

## **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:

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*

Buffer Type	Minimum Width	Minimum Number of Canopy Trees		Number of Ornamental Trees*	Shrub Req't
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

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

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.

**Table 9.01.04.B:  
Landscape Buffers between Zoning Types**

	A g r	R A	A R	R 1	R 2	R 3	R 4	R 5	R 6	R 7	R 1 0	R P	R M R P	R M	C 1	C 2	C P	L M	H M	M P	C F D	R V	P U D
A g r	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
R A	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
A R	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
R 1	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
R 2	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
R 3	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B
R 4	*	*	*	*	*	*	*	*	*	*	*	A	*	*	C	C	C	D	D	D	A	B	B



C F D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	B	B	B	C	C	C	B	B	B
R V	B	B	B	B	B	B	B	B	B	B	B	A	A	B	B	B	B	D	D	D	B	B	B
P U D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B

- d. No understory tree Shall be planted within the Visibility Triangle.
- e. No Certificate of Occupancy Shall be issued by the County Manager or designee on the types of construction indicated below unless the underlying Parcel has the following minimum number of protected trees in Subsection 9.02.02:
  - 1. For any multifamily, or non-Residential Development requiring Site Plan Approval under the Lake County Land Development Regulations, six (6) trees per acre.
  - 2. Existing trees may be used to meet the provisions in Subsection 9.01.03.E.10. Trees Shall be maintained in excellent condition for one (1) year during which survival is guaranteed by the Property owner pursuant to Subsection 9.02.06 below.
  - 3. One (1) of the required trees Shall be planted within ten (10) feet Landward of the right-of-way for Lots less than or equal to one-half (1/2) acre.
- 4. Shrubs.
  - a. A visual screen Shall include shrubs or berm(s) with shrubs. The shrubs Shall have an average height at time of planting of at least three (3) gallon or two to two and one-half (2-2 1/2) feet or greater planted at the minimum centers provided in Subsection 9.01.10.D. Their spread should be appropriate

for size and species. They Shall be able to obtain a height of three (3) feet within twelve (12) months of planting under normal growing conditions.

- b. The shrubs with or without berm(s) Shall be located within the Landscaped Buffer between the planting Areas of the required trees.

C. *Internal Landscaping.*

1. *Generally.* All ground surface Areas used on commercial, institutional, community facility, industrial, condominium recreational vehicle parks, or multifamily sites Shall have internal Landscaping to provide visual and climatic relief from broad expanses of pavement and channelize and define logical Areas for pedestrian and vehicular circulation.
2. *Interior areas.*
  - a. Interior portions of Off-Street parking facilities, which are not specifically designed as parking spaces or maneuvering areas, Shall not be paved for vehicle use.
  - b. Unless specifically designated as open space or green area, all designated, planted and permanently maintained Landscaped Areas Shall have at least one (1) tree two (2) inches caliper and fifteen (15) gallon container or greater at time of planting for every two hundred (200) square feet. The minimum size of the tree is eight (8) feet in height with a spread of four (4) feet. These Areas Shall have curbing, wheelstops, bollards or other control measure to prevent vehicles from driving near or under the trees.
3. *Maximum number of continuous parking spaces.* Landscaping Areas with a minimum width of ten (10) feet and a minimum total Area of two hundred (200) square feet Shall be provided to break up excessively long, continuous runs of parking spaces. A parking bay Shall not contain more than fifteen (15) continuous parking spaces or extend more than one hundred sixty (160) feet, whichever is more restrictive, without being broken up by a Landscaped area. These Landscaped Areas must have one (1) tree with a two (2) inch caliper and 15 gallon container or greater at time of planting. The minimum size of the tree is eight (8) feet in

height with a spread of four (4) feet. See illustrated figure in Subsection 9.01.10.H.14.

4. *Termination of parking rows.* Each row of interior parking spaces which contains more than 15 continuous parking spaces or extend more than 160 feet, which ever is more restrictive, Shall be terminated at each end by a Landscaping Area which Shall be a minimum of two hundred (200) square feet.
  5. *Curbing or wheel stops.* All interior Landscaping Area Shall be curbed or provided with wheel stops to prevent vehicular encroachment, as appropriate.
  6. *Exceptions.* Interior Landscaping is not required when the paved (impervious) portion of a Lot is five thousand (5,000) square feet or less.
- E. *Intersection Visibility.* Where an accessway intersects a public right-of-way on a Commercial, Industrial, Multifamily, Institutional, or Community Facility Site, Landscaping Shall be used to define the intersection, provided, however, that all Landscaping within the triangular Areas described below Shall provide unobstructed cross visibility at a level between eighteen (18) inches and six (6) feet measured from road grade. Trees having limbs and foliage extending into cross visibility Shall be allowed provided they do not create a traffic hazard. Landscaping, except grass and ground cover, Shall not be located closer than three (3) feet from the edge of any accessway pavement. The triangular Areas are: the Areas of Property on both sides of an accessway and the public right-of-way pavement line with two (2) sides of each triangle being twenty-five (25) feet in length from the point of intersection and the third side being a line connecting the ends of the other sides. Visibility triangles Shall be provided at all intersections of public rights-of-way. See illustrated Subsection 9.01.10.H.13 for diagram.
- F. *Natural Vegetation Preservation Credit.* Where the preservation and incorporation of the existing natural vegetation exceeds twenty-five (25) percent of the total Land Area of Development and where preservation and incorporation of the existing natural vegetation meets the aesthetic intent of this Section, the Development may be eligible for credit from any Landscape requirements of this Section. However, in order to meet the aesthetic intent of this Section, compliance with all applicable Buffering provisions within parking areas, along rights-of-way, and between Land uses as set out in Subsection 9.01.04 Shall be

required. Any preserved trees in Areas requiring Landscaping Shall be subTracted from the total tree requirements. Any trees preserved on the Site that meet dimensional and species type Shall count toward number of trees required. Receiving credits toward the requirements of this Section does not exempt the Development from normal horticultural maintenance that is necessary to maintain the desirable aesthetic appeal required to meet the intent of this Section. All other attempts at preservation and incorporation of the existing natural vegetation less than twenty-five (25) percent of the total Land Area of Development will be evaluated and awarded credit on a Site specific basis. All Areas that will remain in natural vegetation to be awarded a credit Shall be duly noted and designated on all Site plans submitted for Development approval.

- G. *Screening of Heating/Ventilation/Air Conditioning Units.* Where heating/ventilation/air conditioning units are located on the ground surface area, they Shall be screened from view. A combination of a fence and a berm or shrubs Shall be required. The shrubs may be selected from the suggested shrub list in Subsection 9.01.10.D and planted at the minimum center requirement.

