

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:

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 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
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*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.

Table 9.01.04.B:
Landscape Buffers between Zoning Types

*Bufferyard E is required when the proposed industrial use is adjacent to a PUD containing residential uses.

- 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.
- H. *Buffering of Heavy Industrial Uses.* Buffering between heavy industrial uses and adjacent land uses shall be used to reduce noise, sight, and air impacts.

(Ord. No. 2008-16, §§ 7--9, 4-15-08)

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	
<i>Common Name</i>	<i>Botanical Name</i>
American elm	<i>Ulmus americana</i>
American holly	<i>Ilex opaca</i>
Live oak	<i>Quercus virginiana</i>
Loblolly bay	<i>Gordonia lasianthus</i>
Bald cypress	<i>Taxodium distichum</i>
Loblolly pine	<i>Pinus taeda</i>
Cabbage palm	<i>Sabal palmetto</i>
Longleaf pine	<i>Pinus palustris</i>
Palatka holly	<i>Ilex attenuata</i>

Savannah holly	<i>Ilex opaca</i> x <i>attenuata</i> "Savannah"
Persimmon	<i>Diospyros virginiana</i>
Slash pine	<i>Pinus elliottii</i>
Red bay	<i>Persea borbonia</i>
Southern magnolia	<i>Magnolia grandiflora</i>
Red maple	<i>Acer rubrum</i>
Oct. Glory maple & cult.	<i>Acer rubrum</i> "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	<i>Podocarpus macrophyllus</i>
Loblolly bay	<i>Gordonia lasianthus</i>
Red holly	<i>Ilex</i> spp. including "EP", "Savi", "Nellie Stevens"
Junipers	<i>Juniperus</i> "Torulosa" and "Spartan"

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

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

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	<i>Quercus laurifolia</i>	++
*Live oak	<i>Quercus virginiana</i>	+++
*Shumard oak	<i>Quercus shumardii</i>	+++
*Longleaf pine	<i>Pinus palustris</i>	+++
*Sand pine	<i>Pinus clausa</i>	+++
*Slash pine	<i>Pinus elliottii</i>	+++
*Redbay	<i>Persea borbonia</i>	+++
*Sweetgum	<i>Liquidambar styraciflua</i>	++

Understory and Palm Trees		
Common Name	Botanical Name	Drought Tolerance
*Myrtle oak	<i>Quercus myrtifolia</i>	+++
*Cabbage palm	<i>Sabal palmetto</i>	+++
*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>Buddleia 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 x 'Schilling'</i>	+++
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	<i>Murraya paniculata</i>	++
*Saw palmetto	<i>Serenoa repens</i>	+++

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	+++
*Prickly 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	+++

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	<i>Portulaca grandiflora</i>	+++
Innocence	<i>Hedyotis</i> spp.	++
Sun rose	<i>Helianthemum</i> spp.	++
Piriqueta	<i>Piriqueta caroliniana</i>	++
Stylisma	<i>Stylisma patens</i>	++
Pentas	<i>Penta</i> spp.	+++

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

Trees and Palms	
Common Name	Botanical Name
Myrtle oak	<i>Quercus myrtlefolia</i>
Scrub oak	<i>Quercus inopina</i>
Saw palmetto	<i>Serona 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	<i>Opuntia</i> spp./ <i>compressa</i>
Rusty lyonia	<i>Lyonia ferruginea</i>
Blueberry	<i>Vaccinium</i> spp.
Winged sumac	<i>Rhus copallina</i>
Dwarf huckleberry	<i>Gaylussacia dumosa</i>
Paw-paw	<i>Asimina reticulata</i>
Florida rosemary	<i>Ceratiola ericoides</i>

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

Annuals and Perennials	
Common Name	Botanical Name
Bluestems	<i>Andropogon</i> spp.
Beak rush	<i>Rynchospora</i> spp.

Blazing star	<i>Liatris tenuifolia</i>
Britton's beargrass	<i>Nolina brittonia</i>
Queen's delight	<i>Stillingia sylvatica</i>
Wiregrass	<i>Aristida stricta</i>
Clasping warea	<i>Warea amplexifolia</i> (Extremely endangered/endemic to scrub)
Brown-haired snoutbean	<i>Rynchosia cinerea</i>
Frostweed	<i>Helianthemum spp.</i>
Panic grass	<i>Dicanthelium sabulorem</i>
Yellow indiagrass	<i>Sorghastrum nutana</i>

H. Figures 1--13 [14].

(Ord. No. 1999-66, § 2, 6-1-99)

Editors 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.

GRAPHIC UNAVAILABLE: [Click here](#)

GRAPHIC UNAVAILABLE: [Click here](#)

GRAPHIC UNAVAILABLE: [Click here](#)
(Ord. No. 2008-16, § 10, 4-15-08)

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

MAPLE	
(13) Florida Maple	(Acer barbatum Mich.)
(14) Red Maple	(Acer rubrum)
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	(Pinus serotina Mich.)
(31) Sand Pine	(Pinus clausa)
(32) Slash Pine	(Pinus elliottii)
RED CEDAR	
(33) Southern Red Cedar	(Juniperus silicicola)
OTHERS	
(34) Basswood	(Tilia americana)
(35) Blackgum	(Nyssa sylvatica)
(36) Chickasaw Plum	(Prunus angustifolia)
(37) Fringe Tree	(Chionanthus virginica)
(38) Hackberry	(Celtis canadensis)
(39) Sugarberry	(Celtis laevigata)
(40) Hornbeam	(Carpinus caroliniana)
(41) Loblolly Bay	(Gordonia lasianthus)
(42) Persimmon	(Diospyros virginiana)
(43) Red Bay	(Persea borbonia)
(44) Redbud	(Cercis canadensis)
(45) Red Mulberry	(Morus rubra)
(46) Sparkleberry	(Vaccinium arboreum)
(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 azedarch)
(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 papyrifora)</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: See the editor's note at § 9.01.00.

9.03.00 Off-Street Parking Regulations.

9.03.01 Purpose and Intent.

- A. All Buildings and uses Shall provide adequate off-Street parking facilities for Use by the Owner, Occupants, employees, visitors, customers and patrons, in conformance with the requirements of this Section, in order to lessen congestion in the Streets.
- B. The parking facilities Shall be available throughout the hours of operation of the particular business or Use for which the facilities are provided, and Shall be maintained and continued as long as the Use is in existence.

9.03.02 Non-Conforming Parking Lots.

- A. Remodeling, Alterations, repairs. Conforming Buildings and uses existing as of February 4, 1992, may be remodeled, altered or repaired without providing Additional off-Street parking, provided there is no increase in the Floor Area or capacity of the Building or use.
- B. Increased Floor area, volume, capacity, space occupied. Where a Conforming Building or Use existed as of February 4, 1992, and such Building or Use is increased in Floor area, volume, capacity, or space occupied, off-Street parking Shall be provided for the Additional area, volume, capacity, or space so created and used.
- C. Change in use. A change of Use of a Building or Use existing as of February 4, 1992, Shall require Additional off-Street parking in compliance with requirements of this Section for the new use.

9.03.03 Parking Space Location.

- A. All Parking Spaces Shall be located on the same Lot that the Principal Building or Use is located, provided however, that for other than Residential uses, the County Manager or designee may allow all or part of the required Off-Street parking to be located on an alternate Site, when located within five hundred (500) feet of the premises they are intended to serve and when the alternate Site is not zoned Residential.
- B. The Owner of the alternate parking Site and the Owner of the principal Use or Building (including the Land on which it is situated), Shall enter into a written agreement with the County with enforcement running to the County, providing that Land comprising the alternate Parking Area Shall never be disposed of except in conjunction with the transfer or sale of the Building which the Parking Area is intended to serve, so long as parking facilities are required. The two (2) Owners Shall agree that such agreement Shall be in recordable form, be recorded in the public records of Lake County, the expense of recording to be borne by the two (2) Owners, and that the agreement Shall constitute a covenant running with the Land and binding upon the two (2) Owner's heirs, administrators, successors, and assignees. The agreement Shall be released by the Board of County Commissioners at such time as the alternate parking Site is no longer

required, or when other lawful Off-Street parking facilities are provided.

9.03.04 Combined Off-Street Parking.

- A. Two (2) or more Owners or Operators of Buildings or uses requiring Off-Street parking facilities may make collective provisions for such facilities, provided the total of such Parking Spaces when combined or used together Shall not be less than the sum of the requirements computed separately except as otherwise approved by the County Manager or designee.
- B. All arrangements for combined parking Shall be subject to recording in the public record of Lake County a legal instrument, satisfactory to the County Attorney, insuring that such parking facilities will be maintained in the future as long as the Use or uses requiring such parking continues.
- C. No part of any Off-Street Parking Area required for any Building or Use Shall be included as part of an Off-Street Parking Area required for another Building or use, except where Permitted by A, above.

9.03.05 Parking Design Standards.

- A. Parking uses not specifically listed. Requirements for Off-Street parking for uses not specifically listed in Table 9.03.06 below, Shall be the same as provided for the Use most similar to the one in question, it being the intent of these regulations to require all uses to provide off-Street parking.
- B. Fractional number of Parking Spaces. When units or measurements determining the number of Parking Spaces result in a fraction of a space, such fraction Shall be increased or decreased to the nearest whole number.
- C. Mixed use. In the case of mixed uses, which contain less than twenty-five thousand (25,000) square feet of gross leasable area, the total number of Parking Spaces Shall be the sum of the number required for the various uses computed separately, and Parking Spaces for one (1) Use Shall not be considered as providing the required spaces for other use.
- D. Private Garages and Carports. A Private Garage or Carport may be located wholly or partly inside the walls of the Principal Building, or attached to the outer walls. If separated from the Principal Building, the garage Shall conform to all Accessory Building requirements. Garages may be constructed under a yard or court.
- E. Setbacks. In Commercial and industrial zoning districts, the Area used for Setback purposes Shall not be used for storage or parking, except for currently licensed and operable Vehicles belonging to Owners, supervisors, or clients.
- F. Maneuvering. With the exception of single-family and duplex Dwellings, maneuvering and Access aisle Areas Shall be of sufficient size to Permit a Vehicle to enter and leave in a forward

manner.

- G. Ingress and egress. There Shall be adequate provisions for ingress and egress to all Parking Areas designed for Use by employees, customers, delivery services, sales people, and the general public. Where a Parking Area does not abut a public Right-of-Way, private Alley or Access Easement, an Access drive Shall be provided into the Parking Area, which Shall consist of one (1) drive per lane of traffic and Shall not be less than ten (10) feet in width per lane.
- H. Accessibility. Access to and from all off-Street Parking Areas along public Right-of-Ways Shall conform to Access Management requirements of this Chapter.
- I. Surfacing and drainage. All off-Street Parking Spaces, Driveways, and Access aisles Shall be Graded for proper drainage, and Shall be surfaced with a durable surface such as, but not limited to, gravel, concrete, or bituminous material.

Provided, however, that for all uses, except Residential, the required number of improved off-Street Parking Spaces may be reduced by up to twenty-five (25) percent when approved by the County Manager or designee. The Parking Area required for the reduced percentage may not be improved, but must be set aside and indicated on the Site Plan as future Parking Area, and Shall remain as grass or lawn until the need for it occurs. Such need to be an administrative determination by the County Manager or designee, and Shall be based upon an inspection of the traffic and parking facilities of the project, to determine if parking demand is such that said grass or lawn has been damaged or destroyed to the extent that it ceases to grow.

Upon determination that the Parking Spaces that have been set aside must be improved, the Owner, be it an individual or association, Shall be responsible for implementing this decision, and Shall include both pecuniary responsibility and its actual Construction, which Shall be completed within six (6) months after notification by the County Manager or designee.

- J. Lighting. All lighting used to illuminate Parking Areas, Shall be so arranged as to direct the light away from adjoining properties and Rights-of-Way.
- K. Screening. See Section 9.02.03.
- L. Minimum stall size and aisle width. The minimum parking stall size Shall be nine (9) feet by eighteen (18) feet for regular stalls, and handicap stalls Shall meet state Accessibility requirements. A maximum of twenty (20) percent of the required Parking Area may be allocated for parking of compact cars. The minimum parking stall size for compact cars Shall be eight (8) feet by fifteen (15) feet. All parking stalls abutting a sidewalk, Landscape Buffer or travel lane Shall have wheel stop or curbs.

