

LAKE COUNTY

CHAPTER IX DEVELOPMENT DESIGN AND IMPROVEMENT STANDARDS

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9.01.00 Landscaping Standards.

9.01.01 Purpose and Protection Standards.

A. The purpose of this Section is to provide minimum standards for Landscaping, Buffering and tree protection within the unincorporated Area of Lake County. This Section shall be implemented so as to promote the preservation of native plant species and to provide for aesthetic Landscaping complements to proposed Development and encourage the Use of plants that are drought tolerant.

B. Tree Protection Standards. The protection measures described in this Subsection are based on those described in the Tree City USA Bulletins published by The National Arbor Day Foundation: How to Save trees During Construction (No. 8, 1998), A Systematic Approach to Building with Trees (No. 20, 1998), and How to Protect Trees During Underground Work (No. 35, 1998). These publications are hereby adopted and included by reference herein. A copy of such publications is available from the County Manager or designee. This publication should be used to supplement the required protection measures. It also provides information on the economic value of trees to developments and their incorporation into designs as well as guidelines on professional tree care, tree planting and tree transplanting. The Lake County Tree Protection Standards are detailed in Subsection 9.01.10.A.

9.01.02 Applicability and Additions to Existing Development.

A. *Applicability.* It shall be unlawful for any person to clear, develop or increase the developed Area of any Lot, Parcel, Plot or Tract of Land unless in compliance with the terms of this Section or otherwise exempted by this Section.

B. *Additions to Existing Development.* As a condition of approval for such addition, the owner shall comply with the requirements of this Section should any addition be made to a Structure and/or parking Area existing as of the effective date of this Section which exceeds a twenty-five (25) percent increase in the size of the existing Structure and/or parking area.

9.01.03 General Requirements

A. *Landscaping.* All ground surface Areas of any Lot, Plot, Tract or Parcel of Land, however designated, must maintain Landscaped Areas to eliminate Erosion, reduce the generation of dust particles, provide aesthetic relief, and further the objectives of this Section.

B. *Monoculture.* In order to guard against disease susceptibility, when more than ten (10) trees or shrubs are required by this Section, more than one (1) species shall be provided. The County Manager or designee may Permit exceptions, trees used as a design

element such as Bosques or Allees or based on Landscape design intent including but not limited to shrubs massed for the purposes of creating a unifying effect for color, texture, and shape or Erosion control.

C. *Installation.* All Landscaping Shall be installed according to "Selecting and Planting Trees and Shrubs", published by the University of Florida/Florida Cooperative Extension Service (Institute of Food and Agricultural Sciences, Circular 858, June 1990 and subsequent editions). This publication is hereby adopted and included by reference herein. A copy of this publication is available from the County Manager or designee.

D. *Maintenance.* The owner of a Property Shall be responsible for the maintenance of all Landscaping so as to present a neat, healthy, and orderly appearance free of refuse and debris. All required Landscaping, pursuant to Site Plan approval, Shall be maintained in perpetuity. All required Landscaped Areas Shall contain an automatic irrigation system in accordance with Subsection 9.01.03.F, except for Xeriscape Landscapes per Section 9.01.03.G, and as approved by the County Manager or designee.

E. *Plant Materials.*

1. *Quality.* Plant materials used in conformance with the provisions of this Section Shall conform to the standards for Florida No. 1 or better as given in Grades and Standards for Nursery Plants, State of Florida, Department of Agriculture and Consumer Services, Tallahassee (97T-05, second edition, February 1998), which is hereby adopted and included by reference herein. A copy of such publication is available from the County Manager or designee. All plant material Shall be planted in suitable soil or soil that has been amended to Permit its survival.

2. *Native Plants.* The preservation and Use of native material is encouraged and recommended.

3. *Canopy Trees, Ornamental Trees and Palms.* To meet the minimum requirements, trees planted under this Section Shall be two (2) inches caliper and fifteen (15) gallon container or greater. The minimum height of trees is eight (8) feet and the minimum spread is four (4) feet. Trees planted voluntarily may be of any size. Palms are measured by height of clear trunk. The minimum size for palms is four (4) feet of clear trunk for tree-form palms or five (5) feet from the ground surface to the apical bud for shrub-form palms. A list of recommended Landscaping trees is provided in Subsection 9.01.10.B.