**9.01.05 Single-Family Residential (including mobile homes), Condominium, Institutional and Public Facility Areas.**

- A. No certificate of occupancy for a single-family residence Shall be issued by the County Manager or designee unless the subject Parcel has the following tree regimen:
1. A minimum of two (2) trees for Lots 6,000 square feet or less;
  2. A minimum of three (3) trees for Lots between 6,001 and 10,000 square feet;
  3. A minimum of five (5) trees for Lots greater than 10,001 square feet. Three (3) trees for each additional acre in excess of one (1) acre, with a maximum number of trees not to exceed fifteen (15) for the total acreage;
  4. Existing trees may be used to meet the provisions in Subsection 9.01.04.B.2. Trees Shall be in very good health and maintained in good condition for one (1) year during which survival is guaranteed by the Property owner pursuant to Subsection 9.02.06;
  5. One (1) of the required trees Shall be planted within ten (10) feet Landward of the right-of-way

for Lots less than or equal to one-half (1/2) acre.

- B. For single-family Lots within a new subdivision, additional trees may be required pursuant to the replacement requirements in Subsection 9.02.05.D. In such cases, the required number of replacement trees Shall be divided by the number of Lots approved for the subdivision. The resulting number Shall be added to the minimum tree requirements for each Lot as set out in Subsection 9.01.05.A above.
- C. All protected trees listed in Subsection 9.02.02.A are prohibited from being removed from Residential Lots of any size without an approved tree removal Permit.
  - 1. The replacement requirements of Subsections 9.02.03 and 9.02.04 Shall apply here.
  - 2. Systematic clearing of a single family Residential Lot is prohibited. Groups of trees smaller than four (4) inches caliper are encouraged to be preserved.

**9.01.06 Plan Approval.**

- A. An appropriate Landscape plan Shall be submitted to the County Manager or designee at the time an application for Site Plan or Development approval is submitted.
  - 1. The Landscape plan Shall be prepared by a Landscape architect if the following apply:
    - a. Single family Residential Development over one hundred (100) acres or a multi family Development over fifteen (15) acres; or
    - b. Commercial, industrial, community facility projects exceeding a Parcel size of one-half (1/2) acre or twenty-one thousand seven hundred and eighty (21,780) square feet.
  - 2. If the Landscape plan is prepared by a Landscape architect, it Shall be signed, dated, and sealed by a Landscape architect registered pursuant to the provisions of Chapter 481, Florida Statutes, Part II.
- B. The Landscape and irrigation plans Shall be drawn at an appropriate scale and Shall include:
  - 1. All dimensions, distances, and plan information required by the Site Plan review process.

2. Delineation of proposed parking spaces, other vehicular areas, access drives, aisles;
  3. A detailed plan, illustrating an automatic irrigation system Shall be installed that Shall meet the requirements of Subsection 9.01.03.F, prior to issuance of a Certificate of Occupancy;
  4. Designation by common and botanical (scientific) name, including applicable cultivar name, and location of plant material to be installed or preserved in accordance with the requirements of this Section;
  5. Location of buildings;
  6. Use or zoning classification of adjacent properties;
  7. A tabulation of all information necessary for evaluation of the plan, including gross acreage, Area in square feet of paved areas; and other information that may be reasonably required to determine that the plan will meet requirements of this Section.
- C. Individual single-family and duplex (two-family) Residential Property Shall be exempted from having a Landscape architect sign and seal Landscape and irrigation plans.

#### **9.01.08 Certificate Of Occupancy.**

- A. No certificate of occupancy Shall be issued by the County Building Department until the requirements of this Section are met.
- B. The County Manager or designee can issue a Certificate of Occupancy if the requirements of this Section are not met, provided the developer or owner submits a performance bond to the County Manager or designee in the amount of one hundred and ten (110) percent of the costs to bring the Property into compliance with the requirements of this Section. The developer or owner Shall pay reinspection fees for subsequent reinspections of the Property.

#### **9.01.09 Administration and Enforcement.**

- A. The County Manager or designee shall be charged with the duty of administering the provisions of this section and securing compliance therewith. In furtherance of this responsibility, the County Manager or designee shall:

1. Make such inspections as may be necessary to carry out the purposes and intent of this section.
2. Site conditions may prohibit the owner or developer from complying with the requirements of this section. The County Manager or designee may use discretion and waive and/or alter certain requirements while maintaining the intent of Subsections 9.01.01.A&B, 9.01.01A-d, and 9.02.01.

(Ord. No. 2004-15, § 14, 3-16-04)

#### **9.01.10 Standards and Tables.**

##### *A. Lake County Tree Protection Standards.*

1. The protection measures described in this Subsection are based on those 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. Copies of such publications are available from the County Manager or designee. These publications should be used to supplement the required protection measures. They also provide 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.
2. The applicable protection measures in this Subsection Shall be implemented for:
  - a. Any exempt tree that will not be removed; and
  - b. Any non-exempt tree that has not been Permitted for removal; and
  - c. All trees that are retained or replaced pursuant to Subsection 9.02.05.D of the Lake County Land Development Regulations.
3. It Shall be unlawful for any person, during the construction of any Structures or other improvements, to place solvents, materials, construction machinery or temporary soil deposits within the drip line of any protected tree. This includes soil that is placed in the drip-line permanently for the purpose of a grade change, unless the grade is changed according to the standards described in Subsection 9.01.10.A.6.a&b.

4. Avoiding mechanical injuries. In order to protect against mechanical injuries to roots, trunks and branches, and injuries by chemical poisoning, grade changes, excavations, paving, and attachments or wires, the applicable protection measures set out below Shall be implemented prior to commencement of Permitted construction.
  - a. A protective barrier (Illustration Subsection 9.01.10.H.3) Shall be placed around all protected trees prior to any Land preparation or construction of Structures or other improvements in accordance with the following measures:
    1. Posts Shall be placed at points not closer than the drip-line of the tree unless the Structure or improvement has been Permitted by the County Manager or designee through the Development Review Staff process or special staff review to be erected within the drip-line of the tree with a wide canopy. The Structure or improvement may be placed within the drip-line of the tree only if the tree has been root pruned, as supervised by a licensed Landscape architect or arborist certified by the International Society of Arboriculture. For palm trees, the posts Shall be placed at points not closer than six (6) feet from the trunk.
    2. The posts Shall be connected with clearly visible plastic tape or ribbon, or rope.
  - b. No attachments, wires, signs, nails, or Permits Shall be fastened to a protected tree other than supportive wires if applicable which Shall be attached in compliance with the guidelines set forth 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).
  - c. No equipment, construction materials or debris of any kind Shall be placed within a protective barrier.