The minimum aisle width Shall be as follows:

Parking Angle	Aisle Width One Way (feet)	Aisle Width Two Way (feet)
Parallel	12	20

30 degrees	12	22
45 degrees	12	22
60 degrees	18	24
90 degrees	22	24

9.03.06 Parking Requirements.

Table 9.03.06 - Parking Space Requirements

Off-Street Parking Requirements	
Activity Type/Land Use	Minimum Parking Spaces
Residential Activity Types	
Single-family	Two (2) spaces per dwelling unit.
Mobile home	Two (2) spaces per dwelling unit.
Duplex	Two (2) spaces per dwelling unit.
Multi-family	One and one-half (1.5) spaces per dwelling unit.
Community Facility Activity Types	
Cemetery	One (1) space per two hundred fifty (250) square feet of gross leasable area, excluding burial Structures.
Community assembly	One (1) space per one hundred (100) square feet of gross leasable area.
Convent or monastery	Two (2) spaces, plus one (1) space per ten (10) residents.
Correctional facility	To be determined by parking study.
Day care center	Five (5) spaces for transient Use plus one (1) per employee.
Day care home for children	Two (2) spaces, plus one (1) per employee per shift of greatest employment.
Dormitory	One (1) space per two (2) rooming units.
Family care; group care; institutional care	One (1) space per four (4) beds plus one (1) per employee.
Golf course (public)	Six (6) spaces per green.
Golf course (private)	Six (6) spaces per green.
Hospital	One and one-half (1.5) spaces per bed plus one (1) per employee.
Neighborhood health clinic	One (1) space per two hundred (200) square feet of gross leasable area.
Nursing Home	One (1) space per four (4) beds plus one (1) space per employee.

Parks and recreation, active (except golf course)	To be determined by the County Manager or designee based on a parking study.
Parks and recreation, passive	To be determined by the County Manager or designee based on a parking study.
Place of worship	To be determined by the County Manager or designee based on a parking study.
Government Services	One (1) space per five hundred (500) square feet of gross leasable area.
Utilities, minor; utilities, major; transportation terminal	To be determined by a Traffic and Parking study.
Commercial Activity Types	
Adult entertainment	One (1) space per three (2) seats* plus one (1) per employee on the shift of greatest employment.
Amusements, extensive	To be determined by the County Manager or designee based on a Traffic study.
Amusements, limited (excluding bowling alley and movie theater)	One (1) space per two hundred (200) square feet of gross leasable area.
Animal care	One (1) space per two hundred (200) square feet of gross leasable area.
Auctions	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Automobile repair and cleaning; automotive service station	Two (2) spaces plus four (4) spaces per service bay or repair stall. One (1) space per two hundred (200) square feet of gross leasable area.
Banking services	One (1) space per two hundred (200) square feet of gross leasable area.
Bar or nightclub	One (1) space per seventy-five (75) square feet of gross leasable area. If no customer service or dining Area is provided, one (1) space per one hundred (100) square feet of gross leasable area.
Barber and Beauty shops	One (1) space per two hundred (200) square feet of gross leasable area.
Bowling alley	Five (5) spaces per lane.
Building Supplies	One (1) space per two hundred (200) square feet of gross leasable area.

Construction sales and service	One (1) space per two hundred fifty (250) square feet of gross leasable Area plus one (1) space per employee of shifts of greatest employees.
Consumer services	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Convenience Food and Beverage Store	One (1) space per two hundred (200) square feet of gross leasable area.
Dry cleaning, Gun Shop, Consumer Laundry and repair	One (1) space per two hundred (200) square feet of gross leasable area.
Flea market	Seventeen (17) spaces per six thousand (6,000) square feet of gross leasable area.
Funeral home	One (1) space per two hundred fifty (250) square feet plus one-half (1/2) space per seat.*
Hardware and garden supplies	One (1) space per two hundred (200) square feet of gross leasable area.
Hotel or motel	One (1) space per rooming unit plus one (1) space per employee.
Major laundry and repair	One (1) space per two hundred (200) square feet of gross leasable area.
Marina	One (1) space per three (3) boat slips.
Medical service	One (1) space per two hundred (200) square feet of gross leasable area.
Miniature golf course	Three (3) spaces per hole.
Movie theater	One (1) space per three (3) seats* plus one (1) employee.
Office, general	One (1) space per two hundred (200) square feet of gross leasable area.
Personal care services; personal improvement services	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Printing and publishing	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Research service	One (1) space per five hundred (500) square feet of gross leasable area.

Restaurant, fast-food; restaurant, general	One (1) space per seventy-five (75) square feet of gross leasable area. If no customer service or dining Area is provided, one (1) space per one hundred (100) square feet of gross leasable area.
Retail general	One (1) space per two hundred (200) square feet of gross leasable area.
Scrap operation	One (1) space per five thousand (5,000) square feet of gross leasable Area plus one (1) space per ten thousand (10,000) square feet of open storage area.
Self-service storage	Four (4) spaces at the office.
Septic tank service	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Taxidermist	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Travel trailer parks and campgrounds	One (1) space per campsite.
Vehicular sales and service	One (1) space per two hundred fifty (250) square feet of gross leasable area.
Vocational school	One (1) space per two hundred (200) square feet of gross leasable area.
Wholesale and warehousing	One (1) space per ten thousand (10,000) square feet of gross leasable area plus one (1) space per employee.
Manufacturing Activity Types	
Basic industry; hazardous operations; recycling center	One (1) space per ten thousand (10,000) square feet plus one (1) employee per shift of greatest employment.
Citrus and vegetable packing houses	One (1) space per ten thousand (10,000) square feet plus one (1) employee per shift of greatest employment.
Dairy Processing	One (1) space per ten thousand (10,000) feet of gross leasable area.
Manufacturing, custom; manufacturing, light; printing and publishing	One (1) space per ten thousand (10,000) square feet plus one (1) employee of greatest employment.
Salvage yards	One (1) space per ten thousand (10,000) square feet of gross leasable area.
Agricultural and ExTractive Activity Types	

Crop and animal raising	No parking requirement.
General Agricultural	None required.
Housing camps	Per Residential activity required.
Mills	One (1) per ten thousand (10,000) square feet plus one (1) per employee of greatest employment.
Mining and quarrying; sawmill	To be determined by County Manager or designee on Traffic Study
Non-Intensive Agriculture	None required.
Plant nursery	One (1) space per five (5) acres.
Roadside Farm Stands	None required.
Veterinary clinic	One (1) space per two hundred fifty (250) square feet plus one (1) per employee of greatest employment.
Outdoor Recreation Activities	
Hunting and Fishing Resort	To be determined by the County Manager or designee based on a traffic study.
Riding Stable or Academy	One (1) space per five (5) horses boarded on site.
*The number of seats Shall be the maximum occupancy load as determined by the County Fire Department.	

(Ord. No. 1996-77, § 13, 9-17-96; Ord. No. 2008-54, § 2, 8-19-08)

9.03.07 Bicycle Parking Requirements. The bicycle parking requirements in this Section are intended to encourage the Use of bicycles as a means of transportation in Lake County. Bicycle parking Shall be required within the urban, urban expansion, urban compact node, rural village, and suburban Land Use categories. The number of bicycle Parking Spaces required Shall be as follows:

Table of Bicycle Parking Requirements	
Land Use	Spaces Required
Elementary Schools, Junior High Schools and High Schools	.75 per motor vehicle parking space
Libraries, Museums	.15 per motor vehicle parking space
Shopping Centers	.05 per motor vehicle parking space
Eating and Drinking Establishments	.05 per motor vehicle parking space
Bowling Alleys	.05 per motor vehicle parking space
Churches, Temples, and other Places of Worship	.05 per motor vehicle parking space
Amusement Centers	.10 per motor vehicle parking space
Outdoor Recreation Uses	.10 per motor vehicle parking space

Office Buildings	.10 per motor vehicle parking space
All Others	.10 per motor vehicle parking space

A. Design of Bicycle Parking Spaces. Required bicycle parking facilities Shall be designed and constructed in accordance with the following standards:

1. Bicycle parking facilities Shall include provision for the secure storage and locking of bicycles.
2. Fixed objects that are intended to serve as bicycle parking facilities Shall be clearly labelled as available for bicycle parking.

9.04.00 Transportation Systems.

9.04.01 Road Location and Layout.

A. Subdivisions.

1. The primary objective of Subdivision design is to provide maximum livability. This requires a safe and efficient Access and circulation system. The following principles should be considered when developing the Subdivision design.
 - a. Adequate vehicular and pedestrian Access should be provided to each Parcel.
 - b. Circulation systems and Land-Development patterns should not deTract from the efficiency of bordering major Roads. This principal may involve control of Driveway, intersection placement, and full or partial control of Access. Land Development should occur so that no Parcels require direct Access to major Roads.
 - c. Planning and Construction of Residential Roads should clearly indicate their local function. These Roads should have an appearance commensurate with their functions. They should not be overdesigned or overbuilt i.e. high speed, excessive width etc. Appurtenances should be in keeping with the Residential character.
 - d. There should be a minimum number of intersections. Within the Subdivision and especially along abutting major Streets, intersections pose an accident potential. The fewer intersections there are, consistent with other requirements, the fewer accidents there should be.
2. Road layout
 - a. Where a proposed Subdivision is adjacent to, or encompasses, an Arterial or

Collector Road, it Shall be planned so as to avoid having Lots fronting on the Arterial or Collector in such a manner as to derive Access from the Arterial or Collector.

- b. Proposed Roads Shall be adjusted to the contour of the Land so as to produce usable Lots and Streets of reasonable gradient.
- c. In order to provide continuity and improved traffic circulation within the vicinity, main Roadways within Developments should be interconnected. Roads with expected internally generated traffic volumes in excess of two thousand (2,000) ADT Shall have Roadways and/or Rights-of-Way extended to the boundary lines of the Property when extension is necessary to provide for normal circulation of traffic within the vicinity.

Subdivisions with smaller volume Roads and are located adjacent to or near proposed Roads identified in an adopted County Roadway plan, or are adjacent to an existing or planned Right-of-Way extension, Shall provide Road and/or Right-of-Way extensions if necessary for improved traffic circulation within the vicinity. Other Subdivisions with smaller volume Roads should, where feasible and consistent with the character of the Development, provide Road and/or Right-of-Way extensions if necessary for improved traffic circulation within the vicinity.

- d. Loop Roads and curvilinear Roads are recommended for Residential Roads to discourage excessive speeds, provide attractive vistas and provide an integrated Road network.
- e. Temporary dead-end Roads may be Permitted if future Access is anticipated if it is provided with a temporary turn around Area which Shall meet the requirements of the County Engineer for design, Maintenance, and Removal. Permanent dead-end Streets, exclusive of Cul-de-sacs, Shall not be Permitted.
- f. Half Right-of-Way Shall not be Permitted unless contiguous to an existing Subdivision with an existing half Right-of-Way.
- g. Where necessary for design, Alleys may be provided to serve multiple Dwellings, business, Commercial and industrial area.

3. Block layout.

- a. Residential Block length. In general, intersecting Streets, which determine Block length, should be provided at such intervals as necessary to meet existing Street patterns, topography, and requirements for safe and convenient vehicular and pedestrian circulation. Blocks, however, normally should not exceed one thousand two hundred (1,200) feet in length, nor be less than six hundred (600) feet in length. Straight lengths of Local Streets greater than one thousand (1,000) feet in

length should be avoided where possible.

- b. Non-Residential Block length. Blocks intended for non-Residential uses should be of such length, width and other design as necessary for the prospective use, including adequate provision for Off-Street parking, loading and unloading of trucks, and limitation and control of vehicular Access points to adjacent Streets.
4. Local Streets and Neighborhood Collector Roads. The primary function of Local Streets is service to abutting properties. Street widths, placement of sidewalks, pattern of Streets and number of intersections are related to safety and efficiency of Access to abutting Lands.
5. The primary function of Neighborhood Collector Roads is to collect traffic from the Local Streets and provide a Connection to higher volume Roadways (feeder/distributor, Collector or Arterial).
6. The following principles should be considered when designing Local Streets and Neighborhood Collector Roads:
 - a. Local Street systems should be designed to minimize through traffic movements. Through traffic on Local Streets increases the average speed and volume and thus the accident potential, thereby reducing Residential amenities. Through traffic should be discouraged by creating discontinuities in the Local Street pattern, and by offsetting Local Street intersections.
 - b. Local Street systems should be logical and comprehensible. The pattern of Local Streets and their names should be designed to satisfy the needs of visitors, delivery trucks, and emergency Vehicles as well as local residents. A reasonable repetition in Street pattern, or conformance to topography can help in achieving an understandable Street system. Streets which wander directionally or which turn back on themselves tend to be confusing and should be avoided except in small cluster Developments.
 - c. The Local Street system should be designed for a relatively uniform low volume of traffic. To the extent possible, the design of the Local Street system should recognize the need for Residential amenities along all Streets in the neighborhood. This suggests that the Street system should be designed for uniformly low volumes on all Streets after continuous Land Development is complete.
 - d. Local Streets should be designed to discourage excessive speeds. Residential Streets should be designed to discourage fast movement (more than thirty (30) MPH), through the Use of curvilinear alignment and discontinuities in the Street system.