4. *Ornamental Trees and Palms.* In addition to protected trees, ornamental trees and palms set out in Subsection 9.01.10.C may also be used to meet the minimum requirements. In no case Shall the total number of trees of all species combined from Subsection 9.01.10.C account for more than twenty-five (25) percent of the required Landscape trees.

5. *Shrubs.* The shrubs listed in Subsection 9.01.10.D Shall be used for all visual screens that are required pursuant to the provisions of this Section and Shall be planted on the minimum centers listed in the table. The County Manager or designee may Permit exceptions to the minimum centers, based on Landscape design intent including but not limited to massing for color, texture, and effect or Erosion control.

6. *Lawn Grass.* Grass Areas Shall be planted in species normally grown as permanent lawns in the vicinity of the County. Grass Areas may be sodded, plugged, sprigged, or seeded and Shall provide complete coverage planted to industry standards. Drought-tolerant species are outlined in Subsection 9.01.10.E.

7. *Slopes.* Solid sod Shall be used on slopes greater than fifteen (15) percent. Complete coverage Shall mean that not more than ten (10) square feet cumulative of bare ground per one-quarter (1/4) acre of grass Area are exposed.

8. *Synthetic Lawns and Plants.* Synthetic or artificial turf and plants Shall be prohibited from Use in lieu of required Landscape material.

9. *Architectural Planters.* The Use of permanent or moveable architectural planters may be Permitted in fulfillment of Landscape requirements upon approval of the County Manager or designee. The planters Shall be adequately sized for palms or trees and shrubs, Shall not cause the roots to bind and Shall Permit water to drain through the base of the planter. The base of the planter Shall be wide enough that it does not blow over in mild to moderate winds.

10. *Existing Trees.* Existing trees may be counted for tree requirements in Section 9.01.00 and 9.02.00 pursuant to the following criteria:

- a. The tree Shall be in very good health and free of pests, disease, or injury.
- b. The tree can be deciduous, coniferous, or evergreen, but no more than twenty-five (25) percent of the existing native palm species Shall count toward the tree requirement. One (1) native palm Shall count as one (1) tree.
- c. The minimum size of existing tree to count toward a tree requirement is two (2) inches caliper with a minimum height of eight (8) feet, and a minimum spread of four (4) feet for trees and four (4) feet of clear trunk (tree-form) or five (5) feet from ground surface to apical bud (shrub-form) for palms.
- d. The tree Shall not be a prohibited species as outlined in Subsection 9.02.02.B.1.
- e. The tree Shall count toward the replacement requirements for the Lake County Tree Removal Permit or required Landscaping for Site Plan or Residential development. The tree Shall not count toward both requirements simultaneously.
- f. The caliper of the existing tree Shall count toward required trees as follows:

TABLE INSET:

Caliper of Existing Tree	Number of Trees Credited
2"--6"	1
7"--12"	2
13"--18"	3
19"--24"	4
25"--30"	5
36"--41"	6
42" and greater	7

11. All Landscape material Shall be suited to soil and climate conditions of Central Florida in order to conserve water.

F. *Irrigation.*

1. For all required Landscaped Areas irrigation Shall be used in order to establish and maintain optimal growth of plant material.
2. In order to conserve Groundwater, Brightwater, Reclaimed Water and Rainwater from cistern collection are recommended as primary irrigation sources.
3. An automated irrigation system is required for Commercial buildings with over one thousand (1,000) square feet of Landscape area, and Shall be:

- a. Zoned to reflect different levels of water usage. For the most efficient Use of irrigation, plants with similar water Use requirements should be grouped together: such as low with medium water requirements or medium with high water requirements.
- b. Be on a 24-hour automatic timer with a Backflow Prevention Device.
- c. Keyed to topography and soil type as to avoid runoff and promote optimal percolation.
- d. A rain sensor per Section 373.62 of the Florida Statutes Shall be required to restrict the irrigation system from operating when soil is saturated.

4. In situations where irrigation is not required in small Commercial or community facility Districts such as billboards, communication towers, or antennae array, drought-tolerant species of turfgrass Shall be used in remote Commercial installation. Refer to Subsection 9.01.10.F for types of turfgrass.

5. When a permanent system is not required, a temporary system is allowed and encouraged for establishment of Landscape material.