- d. Landscaping activities within the bounds of the protective barrier (before and after it is removed) Shall be accomplished with light machinery (such as, aerators and mowers) or manual labor. No grubbing or similar activities are Permitted.
  - e. In lieu of constructing the barriers required above in Subsection 9.10.10.A.4.a.1, large Areas containing protected trees where no Land preparation or other Development activities of any kind will occur may be designated on a tree removal application. The designated Area Shall be protected by placing stakes a maximum of twenty-five (25) feet apart along the outside perimeter of the Area and tying clearly visible plastic tape or ribbon, or rope, from stake to stake. The perimeter line Shall be outside of the drip line of any protected tree within the designated area.
  - f. Protective barriers and perimeter lines Shall remain in place until all construction activity is terminated, except for Landscaping.
5. Avoiding injuries due to chemical poisoning
- a. No fuel, paint, solvent, oil, thinner, asphalt, cement, grout or any other construction chemical or other material or tools of any kind Shall be stored, or allowed in any manner to enter, within a protective barrier or perimeter line during the construction process.
  - b. No equipment Shall be cleaned within a protective barrier or perimeter line.
6. Avoiding injuries due to grade changes. Because changes in soil grade within the drip line of a protected tree commonly cause extensive root damage or death of the tree within one (1) to two (2) years, grade changes Shall not be made within the drip line unless the following protective measures are taken:
- a. Raising the Grade.
    - 1. Preparing the ground.
      - a. Within the drip line, existing sod, vegetation and leaf litter Shall be

removed and the soil loosened without injuring the roots.

- b. The Area within the drip line Shall be properly fertilized to improve the vigor and growth of the roots.

2. Installing tile drains.

- a. Porous, four (4) inch agriculture drain tiles or perforated piping Shall be laid over the soil to drain liquids away from the trunk. A drop of at least one-eighth (1/8) inch per foot Shall be provided. The drain field Shall be designed to provide adequate drainage of the existing configuration of the trees. (Illustration in Subsection 9.01.10.H.4-5).

- b. The number of drains Shall depend upon the soil material; lighter sandy soils and porous gravelly material require fewer drains than heavy non-porous soils.

- c. Installing vertical tiles along the system Shall provide aeration. The vertical tiles Shall be filled with gravel and capped with a heavy-duty mesh to keep out trash and debris.

3. Dry well construction (Illustration in Subsection 9.01.10.H.6).

- a. Dry wells Shall be large enough to allow for maximum growth of the tree trunk. Most large shade trees require at least a sixty (60) inch diameter well. For slow growing mature trees, a space of twelve (12) to eighteen (18) inches Shall be provided between the trunk and the side of the well at every point.

- b. To prevent washing of material into the well, the dry well casing walls Shall be high enough to bring the coping just above the level of the proposed fill.

- c. Dry well walls Shall be constructed of materials that Permit passage of air and water. Concrete blocks backed with galvanized screening may be used for the sides of the well.
  - d. Gratings of barriers Shall be used around openings that are large enough to present a hazard to pedestrians.
  - e. Open wells (Illustration in Subsection 9.01.10.H.7) Shall be cleaned regularly to remove sediment, leaves, and debris that might interfere with the free passage of air.
4. Filling (Illustration in Subsection 9.01.10.H.6).
- a. Large stones, except for those made from limestone or marble chips, Shall be placed over the drainage tiles and a layer of smaller stones Shall be placed over the remainder of the ground within the drip line.
  - b. A layer of gravel Shall be placed over the stones.
  - c. A layer of geotextile, including filter fabric or woven polystyrene, that prevents fill but allows water to pass through Shall be placed over the gravel.
  - d. The fill Shall be completed with a layer of porous soil.
- b. Lowering the Grade.
- 1. Methods. When lowering the grade of the soil surrounding a protected tree, using any of the following methods Shall preserve the maximum number of tree roots within the drip line:
    - a. Terracing. The Area within the drip line left at the original grade by terracing (Illustration in Subsection 9.01.10.H.8).

- b. Retaining wall. The Area within the drip line is left at the original grade by constructing a dry retaining wall. The retaining wall Shall be porous to allow for aeration. (Illustration in Subsection 9.01.10.H.9)
  - c. Terracing and retaining wall. The Area within the drip line is left at the original grade by the combined Use of terracing and dry retaining wall.
2. Precaution. In addition to the above, the following precaution Shall be taken when lowering the grade around a protected tree:

Roots Shall be cut cleanly and retrimmed after excavation using equipment such as axes, shovels, chainsaws, and other similar root pruning instruments. No bulldozers, root rakes, or other such equipment Shall be used.

- a. Minor Changes in Grade. When the change in grade is minor, two (2) inch to four (4) inch maximum, protective measures may be taken as shown in Subsection 9.01.10.H.10 in lieu of the above requirements.
  - b. The County Manager or designee Shall approve the Use of these methods where their Use will not endanger the health of the protected tree.
7. *Avoiding injuries due to excavations.*
- a. To avoid damage to protected trees, water, sewer, and other utility lines should be routed around the drip lines.
  - b. If a utility line cannot reasonably be routed around the drip line the utility line Shall be tunneled beneath the Area within the drip line. The tunnel Shall be offset to one (1) side of the trunk to prevent damage to the main taproots. (Illustration in Subsection 9.01.10.H.11).

8. *Avoiding injuries by paving within the drip line.* Paving may be placed within the drip line but outside the tree protection Zone of a protected tree, so long as no damage is inflicted to the tree by grade change, compaction of soil, or any other cause, if approved by the County Manager or designee.

B. Table 1. List of recommended Landscaping trees.

Understory Trees	
<i>Common Name</i>	<i>Botanical Name</i>
Redbud	<i>Cercis canadensis</i>
Anise	<i>Illicium spp.</i>
Southern red cedar	<i>Juniperus silicicola</i>
Drake/"Chinese" elm	<i>Ulmus parvifolia</i>
Walter's viburnum	<i>Viburnum obovatum</i>
Flowering dogwood	<i>Cornus florida</i> (partial sun only)
Wax myrtle	<i>Myrica cerifera</i>
Fringe tree	<i>Chionanthus virginica</i>
Yaupon holly	<i>Ilex vomitoria</i>
Loblolly bay	<i>Gordonia lasianthus</i>

Canopy Trees	
Common Name	Botanical Name
American elm	Ulmus americana
American holly	Ilex opaca
Live oak	Quercus virginiana
Loblolly bay	Gordonia lasianthus
Bald cypress	Taxodium distichum
Loblolly pine	Pinus taeda
Cabbage palm	Sabal palmetto
Longleaf pine	Pinus palustris
Palatka holly	Ilex attenuata
Savannah holly	Ilex opaca x attenuata "Savannah"
Persimmon	Diospyros virginiana
Slash pine	Pinus elliottii
Red bay	Persea borbonia
Southern magnolia	Magnolia grandiflora
Red maple	Acer rubrum
Oct. Glory maple & cult.	Acer rubrum "October Glory" & cultivars (FL flame)

Sugarberry	<i>Celtis laevigata</i>
Sand pine	<i>Pinus clausa</i>
Swamp black gum	<i>Nyssa sylvatica</i>
Sweet bay magnolia	<i>Magnolia virginiana</i>
Dahoon holly	<i>Ilex cassine</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Hornbeam/Bluebeech	<i>Carpinus caroliniana</i>
American sycamore	<i>Platanus occidentalis</i>
Laurel oak	<i>Quercus laurifolia</i>
Tuliptree	<i>Liriodendron tulipifera</i>
Water ash/Pop ash	<i>Fraxinus caroliniana</i>