- e. It is desirable to design Local Streets so that anticipated traffic volumes will be in the range of approximately one hundred (100) to five hundred (500) V.P.D.
- f. Neighborhood Collector Roads should be designed to carry between five hundred (500) to one thousand five hundred (1,500) Vehicles per day.

B. Site Plans.

- 1. Every Site Shall have Access to a publicly owned and maintained Road or to a privately owned and maintained Road, Easement, or commonly owned Parcel. When the Site does not abut a publicly or privately owned Road, the Applicant must provide proof of Easement or common Ownership Parcel.
- 2. Access to and from the Site Shall be designed and constructed in conformance with Section 9.05.00 Access Management.
- 3. Access drives to and from the Site Shall be designed and constructed to provide a minimum width of ten (10) feet per lane.
- 4. Site Plans Shall provide for the internal circulation of traffic in a safe, comprehensible, and efficient manner. All traffic circulation systems Shall be designed considering the provisions included in Section 9.04.01 and the Lake County Transportation Planning, Design and Construction Standards. The County Manager or Designee may, if deemed necessary, require a traffic Engineering analysis and/or specific design modifications regarding a Site Plan's internal traffic circulation system.

9.04.02 Planning, Design and Construction Requirements.

- A. General. The Professional Engineer of record is totally responsible for all Road and bridge design data and calculations, and for ensuring that the criteria contained in this Code are followed during design and preparation of Construction plan. Review and approval of design data and Construction plans by Lake County does not relieve the Professional Engineer of record of any responsibility.
- B. Technical standards. All Roadway and transportation planning, design, and Construction Shall conform to the requirement contained in the Lake County Transportation Planning, design and Construction standards.

9.04.03 Right-of-Way Provisions.

- A. Minimum Right-of-Way Standards. Minimum Right-of-Way widths Shall be based upon the classification of the Road, and Shall be in accordance with the following tables (Right-of-Way widths on State Arterial Roads may vary depending upon FDOT standards):
 - 1. Arterial Roads.

Classification	Minimum Right-of-Way Width (ft)		
	4-Lane	6-Lane	8-Lane
Freeway	216	240	264
Rural Arterial	200	200	--
Suburban Arterial	174	200	--
Urban Arterial	94	240	--

2. Collector Roads.

Classification	Minimum Right-of-Way width (ft)	
	Curb & gutter	Swales
Major collector	80	100
Minor collector	70	80

3. Local Roads

Classification	Minimum Right-of-Way width (ft)	
	Curb & gutter	Swales
Feeder/distributor	60	80
Neighborhood collect	50	66
Local street	50	66
Cul-de-sac (radius)	50	60

B. Additional Right-of-Way. This Subsection Shall apply for all applications for Development Orders.

1. Existing roads.

- a. Whenever a Property abuts an adjacent roadway with deficient Right-of-Way width, the County may require the dedication of additional Property to bring the existing Rights-of-Way up to standard widths, consistent with these standards.

2. Future Arterial and Collector Roads.

- a. A proposed subdivision or Site Plan that abuts or encompasses an Area identified in the Lake County Road Construction Program as a future Arterial or Collector Road Shall provide for the dedication of Right-of-Way to meet the minimum Right-of-Way required by these regulations.

3. Intersections.

- a. A proposed subdivision or Site Plan that abuts or encompasses an existing intersection Shall provide for the dedication of Right-of-Way for a rounded corner clip with a minimum radius of 25 feet.

- b. A proposed subdivision or Site Plan that abuts or encompasses an existing intersection Shall provide for the dedication of additional Right-of-Way of a length and width determined by the County Manager or Designee for the purpose of the installation of turn lanes. In no case Shall the additional Right-of-Way exceed a width of ten (10) feet and a length of five hundred (500) feet per each side of the Right-of-Way.

4. Bicycle/Pedestrian Facilities.

- a. A proposed subdivision or Site Plan that abuts or encompasses an Area identified for improvement in an adopted Lake County Bicycle/Pedestrian plan or an adopted Rails to Trails plan Shall provide for the dedication of Right-of-Way to meet the minimum Right-of-Way required by the plans.

5. Lot size and setback calculations.

- a. The dedication of the required Right-of-Way Shall not affect the calculations for Lot size or setbacks. For example, if a 25' by 100' Lot is required to dedicate one foot of Right-of-Way, the Lot Shall still be considered to have 2500 square feet ($25 \times 100 = 2500$), not 2400 square feet ($24 \times 100 = 2400$) and the Lot Shall still be considered to have a length of 100', not 99'.

- C. Obstructions. It Shall be unlawful to cause to be created or constructed any Building, Structure, causeway or other obstruction (including but not limited to ditches) on the Right-of-Way of any public Road or Easement in Lake County, Florida, except Permitted activities.

(Ord. No. 1995-9, § 1, 5-3-95)

9.04.04 Bicycle and Pedestrian Provisions

A. On-site.

1. Subdivisions within urban, urban expansion, urban node, rural village, and suburban Land Use areas, regardless of the number of dwelling units, Shall provide sidewalks on all roads within the Development with the exception of dead-end cul-de-sacs and short interconnecting roads less than three hundred (300) feet in length. Sidewalks Shall be provided according to the following:

Density	Requirements
1 unit/acre or less	No sidewalks
Greater than 1 unit/acre but less than 5 units/acre	Sidewalks on 1 side of ROW
5 units/acre or greater	Sidewalks on both sides of ROW

- 2. Subdivisions located within the urban, urban expansion, urban node, rural village, and suburban Land Use Areas and containing more than two hundred (200) Dwelling Units

Shall make provisions for bicycle and pedestrian traffic. Provisions may include sidewalks, mulched paths, bike paths, or other facilities.

3. Site Plans Shall consider the needs of bicycle and pedestrian traffic, and Shall be designed, as necessary, to accommodate the traffic.
- B. Off-Site. Subdivisions and Site Plans which abut or encompass Roads identified for improvement in an adopted Lake County Bicycle/Pedestrian Plan Shall provide the required Improvements to the Road along the Frontage of the Property.
- C. Design and Construction. All design and Construction of sidewalks, walkways, bike paths, bikeways and other bicycle and pedestrian routes Shall be in accordance with the requirements in the Lake County Transportation Planning, Design, and Construction Standards.

9.05.00 Access Management.

9.05.01 Purpose and Intent.

- A. The Board of County Commissioners recognizes the unique and disparate functions of the Road network which must serve long distance traffic movement yet provide Access to Sites adjacent to the Roadway. In order to serve the public interest and provide increased safety to motorist this Ordinance strives to minimize operational difficulties caused by these generally incompatible traffic functions. The regulations establish herein establish an Access Management System so as to:
 1. Promote the efficient Use of public thoroughfares in the state and County Road System within Lake County;
 2. Protect the public investment in the long distance traffic carrying capacity of its Road network;
 3. Diminish hazardous traffic conditions in Areas of high Development, thereby minimizing accident experience, Property damage, and potential loss of life; and
 4. Avoid continued degradation of the Road network traffic capacities.
- B. In addition, this Ordinance serves to provide Land Owners abutting affected Roads reasonable Access to and from their Property.

9.05.02 Highway Systems.

- A. Roadway Types. The following types of Roadways, as designated by the FDOT's Functional Classification System and the Traffic Circulation Element of the Lake County Comprehensive Plan, within the incorporated municipal Areas and Unincorporated Areas of Lake County Shall be subject to the provisions of this Ordinance and are also defined as the Highway System:

1. Principal Arterials.
2. Minor Arterials.
3. Major Collectors.
4. Roadways designated as by-passes:
 - a. County Road 44 Eustis By-Pass.
 - b. Leesburg East-West Connector.

B. Roadway Classification.

1. When major Improvements are planned for a Roadway, its functional classification Shall be evaluated by the County, in compliance with Policy No. 2-1.12 and Policy No. 2-1.13 of the Traffic Circulation Element of the Lake County Comprehensive Plan. If the functional classification is determined to be either Principal Arterial, Minor Arterial or Major Collector, the affected Roadway Shall become part of the Highway System.
2. Any proposed new Roadway Shall have its functional classification determined during the preliminary design and Engineering phase. All those Roads which are determined to be either Principal Arterials, Minor Arterials or Major Collectors Shall become part of the Highway System.

9.05.03 Site Evaluation and Site Classification.

A. Site Classification.

1. Applicability of Access Management.
 - a. The applicability of Access Management to Sites Shall be evaluated individually during the rezoning process, Site Plan review process or Platting process, whichever is applicable. Upon submission of an application for rezoning to a zoning district which does not require a Site Plan, a conference on Access Management Shall be scheduled with the County, or a city with jurisdiction, prior to the first Public Hearing on the application. Prior to submission of an application for rezoning to a zoning district which requires a Site Plan, an application for preliminary or Final Plat approval, or a Site Plan, a pre-application conference Shall be

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scheduled by the Applicant with the County, or a city with jurisdiction.

- b. Pursuant to Policies 9-1.2, 9-6.1 and 9-6.2 of the Intergovernmental Coordination Element of the Lake County Comprehensive Plan, in order to coordinate an unified Access Management system, a joint review Shall be made by the County and a city, which Shall include a joint conference, as provided above, between the Applicant, County and city when appropriate, as follows:
 - 1) A proposed Development is adjacent to a cities' corporate limits, or
 - 2) Development is proposed within a distance so that an impact on the Access Management system Shall be evident.
 - c. The Site classification Shall be verified by the Lake County Department of Planning and Development and Department of Public Works, or a city, if applicable, which Shall include, but not be limited to, the Use of the Property to be served, the expected traffic generation Rates pursuant to the most recent edition of the Institute of Transportation Engineers "Trip Generation Manual," as well as location on the Highway System. The Land Use criteria used to determine classification of Sites Shall be the same criteria used to determine Land Use classification for Road impact fee Assessments. This Site classification Shall be one (1) factor in determining the need for Access Management. Other factors to be used in determining the need for Access Management techniques include, but are not limited to: Parcel Depth, Parcel Width, adjacent existing conditions and topography.
2. Access Management Techniques. Various Access Management techniques may be utilized and may include, but are not limited to: Access Roads, cross-Access corridors, Joint Parking Design, Joint Use Connections, rear Lot Access, continuous right turn lanes and Access from Collector Roads or service drives, or a combination of any of the above.
 3. Feasibility. The feasibility of constructing Access Roads Shall be analyzed from the nature of the existing adjacent Land Use; e.g., Commercial Tracts with short front Setbacks that may not be able to accommodate an Access Road. Other conditions that may make Access Roads unfeasible are, but are not limited to, Roadside Areas with Lakes, Wetlands, and utility corridors and Existing Buildings.
- B. Site Evaluation. The following Site classification Shall be applied in Site evaluation:
1. Class I One (1) Residential Dwelling Unit, duplex or small Apartment complexes (5 units or less). This class Shall also apply to agricultural and silvicultural Lands including field entrances.

2. Class II Minor Commercial and noncommercial traffic generators having an average daily traffic (ADT) of one thousand five hundred (1,500) Vehicles per day (VPD) or less and which do not fall under Class I.
3. Class III Major Commercial and non-commercial traffic generators having an ADT exceeding one thousand five hundred (1,500) VPD. A Development of Regional Impact (DRI) or a Florida Quality Development (FQD) Shall be classified as a Class III Site. Receipt of a Preliminary Development Agreement Shall not Remove a DRI or FQD from this Class III classification.
4. Class IV Temporary Connections. Provides a temporary, time limited to six (6) months with a maximum of two (2) six (6) month extensions, Road Connection to a specific Property. Such uses would include Silviculture Land Clearing, temporary agricultural uses or temporary Construction. Classification of a temporary Connection Shall not in any way bind the appropriate governmental entity to this Class IV classification for future Land Uses.

TABLE 9.05.03(A)

	Site Classification	Access Management Requirements
Class I	Access Management Required	Other types of Access Management techniques required. Exempted from Access Roads.
Class II and III	Access Management Required	Type of Management Shall be based upon trip generation, adjacent conditions, or location on the Highway System or a combination of any of these or any other factors.
Class IV	Exempt.	

In order to maintain the continuity of Access Management facilities, Developments otherwise exempted from Access Road requirements based upon trip generation criteria may be required to provide an Easement or dedicated Right-of-Way for an Access Road or make other Road Improvements if Development located on adjacent Property is required to comply with the Access Management requirements.

9.05.04 General Requirements.

- A. Access Roads. When the Construction of an Access Road is deemed necessary and appropriate by the County or city such Access Road Shall be shown on all Site Plans or Plats approved by the County or city and Shall comply with specifications in Transportation Planning, Design and Construction Standards.