G. Voluntary Xeriscaping Measures. The purpose of this Subsection is to establish minimum standards for the development, installation, and maintenance of Landscaped Areas on a Site with water Use efficiency as a goal without inhibiting the Use of creative Landscape design. Xeriscaping encourages specific water conservation measures including the re-establishment of native plant communities, the Use of Site specific plant materials, and the Use of native vegetation. The intent of this Subsection is to recognize the need for and the protection of groundwater as a Natural Resource through the application of enhanced Landscape practices, that water-efficient Landscaping maximizes the conservation of water by using Site adapted plants and efficient watering methods that will generally result in a reduction of irrigation requirements, costs, energy and maintenance.

1. Applicants for Site Plan approval for development, redevelopment, and rehabilitation of all Parcels within unincorporated Lake County are encouraged, but not required to follow the guidelines of this Subsection.
2. In addition to the Landscape plan approval in Subsection 9.01.07.A, the following items will be required as a part of the submittal when water-efficient and Xeriscape principles are used.
 - a. Illustrate and label the water Zone requirements.
 - b. Illustrate and label all Areas of the Site to be preserved.
 - c. Illustrate and label all turfgrass areas.
 - d. Provide a maintenance schedule and management plan.
3. Any construction or Development activity requiring a planting within Buffers or other Landscaping is encouraged to be consistent with water-efficient Landscaping standards established herein. To achieve the objectives of this Subsection, the seven (7) basic principles of water-efficient Landscaping are incorporated. These principles are:
 - a. *Good design.* Preservation of existing vegetation Areas when possible. Installation of plant material in groups according to the water needs of the genus and species. The plants should be grouped as follows:
 1. High water Use zones. Plant material that is associated with moist soils and require supplemental water in addition to natural rainfall to survive. The high water Use Zone plant material should be limited to less than fifty (50) percent of the total Landscaped Area of the site.
 2. Moderate water Use zones. Plant material that can survive on natural rainfall with supplemental water during seasonal dry periods.

3. Low water Use zone. Plant material that can survive on natural rainfall with no supplemental water.
 - b. *Soil improvement.* The existing soils on the Site should be analyzed to help determine the appropriate plant types for the site. The soils should be enhanced if needed to give the soils more moisture retention capabilities.
 - c. *Use of mulch.* Organic mulches should be used and maintained around all trees located in turfgrass areas, in Landscaped Areas not planted or not appropriate for growing turfgrass or groundcover, and in all planted areas.
 - d. *Limit lawn areas.* The use, type, and location of lawn Area in the Landscape Shall be selected in a planned manner and not used as a fill-in material. Since most lawn varieties used in the Landscape require supplemental watering more frequently than other types of Landscape plants, turf Shall placed so that it can be irrigated separately.
 - e. *Use of low water Use plants.* Plants should be selected based on the plant's adaptability to the site, desired effect, color, texture, and mature size. The Landscape should be designed to give the desired aesthetic effect and plants should be grouped in accordance with their respective water needs. The Use of native plants is encouraged whenever possible. A list of recommended Xeriscape plant material is listed in Subsection 9.01.10.F Table 5.
 - f. *Efficient irrigation.* The irrigation system Shall be designed to correlate to the water Use plant zones established in the Landscape design. The following criteria for irrigating the Site should be used in the design of the system.
 1. In the high water Use zones all portions of the Zone Shall be provided with an automatic irrigation system with low volume heads that are timed to produce no more than two (2) inches of water per week in established Landscapes.
 2. In the moderate water Use zone, all portions of the Zone Shall be provided with a readily available water supply within twenty-five (25) feet to supplement natural rainfall when needed and to help ensure that watering will take place until the plant material is established.
 3. In low water Use zones, all portions of the Zone Shall be provided with a readily available water supply within fifty (50) feet to supplement natural rainfall when needed and to help ensure that watering will take place until the plant material is established.
 4. Rain sensor devices Shall be required on all automatic irrigation systems to avoid irrigation during periods of sufficient rainfall.
 5. The irrigation system Shall be designed to minimize irrigation overthrow onto impervious surfaces and to negate any ponding effects.
 - g. *Appropriate maintenance.* Proper maintenance will preserve and enhance the quality of the Landscape. Included in the maintenance schedule should be the time periods for the following: the checking, adjusting, and repairing of the irrigation system, resetting of the irrigation schedule according to the season, remulching, fertilizing, weeding, and pruning.

9.01.04 Landscape Requirements:

All development.