C. Table 2. List of ornamental Landscaping trees.

Small Trees	
Common Name	Botanical Name
Crape myrtle	<i>Lagerstroemia x fauriei</i> and cultivars
Rusty pittosporum	<i>Pittosporum ferrugineum</i>
Wax myrtle	<i>Myrica cerifera</i>

Podocarpus	Podocarpus macrophyllus
Loblolly bay	Gordonia lasianthus
Red holly	Ilex spp. including "EP", "Savi", "Nellie Stevens"
Junipers	Juniperus "Torulosa" and "Spartan"

Large Ornamental Trees and Palms	
Common Name	Botanical Name
Winged elm	Ulmus alata
Heritage river birch	Betula nigra "Heritage"
Washingtonia palm	Washingtonia robusta
Chinese fan palm	Livistona chinensis
Date palm	Phoenix dactylifera
Canary Island date palm	Phoenix canariensis
Windmill palm	Trachycarpus fortunei
European fan palm	C. humilis
Pindo palm	Butra capitate

D. Table 3. List of suggested shrubs and minimum center requirements for visual screens.

Common Name	Botanical Name	Minimum Center (in feet)
Glossy abelia	Abelia spp.	2.0
Pampas grass	Cortaderia selloana	4.0
Allamanda, Pineland	Angadenia berterii	2.5
Pineapple guava	Feijoa sellowiana	3.0
Anise	Illicium floridanum	2.5
Pittosporum	Pittosporum tobira	3.0
Azalea	Rhododendron hybrids	3.0
Plumbago	Plumbago capensis	2.0
Banana shrub	Michelia fuscata	3.0
Primrose jasmine	Jasminum mesnyi	3.0
Boxwood	Buxus microphylla	2.0
Viburnum	Viburnum hybrids	3.0
Chinese juniper	Juniperus chinensis	3.0
Silverthorn	Elaeagnus philippensis	3.0
Podocarpus	Podocarpus macrophyllus	2.0
Holly	Ilex spp.	2.0--3.0

Indian hawthorne	Raphiolepis indica	2.5
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E. Table 4: List of Recommended Lawn Grass

Common Name
Centipede
Bahaia
St. Augustine "Palmetto"
St. Augustine "Bitter Blue"
St. Augustine "Floritam"
Annual Ryegrass
Perennial Ryegrass

F. Table 5: List of Recommended Xeriscape Plants

From *Drought Tolerant Plant Guide for Lake County* published by the Lake County Water Authority and Xeriscape plant list from St. John's Water Management District.

+ = Low drought tolerance

++ = Moderate drought tolerance

+++ = High drought tolerance

\*Indicates species is native to North America

Canopy Trees		
Common Name	Botanical Name	Drought Tolerance
*Bald cypress	Taxodium distichum	+++
*Pond cypress	Taxodium ascendens	+++
*Pignut hickory	Carya glabra	+++
*Laurel oak	Quercus laurifolia	++
*Live oak	Quercus virginiana	+++
*Shumard oak	Quercus shumardii	+++
*Longleaf pine	Pinus palustris	+++
*Sand pine	Pinus clausa	+++
*Slash pine	Pinus elliottii	+++
*Redbay	Persea borbonia	+++
*Sweetgum	Liquidambar styraciflua	++

Understory and Palm Trees		
Common Name	Botanical Name	Drought Tolerance
*Myrtle oak	Quercus myrtifolia	+++
*Cabbage palm	Sabal palmetto	+++

*Chickasaw plum	<i>Prunus angustifolia</i>	+++
Chinese fan palm	<i>Livistona chinensis</i>	++
Crape myrtle	<i>Lagerstroemia indica</i>	+++
Winged elm	<i>Ulmus alata</i>	+++
European fan palm	<i>Chamerops humilis</i>	++
*East Palatka holly	<i>Ilex x attenuata</i>	+++
*Yaupon holly	<i>Ilex vomitoria</i>	+++
Loquat	<i>Eriobotrya japonica</i>	++
Redbud	<i>Cercis canadensis</i>	++
*Southern red cedar	<i>Juniperus silicicola</i>	+++
*Sugarberry	<i>Celtis laevigata</i>	++
Purple tabebuia	<i>Tabebuia heterophylla</i>	+++
Washington palm	<i>Washingtonia robusta</i>	+++
Windmill palm	<i>Trachycarpus fortunei</i>	+++

Shrubs		
Common Name	Botanical Name	Drought Tolerance
Japanese anise	<i>Illicium anisatum</i>	++

*Florida anise	<i>Illicium floridavum</i>	++
*Beautyberry	<i>Callicarpa americana</i>	+++
Butterfly bush	<i>Buddlea davidii</i> spp.	+++
Japanese camellia	<i>Camellia japonica</i>	++
Sasanqua camellia	<i>Camellia sasanqua</i>	++
Cape honeysuckle	<i>Tecomaria capensis</i>	++
Croton	<i>Codiaeum variegatum</i>	+++
Firecracker plant	<i>Crossandra infundibuliformis</i>	+++
Firethorn	<i>Crataegus</i> spp.	+++
*Florida privet	<i>Forestiera segregata</i>	+++
*Gallberry	<i>Ilex coriacea</i>	+++
Chinese holly	<i>Ilex chinensis</i>	+++
Japanese holly	<i>Ilex japonica</i>	++
*Schillings holly	<i>Ilex</i> x 'Schilling'	+++
Indian hawthorn	<i>Raphiolepis indica</i>	+++
Japanese boxwood	<i>Buxus sempervirens</i>	+++
Juniper family	<i>Juniperus</i> spp.	+++
Leatherleaf mahonia	<i>Mahonia bealei</i>	++
Natal plum	<i>Carissa macrocarpa</i>	+++

Orange jasmine	Murraya paniculata	++
*Saw palmetto	Serenoa repens	+++
Pampas grass	Cortaderia selloana	+++
Pineapple guava	Psidium L. spp.	+++
Pittosporum family	Pittosporum spp.	++
Maki podocarpus	Podocarpus macrophyllus 'Maki'	+++
Yew podocarpus	Podocarpus macrophyllus	+++
*Viburnum family	Viburnum spp.	++
*Wax myrtle	Myrica cerifera	+++
*Prickley pear cactus	Opuntia humifusa	+++
*Spanish bayonette	Yucca filamentosa	+++

Vines		
Common Name	Botanical Name	Drought Tolerance
*Coral honeysuckle	Lonicera sempervirens	+++
Creeping fig	Ficus repens	+++
*Carolina jessamine	Gelsemium sempervirens	+++
*Grape	Vitis rotundifolia	++

*Virginia creeper	Parthenocissus quinquefolia	+++
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Groundcover		
Common Name	Botanical Name	Drought Tolerance
*Beargrass	Nolina brittoniana	++
*Blue-eyed grass	Sisyrinchium angustifolium or S. atlanticum	++
*Coontie	Zamia pumila	++
*Crinum lily	Crinum amabile 'Purple Leaf' or C. asiaticum	++
Dwarf nandina	Nandina domestica 'compacta'	++
*Gopher apple	Licana michauxii	++
Holly fern	Crytomium falcatum	++
Algerian ivy	Hedera canariensis	++
English ivy	Hedera helix	++
Confederate jasmine	Trachelospermum jasminoides	+++
Creeping juniper(s)	Juniperus spp.	+++
Liriope	Liriope muscari	+++
Mondo grass	Ophiopogon japonicus	+++