- B. Existing Abutting Uses. In the event the Building Site abuts an existing Developed Property, the Access Management facility Shall be designed so as to tie into the abutting parking, Access and circulation facilities in order to create a unified system, unless the County or city finds that this would be impractical or inappropriate.
- C. Cross-Access Easements. Wherever cross-Access corridors, coordinated or Joint Parking Designs are provided to accomplish Access Management, each Applicant for a Development of Regional Impact, Florida Quality Development, a Plat or Site Plan Approval Shall provide such Easements or agreements as may be necessary to ensure that adjoining properties Shall be appropriately connected in order to implement a unified system allowing general cross-Access to and from the other properties in the affected area. Cross Access Easements may be required of Class II and III Sites. Such Easements or agreements Shall be recorded in the Public Records of Lake County and Shall constitute a covenant running with the Land.
- D. Where Unified Access and Circulation is not Practical. The County or city Engineer is authorized to modify the Access Management requirements when he or she determines that abutting properties have been so Developed that it is clearly impractical to create a unified Access and circulation system within part or all of the affected area.
- E. Adjacent Roadway Right-of-Way. In order to implement Policy No. 2-3.3, of the Traffic Circulation Element of the Lake County Comprehensive Plan whenever a Property, regardless of its Site classification, abuts an adjacent Roadway in the Highway System with deficient Right-of-Way width, the County or city may require the dedication of additional Property to bring the existing Right-of-Way up to standard widths, based upon the Land Use designation, the adjacent Highway System, the Traffic Circulation Element of the Lake County Comprehensive Plan and Florida law.
- F. Right-of-Way Required to be Dedicated For Public Assess Road. Wherever an Access Road is required, no Subdivision Plat, Site Plan or other Development Permit Shall be approved unless the Property Owner Shall convey to the governmental entity a minimum Right-of-Way of fifty (50) feet for a two (2) lane Road and forty (40) feet for a one-way, single lane Road, allowing general cross-Access to and from the other properties in the affected area. Such Right-of-Way dedication whether by deed or Plat Shall be recorded in the Public Records of Lake County and constitute a covenant running with the Land. Right-of-Way dedication for an Access Road Shall be in Addition to any Right-of-Way dedication required to bring the adjacent Roadway up to current County standards. If a Site is classified as exempt from the requirement of an Access Road and the adjacent Parcels of Land are Undeveloped, Right-of-Way for an Access Road may be required by the governmental entity for future Construction of an Access Road based upon the Land Use designation, the adjacent Highway System, the Traffic Circulation Element of the Lake County Comprehensive Plan and Florida law.
- G. Indication on Maps. Wherever the County or a city requires the dedication of Right-of-Way for an Access Road, the Road Right-of-Way Shall be indicated on the official zoning map and Road Rights-of-Way of the governmental entity by means of dashed or dotted lines or other suitable

symbols.

- H. **State Highway System.** When a Site abuts the State Highway System, the Applicant Shall consult with FDOT prior to, and during, the local government Plat Subdivision, rezoning, Site Plan or any other applicable pre-Development review process for which a Connection Permit Shall be required by the State. The purpose of the consultation Shall be to determine the Permit category and to obtain a conceptual review of the Development Site Plan and proposed Access Connections to the State Highway System with respect to FDOT's Connection location, quantity, spacing and design standards. Such consultation Shall assist the Developer in minimizing problems and delays during the Permit application process and eliminate the need for costly changes to Plats, or Site Plans when unpermittable Connection proposals are identified early in the planning phase.

9.05.05 Minimum Connection Spacing and Median Standards.

- A. **Minimum Connection Spacing and Median Openings Access Roads.** The minimum spacing between Access Connections on Roadways with Access Roads Shall be as follows:

TABLE 9.05.05(A)

Posted Speed (Miles Per Hour)	Minimum Connection Spacing (Feet)	Minimum Median Opening		Minimum Signal Spacing (Miles)
		Full (Miles)	Direction (Feet)	
Less than 45	660	.5	1320	.5
Over 45	1320	.5	1320	.5

- B. **Minimum Connection Spacing and Median Openings Other Access Management Techniques**

The minimum spacing between Access Connections on Roadways which utilize other Access Management techniques Shall be as follows:

TABLE 9.05.05(B)

Posted Speed (Miles Per Hour)	Minimum Connection Spacing (Feet)	Minimum Median Opening		Minimum Signal Spacing (Miles)
		Full (Miles)	Direction (Feet)	
35 or less (Special Case)(*)125	0.125	330	0.25	
35 or less	245	0.25	660	0.25
36--45	440	0.25	660	0.25
Over 45	660	0.50	1320	0.25

* The thirty-five (35) MPH or less (Special Case) standards Shall be used only where current Connection Development averages at least fifty (50) Connections per mile on the side of the highway for which the Connection is requested, based on actual count of Connections one quarter (1/4 mile in each direction, for a total of one-half (1/2) mile, from the proposed Connection.

- C. **The Minimum Connection Spacings specified above may not be adequate if right-turn or left-turn**

storage is required. Greater distances may be required to provide sufficient Site-specific storage.

- D. The above Minimum Connection Spacing and Median opening spacing Shall apply to the County Roads in the Highway System as specified in Section 17.144.
- E. The above Minimum Connection Spacing and Median opening spacing Shall also apply to all designated Roads on the State Highway System until such time that the Roads are classified pursuant to Chapter 14-97, Florida Administrative Code, State Highway System Access Management Classification System and Standards, Section 14-97.003.
- F. No Additional Median cuts Shall be constructed through any existing Median on any of the Roads in the Highway System as specified in Section 17-144 unless the Median cut is necessary to accommodate safe traffic flow as determined by the County Engineer or City Engineer, or to replace an inappropriate, existing Median cut and is Permitted by the governmental entity with jurisdiction.
- G. Unless prohibited by natural or design limitations, all necessary ingress and egress Driveways Shall coincide with the existing Median cuts. All Driveways Shall receive a Permit from the appropriate governmental entity with jurisdiction prior to Construction.
- H. A Nonconforming Connection may be issued for Class I through Class IV after an analysis and determination that a conforming Connection, meeting location and spacing criteria standards, cannot be made and a finding that the denial of a Connection would leave the Property without a reasonable means of Access to the Highway System. In such an instance, the Connection Shall be noted as non-conforming and contain specific restrictions and provisions including:
 - 1. Maximum vehicular usage of the Connection;
 - 2. Construction of a conforming Connection when future alternate means can be obtained with Removal of the Nonconforming Connection;
 - 3. Limitation on properties to be served by the Connection; and
 - 4. Any other conditions deemed necessary by the County or City to carry out the provisions of this Article, the Access Management Regulations.

9.05.06 Performance and Design Standards for Access Roads. All Access Roads Shall meet the following criteria:

- A. The Access Road Shall comply with all Landscaping ordinances, Code provisions, rules or regulations of the city or County, whichever has jurisdiction, as determined by the location of the Property. Landscaping Shall not impede sight distance.
- B. The separation between the Access Road and through lanes of the main thoroughfare Shall meet the requirements of the Florida Department of Transportation Green Book or applicable

provisions of the Lake County Code or County ordinances.

- C. Access Roads Shall be constructed so that the thoroughfare drainage Shall not be adversely affected. The drainage or the stability of the Road subgrade Shall not be altered by Access Road Construction.
- D. Any Access Road design Shall allow a Vehicle to enter the Access Road at a turning speed of fifteen (15) miles per hour to reduce interference with through Street traffic.
- E. A minimum turning radius of thirty-five (35) feet Shall be required for connecting Streets with little or no Commercial truck traffic. A minimum turning radius of fifty (50) feet Shall be required to accommodate Commercial truck traffic.
- F. The Access Road minimum design specifications Shall conform to the design and Construction specifications of the Lake County Code, County regulations or policies, or city Code or regulations, for Roadway Construction.
- G. Minimum Connection Spacings for both one (1) way and two (2) way Access Roads Shall be as follows:
 - 1. Exit lanes from Access Roads onto the main thoroughfare Shall be at least three hundred (300) feet from the next intersection.
 - 2. Access Roads which exit onto a side Street Shall have a Minimum Connection Spacing of two hundred (250) feet from the side Road Connection to the main thoroughfare.
- H. For reasons of safety and economic feasibility, the preferred Access Road Shall be a one-way facility:
 - 1. One-way, one-lane Access Roads Shall have a minimum pavement width of fourteen (14) feet.
 - 2. One-way, one-lane Access Roads utilizing curbs and gutters Shall have at least one (1) side with mountable type, or Miami-type, curb and gutter in order to allow Vehicles to pull off pavement for emergencies or breakdowns.
 - 3. One-way Access Roads Shall be Accessed by entrance lanes or directly from side Streets. Exiting may be by exit lane, a parallel and adjoining mixing lane, or by direct exit into the side Street.
- I. Two-way Access Road systems Shall meet the following standards:
 - 1. The two-way Access Road pavement Shall be a minimum width of twenty-four (24) feet.
 - 2. Access to and from the Access Road Shall only be from a side Street or by a direct

controlled Connection onto the main thoroughfare.

9.05.07 Effects of Rezoning, Remodeling or Change of Use. When a Building Permit is sought for the reconstruction or the remodeling of an existing Structure on a Site, or a rezoning is sought for a change of Use of the Property, the Site Shall be evaluated and classified according to the new use, intensity of Development, type of traffic or expected trip generation or location on the Highway System, or any or all of these factors. If the Site evaluation indicates a Significant Change, any existing as well as proposed Access Management Shall comply or be brought into compliance with all performance and design standards specified in this Ordinance, if practical or appropriate. If a Significant Change in Use occurs on the State Highway System, FDOT Shall be notified by the Applicant of the change to determine if a new Permit application and modifications to existing Connections will be required.

9.05.08 Reserved.

Editors Note: Ord. No. 1997-44, § 8, adopted June 17, 1997, repealed § 9.05.08, which pertained to variances. See the Code Comparative Table.

9.05.09 Costs of Design and Construction. The Property Owners, Developers, tenants, agents, or successors in title Shall be severally and jointly responsible for the cost of design and Construction of an Access Road. The design and Construction plans Shall be approved by the County or city Engineer and Shall meet all County or city ordinances, Code provisions, rules and design and Construction regulations. The plans for Access Roads on the State Highway System Shall also be approved by FDOT prior to Construction. Upon acceptance of the Access Road by the County or city, routine Maintenance of the Access Road and appurtenant facilities dedicated to the County or city Shall be the responsibility of the appropriate governing body.

9.05.10 Countywide Applicability. This Ordinance Shall apply within the unincorporated Area of Lake County and all incorporated municipalities within Lake County.

9.06.00 Stormwater Management.

9.06.01 Legislative Intent. In order to protect, maintain, and enhance both the immediate and the long-term health, safety and general welfare of the citizens of Lake County, it is the intent of the Board of County Commissioners to enact this Section so as to accomplish the following objectives:

- A. To prevent loss of life and significant loss of Property due to Flooding;
- B. To protect, restore, and maintain the chemical, physical, and biological quality of ground and Surface Waters;
- C. To encourage productive and enjoyable harmony between humanity and nature;
- D. To prevent individuals, business entities, and governmental entities from causing harm to the community by activities which adversely affect water resources;
- E. To encourage the protection of Wetlands and other natural systems and the Use of those natural systems in ways which do not impair their beneficial functioning;

- F. To minimize the transport of Sediments and pollutants to Surface Waters;
- G. To protect, restore, and maintain the habitat of fish and wildlife;
- H. To perpetuate natural Groundwater Recharge;
- I. To encourage the Use of Drainage Systems which minimize the consumption of electrical energy or petroleum fuels to move water, Remove pollutants, or maintain the system; and
- J. To ensure the attainment of these objectives by requiring the approval and implementation of water Management Plans for all activities which may have an adverse impact upon Groundwater and Surface Water.
- K. To implement the Surface Water Management (SWM) programs of the St. Johns River Water Management District and the Southwest Florida Water Management District, and goals, objectives and policies of the Lake County Comprehensive Plan.

9.06.02 Jurisdiction. This Section Shall apply County wide in all Areas of Lake County. In those municipalities which have Stormwater Management ordinances equal to or more stringent than the requirements specified herein, the more stringent requirements Shall apply. In lieu of issuing a Lake County Permit, the County may accept Permits required under St. Johns River Water Management District, Chapter 40C-4 and Southwest Florida Water Management District, Chapter 40D-4.