A. All Lots, Plots, Tracts or Parcels of Land Shall maintain Landscaping in Areas specifically authorized as a developed area. The developed Area includes open space and water retention areas. Areas that have not been affected by Development and illustrated on the Site plan, including clearing, grading, grubbing, or construction of Landscape or structural elements, are exempt from requirements of this Subsection.

B. Required Landscaping adjacent to public rights-of-way for commercial, industrial, multi-family, condominium, institutional and community facility sites.

1. Minimum Buffer widths are addressed in Table 9.01.04.B.a. See Subsection 9.01.10.H.1-2 that depict illustrated examples of the following standards.

2. The following Landscape plant materials Shall be required for the different Buffer types per one hundred (100) lineal feet:

Table 9.01.04.B.2.a: Landscape Plants for Required Buffers Between Lots and Rights-of-Way

TABLE INSET:

Buffer Type	Minimum Width	Minimum Number of Canopy Trees		Number of Ornamental Trees*	Shrub Reqt
A	10'	3	AND	2	1 single row of shrubs
B	15'	4	AND	3	1 single row of shrubs
C	20'	6	AND	5	Double (2 rows) of shrubs
D	30'	10	AND	8	Double (2 rows) shrubs AND a min 6' high wall
E	50	10*	AND	8	Double (2 rows) shrubs, a minimum 6-foot wall and a 4-foot berm

*Ornamental Trees are optional and in addition to the minimum number of canopy trees for Buffer types "A" and "B" only.

*The minimum requirements for trees planted in a Buffer Type E shall be three (3) inches caliper and forty-five (45) gallon container or greater. The minimum height of trees is ten (10) feet. Allowable trees planted in Buffer Type E shall not include Palms.

Notes for Table 9.01.04.B.2.a

*Indicates that no Landscape Buffer is required.

- The developed Parcel Shall have a Landscape Buffer along its right-of-way that reflects the zoning category across the road/street, unless the Parcel is located along the Arterials in Subsection 9.01.04.2.a. Then, the minimum Buffer Shall be 20', unless the "D" category Buffer is greater.

- One (1) Landscape Buffer is required between adjacent Parcels.

- The Parcel that has the more intensive Land Use Shall be responsible for installing the Landscape Buffer.

a. A minimum twenty (20) foot wide Buffer is required along the following Rights-of-Way:

1. All existing Arterial Roads.
2. Any new major Arterial construction.

b. New single family and multi family Residential Development of more than twenty (20) units Shall provide a treed boulevard along the length of the Development along the all Rights-of-Way. The Buffer Shall be ten (10) feet in width unless it is along one (1) of the roads in Subsection 9.01.04.B.1.a.1-6.

c. Landscape materials within Buffers along all Rights-of-Way Shall be designed to display variety, color, form, and texture, by utilizing native and exotic species. Such variety and color may be accomplished by using a combination of shrubs and ornamentals from the plant lists in Subsection 9.01.10.C & D. The placement of Landscape materials within Landscape Buffers Shall have a rational relationship to the existing patterns and densities of adjoining Areas which have been designed or preserved. Arrangements Shall replicate natural conditions and Shall not be linear unless dimensional limitations necessitate such an arrangement or linear arrangement is part of a formal Landscape directly related to the architecture of the building(s). Landscape materials Shall be clustered into groupings that simulate a natural, rather than man-made appearance.

3. Trees.

a. Unless specified by the Landscape Buffer requirements in Table 9.03.04.B, a minimum, three (3) canopy trees or five (5) understory or ornamental trees Shall be provided within the Landscaped Buffer for every one hundred (100) feet of public Right-of-Way. A combination of two (2) canopy and three (3) understory or three (3) canopy and two (2) understory may be used to fulfill this requirement.

b. Generally, understory trees Shall be spaced a minimum twenty (20) feet apart and canopy trees a maximum forty (40) feet apart. However, clusters of trees and non-linear alignments within the Landscaped Buffer may be used to meet the above requirement. Adequate spacing Shall be maintained to protect and allow for the growth of the root systems of each tree. Special precautions Shall be taken in not locating canopy trees under or near utility easements.

c. Each tree Shall be provided with a minimum twenty-five (25) square foot planting Area around the trunk with a minimum dimension of five (5) feet. Each planting Area Shall be Landscaped with a mulch ring, groundcover, or other Landscape material, excluding lawn grass, in addition to the required tree. See Subsection 9.01.10.H.12 for an illustrated example of a tree planting area.