*Cord grass	Spartina spp.	+++
Society garlic	Tulbaghia violacea	+++
*Wiregrass	Aristida stricta	++

Annuals and Perennials		
Common Name	Botanical Name	Drought Tolerance
Aloe	Aloe vera	+++
*Blanket flower	Gallardia grandiflora	+++
Daylilly	Hermocallis spp.	++
False heather	Cuphea hyssopifolia spp.	++
Kalanchoe	Kalanchoe spp.	+++
Perwinkle	Catharanthus roseus	+++
Moss rose	Portulaca grandiflora	+++
Innocence	Hedyotis spp.	++
Sun rose	Helianthemum spp.	++
Piriqueta	Piriqueta caroliniana	++
Stylisma	Stylisma patens	++
Pentas	Penta spp.	+++

G. Table 6: List of Xeric Oak and Sand Pine Community Plants

Trees and Palms	
Common Name	Botanical Name
Myrtle oak	<i>Quercus myrtilifolia</i>
Scrub oak	<i>Quercus inopina</i>
Saw palmetto	<i>Serenoa repens</i>
Chapman's oak	<i>Quercus chapmanii</i>
Dwarf red bay	<i>Persea borbonia humilis</i>
Bluejack oak	<i>Quercus incana</i>
Live oak	<i>Quercus virginiana</i>
Dwarf live oak	<i>Quercus minima</i>
Ground oak	<i>Licania michauxii</i>
Scrub hickory	<i>Carya floridana</i>
Scrub holly	<i>Ilex opaca</i> var. <i>arenicola</i>
Scrub palmetto	<i>Sabal etonia</i>
Scrub plum	<i>Prunus geniculata</i> (Endangered/endemic to scrub habitat)

Shrubs	
Common Name	Botanical Name
Prickley pear catcus	Opuntia spp./compressa
Rusty lyonia	Lyonia ferruginea
Blueberry	Vaccinium spp.
Winged sumac	Rhus copallina
Dwarf huckleberry	Gaylussacia dumosa
Paw-paw	Asimina reticulata
Florida rosemary	Ceratiola ericoides

Vines	
Common Name	Botanical Name
Calusa grapevine	Vitis shuttleworthii
Cat greenbriar	Smilax glauca
Greenbriar	Smilax auriculata/laurifolia
Muscadine grapevine	Vitis rotundifolia
Passion vine	Cassytha filiformes

Annuals and Perennials	
Common Name	Botanical Name
Bluestems	Andropogon spp.
Beak rush	Rynchospora spp.
Blazing star	Liatris tenuifolia
Britton's beargrass	Nolina brittonia
Queen's delight	Stillingia sylvatica
Wiregrass	Aristida stricta
Clasping warea	Warea amplexifolia (Extremely endangered/endemic to scrub)
Brown-haired snoutbean	Rynchosia cinerea
Frostweed	Heliantheum spp.
Panic grass	Dicanthelium sabulorem
Yellow indiagrass	Sorghastrum nutana

H. Figures 1--13 [14].

(Ord. No. 1999-66, § 2, 6-1-99)

**Editor's note**--Ord. No. 1999-66, §§ 2, 3, adopted June 1, 1999, amended §§ 9.01.00--9.02.00, in their entirety, to read as herein set out. Prior to inclusion of said ordinance, said Sections pertained to tree protection and Landscaping standards, respectively. See the Code Comparative Table.

INSET: Figure 1  
 INSET: Figure 2  
 INSET: Figure 3  
 INSET: Figure 4  
 INSET: Figure 5  
 INSET: Figure 6  
 INSET: Figure 7  
 INSET: Figure 8  
 INSET: Figure 9  
 INSET: Figure 10  
 INSET: Figure 11  
 INSET: Figure 12  
 INSET: Figure 13  
 INSET: Figure 14

**9.02.00 Protected Trees.**

**9.02.01 Purpose.** The purpose of this Section is to establish rules and regulations governing the protection of trees and vegetative cover within unincorporated Lake County; to encourage the proliferation of trees and vegetation within unincorporated Lake County as well as their replacement; to recognize their importance and their meaningful contribution to a healthy, beautiful, and safer community attributable to their carbon dioxide absorption, oxygen production, dust filtration, wind and noise reduction, soil Erosion prevention, lakeshore Erosion protection, wildlife habitat, surface drainage improvement, beautification and aesthetic enhancement of improved and vacant Lands; and the general promotion of the health, safety, welfare and well-being of the community.

**9.02.02 Tree Protection.**

A. *Protected Trees.* All trees native to Florida including, but not limited to, the types of trees set forth below are protected. The protected palm trees listed below may not be used for more than twenty-five (25) percent of the replacement trees required pursuant to Subsections 9.01.03.E.4. These trees require an approved Lake County Tree Removal Permit for removal. Subsection 9.02.09 specifically addresses the designation of Specimen Trees.

CEDAR	
(1) Atlantic White Cedar	(Chamaecyparis thyoides)

CYPRESS	
(2) Bald Cypress	( <i>Taxodium distichum</i> )
(3) Pond Cypress	( <i>Taxodium ascendens</i> )
ELM	
(4) American Elm; White Elm*	( <i>Ulmus americana</i> )
(5) Winged Elm; Cork Elm	( <i>Ulmus alata</i> )
*Or other engineered <i>U. americana</i> cultivars	
HICKORY	
(6) Mockernut Hickory	( <i>Carya tomentosa</i> Nutt.)
(7) Pignut Hickory	( <i>Carya glabra</i> )
(8) Scrub Hickory	( <i>Carya floridana</i> )
(9) Water Hickory	( <i>Carya aquatica</i> )
HOLLY	
(10) American Holly	( <i>Ilex opaca</i> )
(11) Dahoon Holly	( <i>Ilex cassine</i> )
(12) Palatka Holly	( <i>Ilex attenuata</i> )
MAPLE	
(13) Florida Maple	( <i>Acer barbatum</i> Mich.)
(14) Red Maple	( <i>Acer rubrum</i> )

MAGNOLIA	
(15) Sweet Bay	(Magnolia virginiana)
(16) Southern Magnolia	(Magnolia grandiflora)
OAK	
(17) Bluejack Oak	(Quercus incana)
(18) Chapman Oak	(Quercus chapmanii)
(19) Laurel Oak	(Quercus laurifolia)
(20) Live Oak	(Quercus virginiana)
(21) Myrtle Oak	(Quercus myrtifolia)
(22) Post Oak	(Quercus stellata)
(23) Sand Live Oak	(Quercus geminata)
(24) Turkey Oak	(Quercus laevis)
(25) Water Oak	(Quercus nigra)
PALM	
(26) Sabal Palm; Cabbage Palm	(Sabal palmetto)
(27) Silver Palm	(Coccothrinax argentata)
PINE	
(28) Loblolly Pine	(Pinus taeda)
(29) Longleaf Pine	(Pinus palustris)