9.06.03 Permit Requirements.

- A. No Person Shall conduct a Development Activity, or subdivide or make any change in the Use of Land, or construct any Stormwater Management system or Structure, or change the size of an existing Structure or system, except as exempted in Section 9.06.04, without first obtaining a Permit from the County Manager or designee as provided herein.
- B. The requirements of this Section Shall be implemented, and Shall be satisfied completely, prior to:
 - 1. Final Subdivision Plat approval;
 - 2. Issuance of a Certificate of Occupancy on approved Site Plan projects; and
 - 3. Final inspection for all other projects
- C. Approval of the Stormwater Management Permit Shall be contingent on approval of any required Permit from the St. Johns River Water Management District, the Southwest Florida Water Management District and Florida Department of Environmental Regulation but will not result in automatic approval of the Stormwater Management Permit by the County Manager or designee.
- D. For the purposes of this Section, the following activities may alter or disrupt Stormwater runoff

patterns and Shall, therefore, unless exempt in accordance with Section 9.06.04, require a Permit prior to the initiation of any project:

1. Clearing and/or Construction for the drainage of Land;
2. Replatting recorded Subdivisions and the Development of recorded and unrecorded Subdivisions;
3. Changing the Use of Land and/or the Construction of a Structure;
4. Changing the size of one (1) or more Structures;
5. Altering shorelines or banks of waterbodies;
6. Increasing by five hundred (500) square feet or greater the impervious Area of any Parcel of Land; and
7. Using natural or artificial waterbodies for Stormwater Management purposes.

9.06.04 Exemptions. For the purposes of this Section, the following activities Shall be exempted from further consideration under the provisions of this Section. However, these exemptions do not preclude the need to comply with other Sections of this Code.

- A. Residential Parcel Exemption. Residential Parcels where such Parcels are part of an overall Subdivision which has been approved in accordance with these regulations.
- B. Agricultural Exemptions.
 1. Facilities for agricultural Lands, provided those facilities are part of an approved Conservation Plan by the Soil Conservation Service; however, if the Conservation Plan is not implemented according to its terms, this exemption Shall be void.
 2. In determining whether an exemption is available to a Person engaged in the occupation of Agriculture, the purpose of the topographic Alteration must be consistent with the practice of Agriculture and such Alteration may not be for the sole or predominant purpose of impounding or obstructing Surface Waters. In determining consistency with the practice of Agriculture occupations, the County will refer to the following publication: "A Manual of Reference Management Practices for Agricultural Activities (Florida Department of Regulation, November, 1978)". The following activities, Structures, and waterbodies are considered as having impoundment or obstruction of Surface Waters as a primary purpose:
 - a. Diversion, when such practice would cause diverted water to flow directly onto the Property of another Landowner;

- b. Floodwater retarding Structure;
 - c. Irrigation pit or regulating reservoir;
 - d. Pond;
 - e. Structure for water control;
 - f. Regulating water in Drainage Systems; and
 - g. Pumping plant for water control, when used for controlling water levels on Land.
3. Other practices which are described in the Manual and which are constructed and operated in compliance with Soil Conservation service standards and approved by the Lake County Soil and Water Conservation District are presumed to be consistent with agricultural activities. Activities or practices not described in the manual are presumed to be inconsistent with the practice of Agriculture.

C. Silvicultural Exemption.

- 1. Facilities for silvicultural Lands, provided that the facilities are constructed and operated in accordance with the Silviculture Best Management Practices Manual, (1979), published by the State of Florida, Department of Agriculture and Consumer Services, Division of Forestry; and provided further that a Notice of Intent to conduct a silvicultural activity is received by the County Manager or designee in accordance with the provisions in Subsection (C)(5) below.
- 2. In determining whether an exemption is available to a Person engaged in the occupation of Silviculture, the purpose of the topographic Alteration must be consistent with the practice of Silviculture and such Alteration may not be for the sole or predominant purpose of impounding or obstructing Surface Waters. The following activities are presumed to be consistent; with the practice of Silviculture when they are undertaken to place Property into Silviculture Use or perpetuate the Maintenance of Property in Silviculture use:
 - a. Normal Site preparation for planting of the tree crop;
 - b. Planting; and
 - c. Harvesting.
- 3. If any activity is undertaken to place the Property into Use other than Silviculture, the activity is not considered to be consistent with the practice of Silviculture and Shall be subject to Permitting by the County.

4. Specifically exempt from Permitting under this Section are the Construction, operation, Maintenance, alternation, abandonment and Removal of above Grade, unpaved, upland silvicultural Roads with up to twenty-eight (28) feet of Road surface within a Construction corridor up to fifty (50) feet in width. These Roads must incorporate sufficient culverts at Grade and may have associated borrow ditches. Road ditches exempted under this provision are those constructed only to obtain Road material for the exempt Road and to provide only enough storage to maintain a dry Road surface. Exempt Road ditches must not be designed nor may they serve to provide drainage to the Tract adjoining the Road. These Road ditches must not connect directly or indirectly to any Works not owned by the Person who owns the exempt Road and must be separated from Streams, other Watercourses or impoundments by at least a thirty-five (35) foot Buffer Zone of indigenous vegetation and a water turnout prior to said Buffer.
 5. No Construction, operation, Maintenance, Alteration, abandonment or Removal of a minor silvicultural Surface Water Management system Shall commence until a completed Notice of Intent is received by the County Manager or designee. If the activities described above are undertaken without proof of Notice of Intent to the County Manager or designee, these activities Shall be considered as being undertaken without a Permit. The Notice of Intent Shall only authorize Construction, operation, Maintenance, Alteration, abandonment or Removal when it is received by the County Manager or designee and provided the proposed activity qualifies under this Section.
- D. Emergency Exemption. Emergency Maintenance work performed for the protection of public health and welfare.
 - E. Maintenance Exemption. Any Maintenance to an existing system made in accordance with Permitted plans and specifications.
 - F. Single-Family or Duplex Exemption. Single-family or duplex Residential Construction on a single Lot.

9.06.05 Performance Criteria. Stormwater Management Permit applications Shall be approved by the County Manager or designee when it is demonstrated to the satisfaction of the County Manager or designee that the proposed Development Activity has been planned and designed, and Shall be constructed and maintained, to meet the performance criteria described herein. The stormwater Management system design Shall conform to the Lake County Stormwater Design Standards approved and adopted by the Board.

- A. Criteria which is consistent with Section 6.05.03.
- B. All Developments within a Riverine Flood hazard Areas Shall be designed to maintain the Flood carrying capacity of the Floodway such that the Base Flood elevations are not increased, either upstream or downstream.
- C. All Residential and non-Residential Structures constructed in the 100-year Floodplain, if allowed pursuant to Section 6.05.00, Shall have the finished first Floor of the Building elevated a

minimum of eighteen (18) inches above the elevation of the 100-year Flood, as determined by the County Manager or designee. For industrial Developments, Flood proofing may be substituted in lieu of elevating the finished Floor.

- D. Development Shall not result in an increase in the 100-year Flood elevation. No fill Shall be allowed to be placed in the 100-year Floodplain without an equivalent volume of soil Removed to compensate for the loss of the Flood storage. Compensating Storage is to be determined by the volume of material Removed above the Ordinary High Water table and below the 100-year Flood elevation established for that area. Fill placed in the 100 year Floodplain Shall not reduce the flow Rate.
- E. Projects Shall be designed so that Stormwater Discharges meet, at a minimum, the Water Quality criteria set forth by the St. John River Water Management District or the Southwest Florida Water Management District, whichever apply, and the requirements of the Lake County Stormwater Design Standards in order to achieve the state Water Quality standards established by the Florida Department of Environmental Regulation in Chapter 17-3, Florida Administrative Code.
- F. The Peak Rate of Flow of the Discharge hydrograph for the project Site Shall not exceed the pre-Development Peak Rate of Flow for the range of storms specified in the Lake County Stormwater Design Standards, if the project Area is not contributory to a Land-Locked Area with no Positive Outlet. When the project Area is contributory to a Land-Locked Area with no Positive Outlet, the project Shall provide extended Detention for the difference in volume of Stormwater Discharge for pre-Development and Post-Development conditions from the 25-year, 96-hour Storm Event.
- G. The Stormwater Management system Shall not create an adverse impact to upstream or downstream areas. Off-Site Areas which Discharge to or across a Site proposed for Development Shall be accommodated in the Stormwater Management Plans for the Development. No Stormwater Management Permit application Shall be approved until the Applicant demonstrates that the runoff from the project Shall not overload or otherwise adversely impact any downstream areas.
- H. The Stormwater Management system Shall minimize adverse environmental impacts to Wetlands, fish, wildlife, or other natural resources.
- I. Wetlands Shall not be used for StormWater Quality treatment.
- J. Wetlands Shall not be used to attenuate runoff peak Rates except for isolated Wetlands which are wholly-contained on-site, provided that the utilization of the Wetlands for Stormwater attenuation does not disrupt the normal range of water level fluctuation as it existed prior to Construction of the wetland Discharge facility.
- K. Stormwater facilities Shall be designed to perform as follows:

1. Bridges. Hydraulic profile Shall be below the top cord of the bridge for the 50-year, 24-hour storm.
 2. Stormwater Detention and Retention ponds which are contributory to Land-Locked Areas with no Positive Outlet Shall be designed for the 25-year, 96-hour storm.
 3. Canals, ditches, or culverts external to the Development, and Stormwater Detention or Retention basins which are part of a project that is not contributory to a Land-Locked Areas with no Positive Outlet, Shall be designed for the 25-year, 24-hour storm.
 4. Stormwater Flooding for all Arterial and Collector Roads (as classified in Section 9.04.03A.1 &2) Shall not exceed one-half (1/2) of the Roadway width. For all Local Roads (as classified on Section 9.04.03(A)3), Stormwater Flooding Shall not exceed the crown of the Road for the 10-year, 24-hour storm.
 5. Storm sewers and Roadside Swales Shall be designed such that the hydraulic gradient is 1.0 foot below the gutter line or edge of pavement for Arterial Roadways; and 0.5 feet below the gutter line or edge of the pavement for collector and Local Roadways for the 10-year, 24-hour storm.
- L. All proposed Stormwater Management systems Shall be designed to prevent Flooding, promote safety, and minimize health hazards.
- M. All Stormwater Management systems Shall be designed to reduce the pollution of Surface Water and Groundwater resources by Stormwater, control Erosion, and provide for Recharge where appropriate. The County Manager or designee, while enforcing standards set for pollution and Sedimentation control, may encourage innovative approaches to control pollution and Erosion, and to provide for Recharge.
- N. A vegetated and functional littoral Zone Shall be established for any new Lake or wet Detention Area established as part of any new Surface Water Management system greater than or equal to 0.5 acres in size based upon the 10-year Storm Event.

9.06.06 Stormwater Management System Design Criteria.

- A. Stormwater Management systems Shall be designed in accordance with the criteria contained in the Lake County Stormwater Design Standards.
- B. The County may periodically modify these Stormwater design criteria to meet the objectives of this Section or other Construction Codes which may be required by the County. These modifications Shall be compiled by the County Manager or designee in a set of amended Lake County Stormwater Design Standards and incorporated into the adopted Lake County Stormwater Design Standards annually.

9.06.07 Dedication of Drainage Easements and Rights-of-Way.

- A. Drainage Easements or Rights-of-Way, as specified in the Lake County Stormwater Design Standards, Shall be dedicated by the Owner at, no expense to the County, for the Stormwater facilities within the Development.
- B. When a proposed Drainage System will carry water across private Land outside the Development, the Off-Site drainage Easements as specified in the Lake County Stormwater Design Standards Shall be secured by the Owner or Applicant and indicated on the Plat, or in a separate recorded document approved by the County.
- C. When a Development is traversed by a Watercourse or Open Channel, the Applicant Shall provide a drainage Easement or Right-of-Way to convey water, which Shall be a minimum width, as specified in the Lake County Stormwater Design Standards.
- D. Easements and Rights-of-Way Shall include suitable Access as specified in the Lake County Stormwater Design Standards for Maintenance equipment from public Rights-of-Way.
- E. All drainage Easements, both On-Site and Off-Site, Shall be recorded on a Final Plat or a separate recorded document approved by the County.

