horticultural standards.
6. Maintenance of Buffers: Plantings shall be watered regularly and in a manner appropriate for the specific plant species through the first growing season, and dead and dying plants shall be removed upon notification by the City and shall be replaced by the property owner. No buildings, structures, storage of materials, storage of finished goods or merchandise, or parking shall be permitted within the buffer area. Buffer areas shall be maintained and kept free of all debris, rubbish, weeds, and tall grass.

R. Berms

1. Whenever a berm is required as a landscape or buffer design element for screening parking and/or loading areas or other objectionable views, it shall be a minimum of one (1) foot in height.
2. Berms shall have side slopes no steeper than 3:1. When possible, all berms shall be curvilinear rather than straight. Berms are not required to be continuous and are preferred to be broken periodically, but must cover a minimum of seventy-five percent (75%) of the length of the property line to be buffered or screened.
3. A hedge of evergreen plants obtaining a mature height greater than three (3) feet may permit a reduction in the required height of the berm upon approval by the Design Review Commission.
4. When planting a hedge on top of a berm, the hedge shall be a minimum of two (2) feet in height and shall be planted in an intertwined planting pattern at the time of planting.
5. Berms separating conflicting land uses shall include a variety of evergreen and deciduous plant materials (see Figure 9-4).

**Figure 9-4.
Example of Landscaped Berm**



S. Median Landscaping

1. Landscape islands within street cul-de-sacs, eye brows, loop lanes, or bulb-outs will be required when appropriate to minimize the amount of asphalt and enhance the appearance of the streetscape. Islands will be landscaped with trees, shrubs and mulch, including irrigation commensurate with the size of the island.

2. When median landscaping is included as part of the project, the developer and subsequent owners will be responsible for maintenance of such areas. The City, at its discretion, may add, remove, replace, or maintain landscaping within the right-of-way per City standards with any costs related to such work to be paid by the developer and/or subsequent owners of the development project.
3. If trees are utilized, planting should be clustered and requiring minimal maintenance at maturity.
4. If grasses are used in the median to supplement areas not covered with trees and shrubbery, the space devoted to grasses should be of sufficient width to accommodate mowing equipment.
5. Curbing should be surrounded No curbs surrounding medians shall be greater than six (6) inches unless required by the City Engineer.

T. Common Open Spaces – Planned Developments

1. Common open space required in all subdivisions and planned developments shall be landscaped as follows unless otherwise permitted in these Standards:
 - a. Common open space areas will have irrigated live ground cover over at least seventy-five percent (75%) of the area.
 - b. Common open space in single-family residential subdivisions or planned developments or portions of subdivisions and planned developments containing single-family dwellings will be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every five thousand (5,000) square feet of lot area. Required perimeter buffer areas in all subdivisions and planned developments will be landscaped at a ratio of at least one (1) tree and five (5) shrubs for every forty (40) linear feet of buffer or as required by the buffer standards specified above.
 - c. Common open space for all other subdivisions and planned developments is subject to the landscaping requirements specified in this Ordinance.
 - d. At least fifty percent (50%) of the trees will be shade deciduous species and twenty-five percent (25%) of the trees will be coniferous species, where appropriate.
 - e. The developer shall have all landscaping improvements completed and in acceptable condition prior to the City's construction acceptance of public improvements and prior to turning the common open space area(s) over to the property owners association for maintenance.
2. Stormwater Detention/Retention Areas and other Landscape Areas – Detention/retention areas are generally not acceptable for dedication to the public for parkland dedication and/or maintenance. Buffalo grass or other approved dry-land seed mixtures is to be planted and maintained by the homeowners association. Detention areas to be considered for dedication to the City for use by the City as a recreational amenity shall be landscaped as follows:
 - a. The perimeter of detention areas will be landscaped with plant groupings sensitive to the detention area design and will include at least one (1) tree and five (5) shrubs for every forty (40) linear feet of perimeter. At least

- fifty percent (50%) of the trees will be shade deciduous species and twenty-five percent (25%) of the trees will be coniferous species, where appropriate. The use of native plant species is encouraged.
- b. Grass or other comparable vegetation will be the primary ground cover. All areas within the floodplain, including, but not limited to, the detention area bottom, shall be planted with sod and irrigated if deemed necessary by the City with an underground irrigation system. Other areas may be seeded with dry-land grass if it is maintained free of weeds and irrigation is provided until the grass is fully established. Live plant material other than grass may be planted if it is suitable to the area and is maintained free of weeds and irrigation is provided.
 - c. The landscape plan will indicate the ten (10) year and one hundred (100) year storm detention areas.
 - d. The side slopes of the pond shall not exceed 6:1 slope.
 - e. The bottom of the pond shall have a minimum of one percent (1%) – two percent (2%) slope to ensure proper drainage, eliminate mud bogs, flush siltation building and promote multiple use of the detention pond.
 - f. A concrete slab near the outlet shall be installed and sized properly to reasonably accommodate siltation to ease maintenance.
 - g. A minimum trickle channel shall be maintained and, if possible, shall be located on the perimeter of the pond to facilitate multiple use of the pond.
3. Natural features including, but not limited to, unique physiographic features such as wetlands, stream channels, rock outcropping, significant stands of trees and other native vegetation, should be preserved as amenities and properly delineated on plan documentation and protected during the development process within a subdivision or planned development. Where practical, these areas should remain in their natural state and not be altered. Alteration of natural features including, but not limited to, the removal of vegetation and/or the installation of improvements such as the construction of a pathway or irrigation system should be reviewed and approved by the City of Lakeland prior to alteration.

U. Irrigation System Requirements

1. All required landscape areas shall have an automatic clock-activated irrigation system unless waived by the Design Review Commission. Landscape areas without an irrigation system (when waived by the Design Review Commission) and bearing live plant material will require temporary irrigation until the plants are established and a reliable water source sufficient to sustain plant life is provided.
2. Irrigation systems shall meet the following criteria:
 - a. An automatic controller shall activate the irrigation system.
 - b. The irrigation system shall provide sufficient coverage to all landscape areas.
 - c. The irrigation system shall not spray or irrigate impervious surfaces, including sidewalks, driveways, streets, and parking and loading areas.
 - d. All systems shall be equipped with a backflow prevention device.

- e. All mechanical systems including controllers and backflow prevention devices shall be properly screened from public view.
- 3. Portions of irrigation systems may be comprised of temporary irrigation components to irrigate low maintenance areas if the Design Review Commission determines that all of the following standards are met:
 - a. Plant selection, design, installation specifications and site conditions combine to create a micro-climate that will sustain the plant material in a healthy condition without regular irrigation after the plant establishment period.
 - b. All portions of the landscape area served by temporary irrigation will be within one hundred fifty (150) feet of an exterior water source to enable hand watering during extended dry periods.
 - c. The temporary irrigation will provide reliable automated irrigation for the plants during the establishment period.
 - d. The applicant has demonstrated the ability to provide ongoing long-term maintenance of landscape areas necessary to keep plant material healthy without irrigation.

V. Mixed Use Developments

To allow the desired mixing and integration of uses, streetscapes, and innovative design treatments for mixed use or traditional neighborhood design developments, these design guidelines may be waived, so long as the development is a Planned Development, and so long as the development complies with all prior approvals of the City of Lakeland. All waived portions of the guidelines must be specifically identified in writing and approved by the Planning Commission, otherwise the applicable design guidelines of this chapter shall apply.