(30) Pond Pine	( <i>Pinus serotina</i> Mich.)
(31) Sand Pine	( <i>Pinus clausa</i> )
(32) Slash Pine	( <i>Pinus elliottii</i> )
RED CEDAR	
(33) Southern Red Cedar	( <i>Juniperus silicicola</i> )
OTHERS	
(34) Basswood	( <i>Tilia americana</i> )
(35) Blackgum	( <i>Nyssa sylvatica</i> )
(36) Chickasaw Plum	( <i>Prunus angustifolia</i> )
(37) Fringe Tree	( <i>Chionanthus virginica</i> )
(38) Hackberry	( <i>Celtis canadensis</i> )
(39) Sugarberry	( <i>Celtis laevigata</i> )
(40) Hornbeam	( <i>Carpinus caroliniana</i> )
(41) Loblolly Bay	( <i>Gordonia lasianthus</i> )
(42) Persimmon	( <i>Diospyros virginiana</i> )
(43) Red Bay	( <i>Persea borbonia</i> )
(44) Redbud	( <i>Cercis canadensis</i> )
(45) Red Mulberry	( <i>Morus rubra</i> )
(46) Sparkleberry	( <i>Vaccinium arboreum</i> )

(47) Sweetgum	(Liquidambar styraciflua)
(48) Tulip Tree	(Liriodendron tulipifera)
(49) Walter's Viburnum	(Viburnum obovatum)
(50) Wax Myrtle	(Myrica cerifera)
(51) Wild Olive-Devilwood	(Osmanthus americanus)
(52) River Birch	(Betula nigra)
(53) Flowering Dogwood	(Cornus florida)

B. *Prohibited Species.* The control and elimination of invasive, nonnative species shall protect the natural vegetative communities existing within Lake County. The trees set forth below are prohibited from being counted toward the required number of trees, as replacements to removed trees, and shall not be voluntarily planted.

1. These trees are prohibited from being planted or counted toward minimum tree requirements. These trees do not require an approved Lake County Tree Removal Permit for removal.

(1)	Australian Pine	(Casuarina spp.)
(2)	Melaleuca	(Melaleuca quinquenervia)
(3)	Chinaberry	(Melia azedarach)
(4)	Ear Tree	(Enterlobium cyclocarpum)
(5)	Eucalyptus species	(Eucalyptus spp.)

(6)	Brazilian Pepper	(Schinus terbinthifolius)
(7)	Paper Mulberry	(Broussonetia papyrifolia)
(8)	Silk Oak	(Grevillea robusta)
(9)	Empress Tree	(Paulownia tomentosa)
(10)	Tree of Heaven	(Ailanthus altissima)
(11)	Chinese Tallow Tree	(Sapium sebiferum)
(12)	Japanese Tallow Tree	(Sapium japonicum)
(13)	Camphor	(Cinnamomum camphora)
(14)	California Privet*	(Ligustrum ovalifolium)
	*both shrub and tree forms	
(15)	Cedar Gum	(Eucalyptus gunnii)

2. Removal of these trees from a commercial, industrial, community facility, or multi-family Site that is being developed Shall be completed as a requirement for approval of the final Permit inspection and prior to issuance of a certificate of occupancy. Single-family residences of new construction are not exempt from this requirement.

**9.02.03 Removal of Trees Requires Permit.** Unless exempt pursuant to Subsection 9.02.04, the following provisions Shall apply to the removal of trees:

- A. It Shall be unlawful and a violation of this Section to clear or remove a tree by any method without first

submitting a Permit application and fee and securing a tree removal Permit in accordance with Section 14.14.04 of the Land Development Regulations from the County Manager or designee. If protected trees are removed intentionally or unintentionally without a Permit, then the real Property owner Shall take the following remedial actions:

1. Restore the Property consistent with a restoration and monitoring plan submitted by the real Property owner and approved by the County Manager or designee.
  2. The restoration plan Shall include tree replacement in accordance with the following standards:
    - a. Each replacement tree Shall be a minimum three (3) inches caliper;
    - b. The total caliper of all the replacement trees Shall equal the total caliper of the trees removed or damaged.
- B. When the removal of trees is associated with a Development project, the removal of trees authorized pursuant to the Lake County Tree Removal Permit Shall not commence until one (1) of the following has been approved or issued or unless otherwise authorized within the tree removal Permit:
- a. Subdivision construction plan;
  - b. PUD final Development plan;
  - c. MUQD final Development plan;
  - d. Final Site plan;
  - e. Master park plan; or
  - f. Building Permit.
- C. Approval of a preliminary plat Development plan does not authorize approval for the removal of trees. A separate Lake County Tree Removal Permit is required by the Landowner.
- D. If trees have been approved for removal in the aforementioned plans in Subsections 9.02.03.B.(a)--(f), and the subject Property has not been developed within twelve (12) months of approval of the Development Order, then the Property owner Shall submit a Landscape plan to the County Manager or designee for revegetating the subject Property, which Shall provide for:

- a. A stabilizing vegetative groundcover of grasses, forbs, or legumes;
- b. Canopy and understory trees at half the required number for approved development, three (3) trees per acre. The trees may be grouped together; and
- c. Masses of Landscape shrubs to complement the canopy and understory trees.

E. Tree Removal Permits.

- 1. Application for Permit. An application for tree removal shall be filed on official forms provided by the County Manager or designee. Completed applications shall be returned to the Department of Growth Management along with the appropriate Permit fee as set by resolution of the Board of County Commissioners.

F. Tree Protection in Rural Village. When the removal of trees are associated with a Development project in a Rural Village, a tree removal Permit shall be required. Removal of trees shall not commence until the final Development approval has been authorized. Regulation of tree removal shall be as follows:

- a. Tree removal Permits authorize, but do not require, removal of trees specified herein. At least twenty-five (25) percent of the total number of trees Permitted for removal pursuant to any one (1) Permit shall be replaced on-site by the Permittee.
- b. Trees that are prohibited as replacement to removed trees are:

(1)	Australian Pine	( <i>Casuarina species</i> )
(2)	Cajeput or Punk Tree	( <i>Melaluca quinquenervia</i> )
(3)	Chinaberry	( <i>Melia azedarch</i> )
(4)	Ear Tree	( <i>Enterlobium cyclocarpum</i> )

(5)	Eucalyptus species	( <i>Eucalyptus spp.</i> )
(6)	Brazilian Pepper	( <i>Schinus terebinthifolius</i> )
(7)	Paper Mulberry	( <i>Broussonetia papyrifera</i> )
(8)	Silk Oak	( <i>Grevillea robusta</i> )

- c. Replacement size. A replacement tree Shall be an approved tree at least one (1) inch DBH, Florida number 1 grade or better.
- d. Exceptions to the requirements of this policy Shall be allowed for the following:
  - (1) Trees within road or drainage rights-of-way and easements which are to be removed as part of an approved project of the Board of County Commissioners.
  - (2) Trees of less than six (6) inches DBH, unless a wetland tree or a tree that is part of a Sand Pine (Scrub) community.
  - (3) Trees which pose an immediate and direct threat to persons or Property.
  - (4) Trees existing on Lots of five (5) acres or less upon which one (1) or more single family or duplex dwellings exist unless such trees are being cleared to construct any other residence, or Commercial or industrial Structure regardless of when or by whom construction is planned.
  - (5) Trees that are located on Land zoned for agriculture and taxed and used for bona fide agricultural or silvicultural purposes.