9.06.08 Maintenance.

- A. The County Manager or designee Shall approve a written Maintenance plan upon a finding that the plan meets the terms of this Section. The written operation and Maintenance plan Shall contain the information in this Subsection as the minimum criteria that Shall be accepted by the County Manager or designee. The Maintenance plan Shall include:
 - 1. Demonstration of the ability of an entity to provide adequate Maintenance;
 - 2. Written agreement of acceptance of an entity to maintain the facilities;
 - 3. Specific Maintenance activities to be performed;
 - 4. Frequency of Maintenance activity; and
 - 5. Measurable objective of Maintenance activity.
- B. The installed Stormwater system Shall be maintained by the legal entity responsible for Maintenance. All Stormwater Management Permit applications Shall contain documentation sufficient to demonstrate that the operation and Maintenance entity is the legal entity empowered and obligated to perpetually maintain the Stormwater Management facilities. The County considers the following entities acceptable to operate and maintain Stormwater Management facilities. The County considers the following entities acceptable to operate and maintain Stormwater Management facilities:

1. Local governmental units including the County, municipalities, or Municipal Service Taxing Units or Municipal Benefit Taxing Units.
 2. Active F.S. Ch. 298, water control Districts or drainage districts, or F.S. Ch. 190, Community Development Districts, or F.S. Ch. 170, Special Assessment Districts.
 3. Non-profit corporations including homeowners associations, Property Owners associations, Condominium Owners associations, or master associations under certain conditions which ensure that the corporation has the financial, legal, and administrative capability to provide for the long-term operation and Maintenance of the facilities.
 4. The Property Owner or Developer as Permittee is normally not acceptable as a responsible entity, especially when the Property is to be sold to various third parties. However, the Property Owner or Developer may be acceptable under one (1) of the following circumstances:
 - a. The Property is wholly owned by Permittee and the Ownership is intended to be Retained. This would apply to a farm, corporate office, or single industrial facility, for example.
 - b. The Ownership of the Property is Retained by the Permittee and is either leased to third parties (such as in some shopping centers), or rented to third parties (such as in some Mobile Home parks), for example.
- C. The Stormwater Management system to be maintained by the legal entity Shall have adequate Easements, in accordance with Section 9.06.07, to Permit the County to inspect, and if necessary, to take corrective action should the legal entity fail to maintain the system properly.
- D. Maintenance of Stormwater facilities Shall allow the Stormwater Management system to perform as originally designed and Permitted by the County and other appropriate governmental agencies and as set forth in the written plan.
- E. Maintenance Shall include compliance with County Building and Construction Codes, and all other applicable County Codes.
- F. Non-Profit Corporations Shall annually report to the County the Maintenance performed during the year and demonstrate their financial capability to provide the required Maintenance for the coming year. This Shall be done to reflect compliance with their written Maintenance plan.
- G. The legal entity Shall execute and record a document acceptable to the County Attorney which defines its authority and responsibility for Maintenance of the Stormwater Management system, defines how the Maintenance is to be performed, defines the funding mechanisms for the required Maintenance, and provides a legal mechanism assuring the perpetuation of the Maintenance.

9.06.09 NPDES Stormwater Illicit Discharge Regulations.

- A. Purpose/intent. The purpose of this ordinance is to protect the health, safety, and general welfare of the citizens of Lake County through the regulation of non-stormwater discharges to storm drainage systems as required by Federal and State law. This section Shall apply to all discharges entering the storm drain system generated from any developed or undeveloped lands unless explicitly exempted by law. This section establishes methods for controlling the introduction of pollutants into the Municipal Separate Storm Sewer System (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process and state law. The objectives of these regulations are:
1. To regulate the contribution of pollutants to the Municipal Separate Storm Sewer System (MS4) by stormwater discharges.
 2. To prohibit Illicit Connections and Discharges to the Municipal Separate Storm Sewer Systems.
 3. To establish authority to carry out all inspection, monitoring and enforcement procedures necessary to ensure compliance with this Section.
- B. Definitions. For the purposes of this Section, the following terms Shall mean:
1. Best Management Practices (BMPs) - Methods that are the most effective means of preventing or reducing pollution from non-point sources, such as pollutants carried by runoff. BMP's can be structural (e.g., ponds, oil and water separator, silt fence, hay-bales) or non-structural (e.g. education, maintenance).
 2. Illegal Discharge - Any direct or indirect non-stormwater discharge to the storm drain system, except as exempted in subsection C, Discharge Prohibitions.
 3. Illicit Connections Either of the following:
 - a. Any surface, or subsurface, drain or conveyance which allows an illegal discharge to enter the storm drain system, including but not limited to, any conveyances which allow any non-stormwater discharge including sewage, wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized agency; or
 - b. Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized agency.
 4. Industrial Activity - Activities subject to NPDES Industrial Permits as defined in 40 CFR,

Section 122.26(b)(14).

5. Municipal Separate Storm Sewer (MS4) - a conveyance or system of conveyances like roads with stormwater systems, municipal streets, catch basins, curbs, gutters, constructed channels or storm drains as defined in Section 62-624.200, Florida Administrative Code.
 6. National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit - A permit issued by the Environmental Protection Agency (EPA) or Florida Department of Environmental Protection (DEP) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
 7. Non-Stormwater Discharge. Any discharge to the storm drain system that is not composed entirely of stormwater.
 8. Pollutant - Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, and accumulations, so that same may cause or contribute to pollution: pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage and other biological waste, dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.
- C. Discharge Prohibitions. The commencement, conduct or continuance of any non-stormwater discharge to the Municipal Separate Storm Sewer System or watercourse from a storm drain system is prohibited, except the following:
- a) Uncontaminated water line flushing
 - b) Rising ground waters
 - c) Uncontaminated groundwater infiltration
 - d) Uncontaminated pumped ground water
 - e) Potable water
 - f) Foundation drains
 - g) Air conditioning condensate
 - h) Irrigation
 - i) Springs

- j) Water from crawl space pumps
- k) Footing drains
- l) Individual residential car washing
- m) Natural flows from riparian habitats and wetlands
- n) Dechlorinated swimming pool discharges

D. Industrial or Construction Activity Discharges. Any Person subject to an industrial or construction activity NPDES stormwater discharge permit Shall comply with all provisions of such permit. Proof of compliance with said permit Shall be required in a form acceptable to the County prior to the allowing of discharges to the MS4.

1. Access to Facilities.

- a. The County Shall be permitted to enter and inspect facilities subject to regulation as often as may be necessary, at reasonable times, to determine compliance with this Section. Facility operators Shall make the necessary arrangements to allow access to representatives of the County. Failure to allow the County access to a permitted facility is a violation of a stormwater discharge permit and of this Section.
- b. Facility operators Shall allow the County ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge stormwater, and the performance of any additional duties as defined by State and Federal law.
- c. The County Shall have the right to set up on any permitted facility such devices as are necessary to conduct monitoring and/or sampling of the facility's stormwater discharge.
- d. The County has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.
- e. Any temporary or permanent obstruction to access the facility to be inspected or sampled Shall be promptly removed by the operator at the written request of the County and Shall not be replaced. The costs of clearing such access shall be borne by the operator.

- E. Requirement To Prevent, Control, and Reduce Storm Water Pollutants By the Use of Best Management Practices. Lake County Shall require that Best Management Practices are utilized for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the storm drain system, or waters of the United States. The Owner or operator of a commercial or industrial establishment Shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the Municipal Storm Drain System or watercourses through the use of structural or non-structural BMPs. Any person responsible for a property or premise which is the source of an illegal discharge, Shall be required to implement, at said person's expense, additional structural or non-structural BMPs to prevent the further discharge of pollutants to the Municipal Separate Storm Sewer System. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with industrial activity Shall be required. These BMPs Shall be part of a stormwater pollution prevention plan (SWPPP) as necessary for compliance with requirements of the NPDES permit.
- F. Notification of Discharge. Notwithstanding other requirements of law, if any person responsible for a facility or operation, is aware of any known or suspected release of materials which may result in illegal discharges or pollutants discharging into a storm drain system or Florida waters said person Shall notify the County and immediately take all necessary steps to ensure the discovery, containment, and cleanup of such release. If the discharge of prohibited materials emanates from an industrial or construction activity, the Owner or operator Shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records Shall be retained for at least three (3) years or as required by Federal or State law, whichever is longer.
- G. Enforcement. Whenever the County finds that a person has violated or failed to meet a requirement of this Section, the County Shall order compliance by written notice of violation to the responsible person.
- a. The performance of monitoring, analyses, and reporting may be required;
 - b. The elimination of illicit connections and illegal discharges shall be required;
 - c. The violating discharges, practices, and operations shall be required to cease and desist;
 - d. The abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property shall be required; and
 - e. The implementation of source control or treatment BMPs shall be required.

If abatement of a violation and/or restoration of affected property is required, the notice Shall set forth a deadline within which such remediation or restoration must be completed. If, after a reasonable period of time to comply, the violation has not been corrected, the case will be enforced according to the provisions of Chapter 8, Lake County Code.

(Ord. No. 2007-50, § 2, 11-6-07)

9.07.00 Lot Grading, Erosion Control and Floodplain Management Regulations.*

* **Editors Note:** Ord. No. 1996-63, § 2, adopted Aug. 6, 1996, amended the title of Section 9.07.00 to read as herein set out.

9.07.01 Purpose and Intent.

- A. It is the purpose of this Section to promote the public health, safety and general welfare and to minimize public and private losses due to Flood conditions in specific Areas by provisions designed to:
1. Restrict or prohibit uses which are dangerous to health, safety and Property due to water or Erosion hazards, or which result in damaging increases in Erosion or in Flood heights or velocities.
 2. Require that uses vulnerable to Floods, including facilities which serve such uses, be protected against Flood damage at the time of initial Construction.
 3. Control the alteration of natural Floodplains, stream channels, and natural protective barriers which are involved in the accommodation of Flood waters.
 4. Control filling, grading, dredging and other Development which may increase Erosion or Flood damage.
 5. Prevent or regulate the Construction of Flood barriers which will unnaturally divert Flood Waters or which may increase Flood Hazards to other Lands.
 6. Consider availability of alternative Development design not subject to Flooding or Erosion damage for the proposed Use and under the ownership of the Applicant.
 7. Provide safety of Access in times of Flood for ordinary and emergency vehicles.
 8. Qualify for and maintain participation in the National Flood Insurance Program (NFIP).
- B. This Section is not intended to repeal, abrogate, or impair any existing easements, covenants or deed restrictions. However, where this Section and another ordinance conflict or overlap, which ever imposes the more stringent restriction Shall prevail.

(Ord. No. 1995-46, § 1, 11-7-95)

9.07.02 Jurisdiction. This Section Shall apply to all unincorporated Areas of the County. The regulations herein established Shall be construed to be minimum requirements; these regulations may also apply to any municipality in the County that elects to Use them.

(Ord. No. 1995-46, § 1, 11-7-95)

9.07.03 Interpretation. In the interpretation and application of this Section, all provisions Shall be considered as minimum requirements liberally construed in favor of the Board of County Commissioners deemed neither to limit nor repeal any other powers granted under state law.
(Ord. No. 1995-46, § 1, 11-7-95)

9.07.04 Warning and Disclaimer. The degree of Flood protection required by this Section is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger Floods can and will occur on rare occasions. Flood heights may be increased by manmade or natural causes. This Section does not imply that Lands outside the special Flood hazard Areas or uses Permitted within such Areas will be free from Flooding or Flood damages. This Section Shall not create liability on that part of the Board of County Commissioners or the County, or by any officer or employee thereof for any Flood damages that result from reliance on this Section or any administrative decision lawfully made thereunder.
(Ord. No. 1995-46, § 1, 11-7-95)

9.07.05 Basis for Establishing Special Flood Hazard Areas (SFHAs). The Special Flood Hazard Areas (SFHAs) and corresponding Base Flood Elevations (BFEs) identified by the Federal Emergency Management Agency (FEMA) in its County Wide Flood Insurance Rate Map (FIRM), Lake County Community #120421, map number 12069C map panel #'s 0025D, 0050D, 0070D, 0100D, 0125D, 0150D, 0155D, 0160D, 0165D, 0170D, 0180D, 0185D, 0190D, 0195D, 0205D, 0210D, 0215D, 0220D, 0230D, 0235D, 0240D, 0245D, 0255D, 0260D, 0265D, 0270D, 0300D, 0305D-0309D, 0315D-0317D, 0320D, 0330D-0334D, 0340D, 0345D, 0355D-0359D, 0361D, 0362D, 0365D-0367D, 0370D, 0378D, 0380D, 0385D, 0390D, 0395D, 0425D, 0435D, 0445D, 0450D, 0455D, 0460D, 0461D, 0465D, 0470D, 0480D, 0500D, 0510D, 0520D, 0525D, 0530D, 0535D, 0540D, 0545D, 0555D, 0560D, 0565D, 0570D, 0600D, 0625D, 0650D, 0675D, 0700D, and 0725D with accompanying maps and other supporting data, including privately funded studies required by and accepted by the County, are adopted by reference and declared to be a part of this Section.
(Ord. No. 1995-46, § 1, 11-7-95; Ord. No. 2002-39, § 2, 5-7-02)

9.07.06 Administration and Enforcement. The County Manager or designee Shall be responsible for determining whether the requirements of this Section have been complied with. Duties of the County Manager or designee, Shall include, but not be limited to the following:

- A. Review all Development plans and Permits to assure that the requirements of this Section have been satisfied.
- B. Advise Applicant that additional federal or state Permits may be required, and if specific federal or state Permit requirements are known, require that copies of such Permits be provided and maintained on file with the Development Permit.
- C. Notify adjacent communities and the state coordinating agency prior to any alteration or relocation of a watercourse, and require notification of such alterations to the Federal Emergency Management Agency.
- D. Require notification of changes to base Flood elevations or Floodplain boundaries resulting from Development activities. Such notification Shall be made through Lake County to the Federal Emergency Management Agency.

- E. Assure that maintenance is provided within the altered or relocated portion of said watercourse so that the Flood carrying capacity is not diminished.
- F. For single-family Residential Structures, record the certification of the actual elevation (in relation to the North American Vertical Datum of 1988) of the lowest floor (including basement) of all new or substantially improved Structures.
- G. For other than single-family Residential Structures, record the certification of adherence to Flood-proofing standards and the actual elevation (in relation to the North American Vertical Datum of 1988) or Flood-proofing standards to which the new or substantially improved Structures have been elevated or Flood-proofed to.
- H. Where interpretation is needed as to the exact location of boundaries of the special Flood hazard Areas (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) make the necessary interpretation. The Person contesting the location of the boundary Shall be given a reasonable opportunity to appeal the interpretation as provided in this Section.
- I. When base Flood elevation data or Floodway data have not been provided, the County Manager or designee Shall obtain, review and reasonably utilize any base Flood elevation and Floodway data available from a federal, state, or other source in order to administer the provisions of this Section.
- J. All records pertaining to the provisions of this Section Shall be maintained in the office of the County Manager or designee and Shall be open for public inspection.

(Ord. No. 1995-46, § 1, 11-7-95; Ord. No. 2009-1, § 4, 1-6-09)

9.07.07 Violations, Variances and Appeals.

- A. Regulations involving violations, variances and appeals Shall be governed by the Lake County Environmental Protection Board as outlined in Chapter XII of the Lake County Land Development Regulations.
- B. Development Permits or variances issued on the basis of approved plans and applications authorize only the use, arrangement, and Construction set forth in such approved plans and applications, and no other use, arrangement or Construction. Any use, arrangement or Construction at variance with that authorized Shall be deemed a violation of the Section, and enjoined or punishable as provided herein.

(Ord. No. 1995-46, § 1, 11-7-95)

9.07.08 Development in Special Flood Hazard Areas (SFHAs).

- A. In all Special Flood Hazard Areas (SFHAs) the following provisions are required:

1. New Construction and substantial improvements Shall be anchored to prevent flotation, collapse or lateral movement of the Structure.
2. Manufactured homes Shall be elevated and anchored to prevent floatation, collapse or lateral movement by providing over-the top and frame ties to ground anchors. Specific requirements which Shall be adhered to:
 - a. Over-the-top ties be provided at each of the four (4) corners of the manufactured home, with two (2) additional ties per side at intermediate locations and manufactured homes less than fifty (50) feet long requiring one (1) additional tie per side.
 - b. Frame ties provided at each corner of the home with five (5) additional ties per side at intermediate points and manufactured homes less than fifty (50) feet long requiring four (4) additional ties per side.
 - c. All components of the anchoring system Shall be capable of carrying a force of forty-eight hundred (4,800) pounds.
 - d. Any additions to the manufactured home Shall be similarly anchored.
3. For legally created Lots or Parcels of Land; Development Shall not result in an increase in the base Flood elevation. No fill Shall be allowed to be placed in the 100-year Floodplain without equivalent compensation for the loss of Flood storage, except for minimal fill in the case of fully Flood-prone Lots or Parcels. In the Green Swamp area, this provision only applies to Lots that are five acres or larger. Compensating storage is to be determined by the volume of material removed above the seasonal water table and below the base Flood elevation established for that area. Where buildable Area exists out of the Flood-prone area, Development Shall take place in that area. Where buildable Area does not exist out of the Flood-prone area, compensating storage Shall be provided for all fill placed.
 - a. Fill may be placed within the confines of a stem wall for a slab-on-Grade Construction. Construction on pilings or columns are preferable methods of elevation in Flood-prone Areas in order to maintain the storage capacity of the Floodplain.
 - b. Fill may be placed for septic tank and driveway Construction.
 - c. Total allowable fill (mentioned in items a. and b.) Area may not exceed 5,000 square feet or 15% of the Flood-prone area, whichever is smaller. All fill in excess of the aforementioned Shall require compensatory storage.
 - d. In Areas of Flood fringe, all fill Shall require compensatory storage.

4. New Construction and substantial improvements Shall be constructed with materials and utility equipment resistant to Flood damage and by methods and practices that minimize Flood damage.
 - a. Reference points (Grade datum elevation) should be, along with regulatory Flood datum, incised in a concrete monument at one (1) corner of the Building Site.
 - b. All primary and secondary transformers along with power line disconnects Shall be weather protected and mounted on raised reinforced concrete slabs with top surfaces well above base Flood and water surge level of enclosed with Flood walls depending in height upon known Flood levels. Such slabs Shall be supported on reinforced footers at least two (2) feet below Grade.
 - c. All secondary power and light disconnect switches necessary on Buildings Shall be weather protected and mounted at least two (2) feet above base Flood and surge levels.
 - d. Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities Shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of Flooding.
 - e. Back flow valves Shall be elevated three (3) feet above base Flood in order to prevent water inflow or infiltration.
 - f. Well casings Shall be elevated three (3) feet above base Flood in order to prevent water inflow or infiltration.
 - g. All fuel oil, propane or other fuel storage tanks Shall be anchored to prevent flotation.
5. New and replacement water supply and sanitary sewer systems and/or onsite waste disposal systems Shall be designed to eliminate infiltration of Flood waters into the system and in the case of sanitary systems Shall also eliminate discharges from the system into Flood waters.
6. Any alteration, repair, reconstruction, or improvements to a Structure which is in compliance with the provisions of this Section.
7. New Construction or substantial improvement of any Residential Structure Shall have the lowest floor, including basement, elevated no lower than eighteen (18) inches above base Flood elevation. Should solid foundation perimeter walls be used to elevate a Structure, openings sufficient to facilitate the unimpeded movements of Flood waters Shall be provided.
8. New Construction or substantial improvement of any commercial, industrial or other

nonResidential Structure Shall have the lowest floor, including basement, elevated no lower than eighteen (18) inches above the base Flood level. New Construction or substantial improvement of any commercial, industrial or other nonResidential Structure may be Flood-proofed in lieu of being elevated provided the requirements of Section 9.07.08.C are met.

- a. Wherever possible the location, Construction and installation of all electrical and gas utility systems in such manner as to assure the continuing functioning of those systems in the event of a base Flood.
- b. The location, Construction and installations of all potable water supply systems Shall be placed in such a manner as to prevent contamination from Flood waters during the base Flood. No water supply well Shall be located within the foundation walls of a Building or Structure used for human habitation, medical or educational services, food processing or public services.
- c. All Areas of the Structure below the required elevation Shall be watertight with walls substantially impermeable to the passage of water, and Shall Use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.
- d. Approved Backflow Preventers or devices Shall be installed on main water service lines, at water wells and at all Building entry locations to protect the system from Backflow or back siphonage of Flood waters or other contaminants.
- e. Sanitary sewer and storm drainage systems that have openings below the base Flood elevation Shall be equipped with base Flood elevation automatic back water valves or other automatic Backflow Devices that are installed in each discharge line passing through a Building exterior wall.
- f. Sanitary sewer systems, including septic tank systems, that are required to remain in operation during a Flood Shall be provided with a sealed holding tank and the necessary isolation and diversion piping, pumps, ejectors and appurtenances required to prevent sewage discharge during a Flood. The holding tank Shall be sized for storage of at least two (2) days demand.
- g. All sewer system vents Shall extend to an elevation of at least two (2) feet above the base Flood elevation.
- h. Vapor barrier, consisting of sheet polyethylene not less than six (6) mil in thickness, often referred to as Visqueen, should cover entire slab Area before slab is poured. Joints should be lapped not less than six (6) inches and where slab is in contact with vertical surfaces the sheet Shall be turned up the thickness of the slab. Puncturing of vapor barriers with mesh reinforcing Shall be kept to a minimum.

- i. Reinforcing steel (bars) in column and wall footings should be lapped at breaks not less than fifteen (15) bar diameters. Horizontal steel in Grade beams or slabs should be kept at least two (2) and not more than two and one-fourth (2 1/4) inches above earth. Bars should preferably be supported on chairs.

- j. Exterior walls both of block and poured concrete Shall be reinforced with steel. Vertical steel in concrete will depend in size upon the structural height of wall and Shall be tied with horizontal steel possible three-eighths-inch diameter every eighteen (18) inches of vertical height. In addition:
 - 1. Vertical steel in low rise (one (1) or two (2) stories) where exterior walls are formed of masonry block Shall be placed every eight (8) feet in core of block and embedded with concrete mortar. Steel Shall extend for the full height of the wall. If footing dowels are used, steel Shall be double tied and lapped to same not less than fifteen (15) bars diameter. All ties Shall be made with soft iron wire.
 - 2. Spandrel reinforcing, if other than continuous, at top of walls often required by code will depend greatly upon width of openings, and should be supported on chairs and lapped for fifteen (15) diameters minimum at splices.

- k. All steel mesh in horizontal slabs Shall be overlapped at least one (1) Section of mesh when being laid.

- l. All below Grade exterior walls on basement type Structures Shall be waterproofed in an approved manner as specified by the design Architect or engineer meeting the requirements of paragraph 9.07.08.C.3. In addition:
 - 1. All concrete walls Shall be "keyed" to footings by 2 x 2 key slots, molded in wall footing at time of pouring.
 - 2. Concrete Shall be not less than three thousand (3,000) psi concrete (28th day strength). All structural concrete for girders, spandrels, and columns Shall be three thousand (3000) psi concrete as required for size and strength.
 - 3. All concrete Shall be poured (if ready mix) within forth-five (45) minutes of arrival at site.

- m. The outside face of all backup masonry work Shall be thoroughly waterproofed as specified by design Architect or engineer meeting the requirements of paragraph 9.07.08.C.3. On all walls, metal ties Shall be used. These should be applied in face brick mortar joints and be thoroughly coated with asphalt where exposed. In

addition:

1. All primary and secondary transformers along with power line disconnects Shall be weather protected and mounted on raised reinforced concrete slabs with top surfaces well above the Flood water surge level or enclosed with Flood walls depending in height upon known Flood levels elevations. Such slabs Shall be supported or reinforces footers at least two (2) feet below Grade.
 2. All secondary power and light disconnect switches necessary on Building Shall be weather protected and mounted at least two (2) feet above base Flood elevation.
 - n. All Commercial and non-single-family Residential Buildings Shall be equipped with sump pumps and pits of sufficient size to provided for any water leakage through window and door Flood protection.
 - o. All sump pits Shall be equipped with easily accessible sediment pits which Shall be periodically checked in order the sump pumps remain undamaged.
 - p. All electrical connections Shall be kept to a minimum and made waterproof.
 - q. Back flow valves Shall be installed on all septic and Road sewer mains.
 - r. Well casings Shall be elevated three (3) feet above base Flood water elevation to prevent inflow or infiltration.
 - s. All fuel oil, propane or other fuel storage tanks Shall be anchored to prevent flotation.
9. New Construction or substantial improvements of elevated Buildings that include fully enclosed Areas formed by foundation and other exterior walls below the base Flood elevation Shall be designed to preclude finished living space and designed to allow for the entry and exit of Flood waters to automatically equalize hydrostatic Flood forces on exterior walls. Designs for complying with this requirement must either be certified by a professional engineer or Architect or meet the following minimum criteria:
- a. Provide a minimum of two (2) openings having a total net Area of not less than one (1) square inch for every square foot of enclosed Area subject to Flooding;
 - b. The bottom of all openings Shall be no higher than one (1) foot above Grade; and,
 - c. Openings may be equipped with screens, louvers, valves or other coverings or devices provided they Permit the automatic flow of Floodwaters in both directions.

- d. Electrical, plumbing, and other utility connections are prohibited below the base Flood elevation;
- e. Access to the enclosed Area Shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment used in connection with the premises (standard exterior door) or entry to the living Area (stairway or elevator); and
- f. The interior portion of such enclosed Area Shall not be partitioned or finished into separate rooms.