**9.02.04 Exemptions to Tree Removal Requirements.**

The following are exempted from the requirements of this Section.

- A. Prohibited trees listed in Subsection 9.02.02.B or citrus trees of any species.

- B. Trees located within existing recorded or prescriptive public road or drainage rights-of-way and easements that are to be removed as part of a Board approved project. However, all protected trees that are removed under this exemption Shall be relocated or replaced either within the project Site or at a public Offsite location (e.g., other right-of-way, parks, governmental buildings, or tree farms). All replacement trees Shall be at least two to two and one-half (2--2 1/2) inch caliper, Florida number 1 grade or better.
  
- C. For the purposes of this exemption, trees located within new rights-of-ways along existing roads which are to be removed as part of a Board approved project Shall also be exempt from the Permitting requirements of this Section provided:
  - 1. The rights-of-way are necessary to meet minimum County width standards, up to a total right-of-way width of eighty (80) feet;
  - 2. The existing number of roadway lanes will not be increased;
  - 3. A notice of all such activities is submitted to the County Manager or designee within ten (10) working days prior to the activity; and
  - 4. The trees removed are relocated or replaced as required above.
  
- D. Trees less than four (4) inches caliper, unless a wetland tree or a tree that is part of a Sand Pine (Scrub) or Xeric Oak community as listed in Subsection 9.01.10.G.
  
- E. Trees of any size existing on Lots of one (1) acre or less upon which one (1) or more single-family or duplex dwellings exist unless such trees:
  - 1. Are being cleared in order to construct a second residence on the Property, or Development associated with a Commercial or industrial Structure regardless of when or by whom construction is planned; or
  - 2. Are trees planted to fulfill the tree replacement requirements set out in Subsection 9.02.05(D); or
  - 3. Are trees planted to fulfill the minimum tree requirements set out in Subsection 9.01.04; or

4. Are wetland trees or trees that are part of a Sand Pine (Scrub) or Xeric Oak community as listed in Subsection 9.01.10.G.
- F. If any tree is determined to be in a hazardous or dangerous condition so as to endanger the public health, welfare, or safety, and requires immediate removal without delay, written authorization may be given by the County Manager or designee and the trees removed without obtaining a written Permit as herein required:
1. Photodocumentation of hazardous tree by Property owner is required prior to removal and Shall be submitted to the County Manager or designee.
  2. Replacement requirements herein required apply to any tree or group of trees deemed hazardous and removed.
- G. Greenbelt Exemption. Any tree that is in a documented Lake County designated Greenbelt is exempt from the tree removal requirements.
- H. Agriculture and Silviculture.
1. Trees located on Land zoned agriculture ("A"), taxed and used for bona fide agricultural purposes, such as field crops, citrus, nurseries, forest crops, animal husbandry, or greenhouses, except trees removed in order to construct improvements not reasonably related to bona fide agricultural and silvicultural purposes regardless of when or by whom construction is planned, are exempt from the provisions of Subsection 9.02.03.
  2. Trees located on Land zoned Ranchette District ("RA") or Rural Residential ("R-1") are also exempt from the provisions of Subsection 9.02.03 for those agricultural uses that are allowed within these zoning districts.
  3. Stands of Pine (*Pinus spp.*) planted or occurring naturally which would be used in a silvicultural activity and are subject to compliance with the Florida Department of Agriculture and Consumer Services silvicultural best management practices (BMP's) described in Silviculture Best Management Practices published by the Florida Department of Agriculture and Consumer Services (1993 edition). This publication is hereby adopted and included by reference herein. A copy of such publication is available from the County Manager or designee.

### **9.02.05 Criteria for Issuance of Tree Removal Permit.**

- A. A tree removal Permit Shall be issued when one (1) or more of the following circumstances exist:
1. Street opening. The location of a tree restricts the opening of a street or right-of-way;
  2. Utilities and drainage. The location of the tree restricts the construction of utility lines or drainage facilities;
  3. Property access. The location of the tree restricts access to the Property;
  4. Property use. The location of the tree restricts Use of the Property consistent with all other County and state codes, statutes, ordinances, and resolutions, and Site location modifications are not feasible or reasonable and which a variance would otherwise have to be granted;
  5. Hazards. The tree constitutes a potential hazard to life or Property that cannot be mitigated without removing the tree;
  6. Poor tree health. The tree is dying or dead so that its restoration to sound condition is not practical, or it has a disease which can be expected to be transmitted to other trees and to endanger their health;
  7. Thinning of trees. In order to increase light and air circulation for the purpose of improving poor health conditions of a group of trees or preventing disease of a group of trees, the selective removal of up to twenty-five (25) percent of the group of trees may be Permitted. Silviculture best management practices (BMP's) described in the Silviculture Best Management Practices published by the Florida Department of Agriculture and Consumer Services (1993) Shall apply.
- B. The tree removal Permit, when issued, Shall specifically identify which trees Shall be Permitted to be removed. Each tree Permitted for removal Shall be physically marked with an "X" using brightly colored paint or surveyor's tape, or if a group of trees are Permitted for removal, the outside perimeter trees of the group may be designated with brightly-colored rope or tape in lieu of each tree. Such Permit Shall automatically expire twelve (12) months after issuance. Trees not removed during the life of the Permit may not

be removed without the issuance of a new Permit based upon a new application.

- C. Removal not required. Tree removal Permits merely authorize the removal of trees specified therein. Nothing in this Section Shall be construed to require the removal of such trees by the Permittee.
- D. Replacement requirements.
  - 1. Amount of replacement. At least thirty-three (33) percent of the total number of trees Permitted for removal pursuant to any one (1) Permit Shall be replaced onsite by the Permittee.
  - 2. Site plan projects.
    - a. Replacement trees Shall be planted prior to issuance of the certificate of occupancy.
    - b. Replacement trees Shall be located onsite in Areas approved by the County Manager or designee as a condition of the tree removal Permit. These Areas may include, but are not limited to, open space areas, Areas adjacent to stormwater management facilities, Landscaped Buffer areas, and entrances to the project Area (when visibility for vehicular and pedestrian traffic would not be hindered).
  - 3. Subdivisions.
    - a. Replacement trees Shall be planted in accordance with either, or both, of the following:
      - 1. Prior to issuance of the certificate of occupancy for each individual Structure on a Lot; or
      - 2. At the time of submission of the performance bond required pursuant to Section 14.08.00 of the Lake County Land Development Regulations.
    - b. When the certificate of occupancy method is used pursuant to Subsection 9.02.05.D.3.a.1 above, the required number of replacement trees Shall be equitably distributed on each Lot within the subdivision in accordance with Subsection 9.01.04 above.

- c. When the performance bond method is used pursuant to Subsection 9.02.05.D.3.a.2 above, the replacement trees Shall be located onsite in Areas approved by the County Manager or designee as a condition of the tree removal Permit. These Areas may include, but are not limited to, open space Areas in PUD's, Areas adjacent to stormwater management facilities Buffer areas, and entrances to the project Area (when visibility for vehicular and pedestrian traffic would not be hindered). The Permittee Shall demonstrate the availability of water to maintain the trees through water trucks, wells, central system, or other methods.
  - d. When both the certificate of occupancy and performance bond methods are used, the applicable proportions of replacement trees determined from each method Shall be indicated on the tree removal Permit.
4. Landscape credit. The replacement trees may be used to meet the requirements of the Landscape standards set out in Section 9.01.00.
5. Replacement maintenance. The replacement trees Shall be maintained in good condition for one (1) year during which the Property owner pursuant to Subsection 9.02.06 guarantees survival.
6. Restriction on Use of palm trees. Protected palm trees Shall not account for more than one-quarter (1/4), or twenty-five (25) percent of the required replacement trees.
7. Replacement credit. The Permittee may choose and is encouraged to retain some of the trees Permitted for removal in lieu of replacement. The trees to be retained may be selected totally at the discretion of the Permittee except for those trees required to be removed by other ordinances, regulations, or statutes. The number of trees retained Shall be credited toward meeting the above thirty-three (33) percent replacement requirement.
8. Replacement exception. These replacement requirements Shall not apply to any Permit for the removal of less than three (3) trees. The removal of four (4) trees requires one (1) replacement tree.

9. Replacement size. A replacement tree Shall be an approved tree at least two to two and one-half (2--2 1/2) inches caliper, Florida number 1 grade or better.
10. Minimum tree requirements. These replacement requirements may apply to the minimum tree requirements set out in Subsections 9.01.04 through 9.01.06.

#### **9.02.06 Guarantee of Survival.**

- A. The Property owner Shall guarantee survival of the following trees for one (1) year from completion of Permitted construction:
  1. Any exempt tree that has not been removed;
  2. All trees that are retained or replaced pursuant to Subsections 9.01.03.E and 9.02.05.D.
  3. In the event any tree planted pursuant to the approved Landscape plan dies within one (1) year of planting, the replacement tree Shall be planted to fulfill the remaining period of the original tree's guarantee year.
- B. The County Manager or designee may conduct periodic inspections of the site. It is the responsibility of the Permittee to ensure that all provisions of Section 9.02.00 are met.

#### **9.02.07 Voluntary Planting.**

This Section Shall not be interpreted to restrict, regulate, or limit the voluntary planting of any protected tree in Lake County. Any size tree may be voluntarily planted. The provisions of this Section govern only the planting of trees that are required to be planted or retained under this Section.

#### **9.02.08 Historic Trees.**

- A. *Purpose.* It is the purpose of this Subsection to acknowledge the existence of certain trees that portray a notable historical association or significance to Lake County, and to protect such trees through their designation as historic trees and by requiring compliance with the protection measures set out in Subsection 9.01.10.A. Designation of historic trees by the Lake County Board of County Commissioners Shall be in accordance with the standards and procedures in this Subsection.

B. *Application procedures.*

1. Applications may be initiated by:
  - a. Owners of the Property;
  - b. Developers as part of their Development plan;  
or
  - c. The County as part of a County review of a tree removal Permit application or a County tree protection planning program.
2. Applications on forms provided by the County Manager or designee Shall be completed and submitted to the County Manager or designee.
3. Completed applications Shall be provided to the Lake County Historical Society with a request for review and written recommendation for approval or denial.

C. *Historical Society Recommendation.* The Lake County Historic Society or the State Historic Preservation Officer of Florida or their designee may recommend approval of the designation of a historic tree for a tree that is considered to have a notable historical interest and value to the County due to its historical association or significance. The Lake County Historic Society or the State Historic Preservation Officer of Florida or their designee may recommend denial or approval, or the lack of any recommendation, does not preclude the County from denying or approving an application.

D. *Designation Procedure.*

1. Upon review and approval by the County Manager or designee, the application Shall be scheduled for a public hearing before the Board at a regularly scheduled Board meeting.
2. The Lake County Board of County Commissioners Shall approve or deny the request. Approval by the Board Shall be in the form of a resolution.
3. Any tree designated a historic tree Shall be protected by the Property owner. At a minimum, compliance with the protection standards set out in Subsection 9.01.10.A Shall be required.

**9.02.09 Specimen Trees.**

A. *Purpose.* It is the purpose of this Subsection to acknowledge the existence of certain trees within the

County that are rare or unique due to factors such as age, size, or type, and to protect such trees through their designation as specimen trees and by requiring compliance with the protection measures set out in Subsection 9.01.10.A. Designation of specimen trees by the Board Shall be in accordance with the standards and procedures in this Subsection.

B. *Designation Standards.* At least one (1) of the following standards Shall apply in order for a tree to be designated a specimen tree:

1. *Size.* Trees with a thirty (30) inch caliper or greater, or a circumference of eight (8) feet or greater, singly or with a combined trunk, measured at fifty-four (54) inches from the surface of the ground.
2. *Age.* Trees that are determined to be at least one hundred (100) years old, or to be at approximate half-life maturity and are in good health.
3. *Form.* Trees that are determined to have a unique form or shape, due to geography, climate, environmental or natural growth habitat conditions, and are in good health.
4. *Ecological Value.* Trees that are determined to have an ecological value to the County in terms of soil or water conservation and management, wildlife habitat, or endemic native flora habitat, and are in good health.
5. *Rarity.* Trees that are determined to be non-indigenous, rare, or unique to the County, and are in good health. Prohibited trees, as listed in Subsection 9.02.02.B, are excluded from designation as a Specimen tree.

C. *Application Procedures.*

1. Applications may be initiated by:
  - a. Owners of the own Property; or
  - b. Developers as part of their Development plan; or
  - c. The County Manager or designee as part of the County review of a tree removal Permit application or a Development plan.

2. Applications on forms provided by the County Manager or designee Shall be completed and submitted to the County Manager or designee.
3. The County Manager or designee may request assistance from the Lake County Forester, State Division of Forestry, in determining compliance with any of the designation standards.

D. *Approval.*

1. A request for designation of specimen tree Shall be scheduled for a public hearing before the Board at a regularly scheduled Board meeting.
2. The Board Shall approve or deny the request. Approval by the Board Shall be in the form of a resolution.
3. Any tree designated a specimen tree Shall be protected by the Property owner. At a minimum, compliance with the protection standards set out in Subsection 9.01.10.A Shall be required.

(Ord. No. 1999-66, § 3, 6-1-99; Ord. No. 2002-28, § 5, 4-16-02)

**Note--S**