10. Limiting Structures within the 25-year Floodplain

- a. New Construction within the 25-year Floodplain Shall be limited to docks, catwalks, piers and other Structures required to provide Access to water-dependent facilities; or water-related Conservation or recreation facilities not affected by periodic Flooding. Residential, commercial, and industrial Building, accessory Structures and parking Lots Shall be prohibited.
- b. Legally created Lots are exempt from the requirements of 10.(a), above, so long as all other requirements of this ordinance, including compensatory storage and floor elevation, are met.
- c. New Roads, causeways, or bridges Shall be prohibited, except where:
 - 1. The project is necessary to provide the only means of Access to otherwise Developable upland properties not within Areas defined as wetlands and Buffer in Chapter VI. Such Access must be the minimum necessary to provide Access to the site, occur at a narrow point of the riverine system, be elevated and designed to allow unimpeded movement of all wildlife, and Shall be designed and constructed in compliance with the stormwater management and wetlands ordinances, and standards for Road Construction.
 - 2. Public Road Construction meets an overriding public interest and no suitable alternative route exists.

11. Designated Floodways, Streams and Areas of Shallow Flooding

- a. Located within special Flood hazard Areas are Areas designated as Floodways. Since the Floodway is an extremely hazardous Area due to the velocity of Flood waters which carry debris, potential projectiles and has Erosion potential, the following provisions Shall apply, except activities impacting wetlands and/or wetland Buffers regulated under Chapter VI:

1. Prohibit encroachments, including fill, New Construction, substantial improvements and other Developments unless certification (with supporting technical data) by a registered professional engineer is provided demonstrating that encroachments Shall not result in any increase in Flood elevations during occurrence of the base Flood discharge and that the Flood carrying capacity of the Floodway is not reduced.
2. If paragraph 1. above is satisfied, all New Construction and substantial improvements Shall comply with all applicable Flood hazard reduction provisions of this Section.
3. Prohibit the placement of manufactured homes except in an existing manufactured homes park or subdivision. A replacement manufactured home may be placed on a Lot in an existing manufactured home park or subdivision provided the anchoring standards and the elevation standards of this Section are met.

12. Standards for Streams Without Established Base Flood Elevations and/or Floodways

- a. Located within the special Flood hazard Areas where small streams exist but where no base Flood data has been provided or where no Floodways have been provided, the following provisions apply if they are more stringent than other provisions of this Section, except activities impacting wetlands and/or wetland Buffers regulated under Chapter VI:
 1. No encroachments, including fill material or Structures Shall be located within a distance of the stream bank equal to two (2) times the width of the stream at the top of bank or twenty (20) feet each side from top of bank, whichever is greater, unless certification by a registered professional engineer is provided demonstrating that such encroachments Shall not result in any increase in Flood elevations during the occurrence of the base Flood discharge.
 2. New Construction or substantial improvements of Buildings Shall be elevated or Flood-proofed to elevations established in accordance with this Section.

13. Areas of Shallow Flooding (AO Zones)

- a. Located within the special Flood hazard Areas are Areas designated as Shallow Flooding areas. These Areas have special Flood hazard associated with base Flood depths of one (1) to three (3) feet where a clearly defined channel does not exist and where the path of Flooding is unpredictable and indeterminate; therefore, the following provisions apply, except activities impacting wetlands and/or wetland

Buffers regulated under Chapter VI:

1. All New Construction and substantial improvements of Residential Buildings Shall have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent Grade. If no depth number is specified, the lowest floor, including basement, Shall be elevated, at least two (2) feet above the highest adjacent Grade.
 2. All New Construction and substantial improvements of nonResidential Structures Shall:
 - a. Have the lowest floor, including basement, elevated to the depth number specified on the Flood Insurance Rate Map, in feet, above the highest adjacent Grade. If no depth number is specified, the lowest floor, including basement Shall be elevated at least two (2) feet above the highest adjacent Grade; or
 - b. Together with attendant utility and sanitary facilities be completely Flood-proofed to or above that elevation so that any space below that elevation is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- B. Single-Family Residential Requirements. In addition to the applicable general requirements of A., the following requirements Shall apply to individual single-family Residential Development. For purposes of this Section, single-family Residential Shall also include a duplex constructed on a single Lot.
1. Base Flood elevation information is to be obtained from the County Manager or designee.
 2. New Construction or substantial improvement of any single-family Residential Structure Shall have the lowest floor, including basement, elevated no lower than eighteen (18) inches above base Flood elevation. Should solid foundation perimeter walls be used to elevate a Structure, openings sufficient to facilitate the unimpeded movements of Flood waters Shall be provided, except as allowed in elsewhere in this Section.
 3. A registered professional surveyor, engineer or Architect Shall certify and submit a record (a FEMA approved Elevation Certificate) of the actual elevation, in relation to the North American Vertical Datum of 1988, of the lowest floor (including basement) of all new or substantially improved structures.
- C. Non-Single-family Residential Requirements. In addition to the applicable general requirements of A., the following requirements Shall apply for all Development other than individual single-

family Residential Development identified under B.

1. Base Flood elevation information is to be obtained from the County Manager or designee unless such information is required to be supplied by Applicant.
2. New Construction or substantial improvement of any commercial, industrial or other non-single-family Residential Structure Shall have the lowest floor, including basement, elevated no lower than eighteen (18) inches above the base Flood elevation. New Construction or substantial improvement of any commercial, industrial or other non-single-family Residential Structure may be Flood-proofed in lieu of being elevated provided the requirements are in compliance with the provisions of this Section.
3. A registered professional engineer or Architect Shall certify, with a FEMA approved Flood-proofing Certification, that the design and methods of Construction are in accordance with acceptable standards of practice for meeting the applicable standards in this Section. Certification Shall include the elevation of the lowest floor that the Structure has been Flood-proofed to.
4. Prior to Construction, plans for any Structure that is required to be Flood-proofed must be submitted to the County Manager or designee for approval. The County Manager or designee will review the plans for compliance with the provisions of this Section, for general compliance with the techniques specified in the United States Army Corps of Engineers publication entitled "Flood-proofing Regulations", June, 1972, (GPO: 19720-505-026) or most recent edition and for compliance with Florida Administrative Code, rules of the DEP, and other applicable codes or regulations.

D. Site Plan and Subdivision Standards. As part of the design of the project, New Development proposals other than individual single-family Residential Development identified under B. Shall Use the 100-year Floodplain for storage of Floodwaters and passive recreation and Conservation facilities. In the event that it is necessary to Use the 100-year Floodplain for Development, at a minimum, the following Shall apply:

1. If any portion of a proposed subdivision lies within a special Flood hazard area, the portion of Land so located Shall be Developed in accordance with this Section wherever applicable;
2. Compensating storage Shall be required if fill is placed within the Floodplain;
3. The natural hydrological character of surface waters (flow regimes, particularly sheet flows) Shall be maintained, natural water systems Shall be promoted in lieu of structural alternatives, and modified systems restored;
4. Surface waters Shall be allowed to fluctuate on a seasonal basis; and
5. In order to protect the quality and quantity of surface waters and provide habitat for semi-

aquatic or water-dependent terrestrial species or wildlife, Buffer zones of at least twenty-five (25) feet and not more than fifty (50) feet Shall be established by appropriate Federal, State and local agencies for vegetation within the 100-year Floodplain associated with riverine systems.

6. In the event that the base Flood elevation is undetermined by FEMA, all Developments (including proposals for manufactured homes, Site plans and subdivisions) having greater than fifty (50) Lots or five (5) acres of Flood prone area, whichever is less, Shall provide base Flood elevation information in accordance with FEMA guidelines, and source of data; subject to County approval.
7. Notification to the adjacent communities and the State Coordinating Agency prior to any Floodplain alteration, relocation of a watercourse, or change in base Flood elevation, and submit evidence of such notification to the Federal Emergency Management Agency.
8. Submit all required Federal Emergency Management Agency letters of map amendment, revision, or changes to base Flood elevations or Floodplain boundaries resulting from Development activities. Such notification Shall be made through Lake County.
 - a. A Conditional Letter of Map Revision (CLOMR) application may be submitted to FEMA prior to or at the time of Construction plan submittal. Final Construction plan approval may be withheld until such time that all necessary documentation and accompanying fees are submitted to FEMA. Final plat approval may be withheld until such time that FEMA has favorably processed the CLOMR application. A CLOMR must be followed by a LOMR or elevation certificates (as-builts).
 - b. A Letter of Map Revision (LOMR) application may be submitted to FEMA prior to, at the time of, or following Construction plan approval. Final plat approval may be withheld until such time that FEMA has favorably processed the LOMR application. In the case of a plat being bonded, FEMA approval is required prior to the release of the bond.

9. Assure maintenance is provided within the altered or relocated portion of said watercourse so that Flood carrying capacity is not diminished.

(Ord. No. 1995-9, § 1, 5-3-95; Ord. No. 1995-46, § 1, 11-7-95; Ord. No. 2009-1, § 4, 1-6-09)

9.07.09. Grading.

- A. Lot Grading. Lot Grading is the movement, extraction and/or placement of soils within the limits of an individual residential lot or parcel boundary.
 1. Lot Grading shall not adversely affect surrounding or downstream wetlands, floodplains or neighboring property. Runoff directed to drainage easements shall not be considered an adverse impact. The volume, rate and quality of stormwater runoff shall be consistent

with conditions prior to the lot grading, or consistent with approved site or lot grading plans.

2. Reasonable measures to prevent the erosion of soils due to the action of water and wind shall be taken. Measures shall include the following as appropriate:
 - a. Limit clearing to expose the smallest possible area;
 - b. Immediately vegetate with sod, seed, mulch or other equivalent forms of landscaping in all exposed areas;
 - c. Provide silt fencing, berms, or staked hay bales for protection from erosion, and/or;
 - d. Provide a source of water for application to dry exposed soil in order to prevent wind erosion during construction.
 3. Elevation changes in topography shall not exceed a maximum of ten (10) feet except for the footprint of the structure.
 4. Graded slopes shall be rounded and shaped to blend with naturally occurring slopes at a radius compatible with the existing natural terrain and shall follow the natural contours, unless terracing techniques are used. Retaining walls shall not exceed five (5) feet in height. Spacing between retaining walls used in terracing shall be no less than five (5) feet.
- B. Exempt Activities. The following activities are exempt from lot grading requirements, and no inspection or lot grading plan shall be necessary:
1. Any permitted improvement that does not increase the impervious surface area and does not change the existing grade.
 2. Additional impervious areas consisting of 200 cumulative square feet or less on a lot where the additional impervious area is offset at least five (5) feet from the property line and where no earthwork takes place in the offset area.
 3. Additional impervious areas consisting of 300 cumulative square feet or less on a lot where the additional impervious area is offset at least ten (10) feet from the property line and where no earthwork or grading takes place in the offset area.
 4. Additional impervious areas consisting of 500 cumulative square feet or less on a lot where the additional impervious area is offset at least fifteen (15) feet from the property line and where no earthwork or grading takes place in the offset area.
 5. Additional impervious area of any size on a lot greater than one-half (1/2) acre where the

additional impervious area is offset at least twenty (20) feet from the property line and where no earthwork takes place in the offset area.

C. Lot Grading Requirements in Subdivisions where Mass Grading Plan was Approved in Connection with Subdivision Approval.

1. In a subdivision where a mass grading plan was approved by the County in connection with the approval of a subdivision plat, any lot grading which occurs on a lot shall be consistent with the mass grading plan. A lot grading plan shall not be required for grading on the individual lot, but inspection of the lot shall be conducted to ensure that the lot grading is consistent with the mass grading plan.
2. Should an individual lot owner wish to conduct lot grading which is inconsistent with the mass grading plan for the subdivision, prior to the lot grading taking place a lot grading plan shall be required to be submitted and approved as provided below.

D. Simplified Lot Grading Approval for Lots in Subdivisions where no Mass Grading Plan has been Approved or Individual Residential Lots not in Subdivisions. Lots in subdivisions where a mass grading plan has not been approved, or residential lots outside of subdivisions may utilize a simplified lot grading approval if the provisions of this subsection are met. If the required provisions have been met, a lot grading plan shall not be required, but inspection of the lot shall be conducted by the County to insure that the lot grading is consistent with this subsection. The approximate change in elevation shall be included on the plot plan required under Subsection 14.14.03 of these Regulations. The lot grading approval is authorized in the following situations:

1. The requirements of subsection (A) above shall be complied with; any proposed driveway (other than a shared driveway) is five (5) feet or more from the property line; the change in grade shall be no more than one (1) foot above the ground level as it existed prior to any lot grading and no grading shall occur within five (5) feet of the property line.
2. The requirements of subsection (A) above shall be complied with; any proposed driveway (other than a shared driveway) is five (5) feet or more from the property line; the change in grade shall be no more than two (2) foot above the ground level as it existed prior to any lot grading and no grading shall occur within ten (10) feet of the property line.
3. The requirements of subsection (A) above shall be complied with; any proposed driveway (other than a shared driveway) is five (5) feet or more from the property line; and stem walls are used in construction resulting in slopes no greater (steeper) than a ratio of 4:1 (horizontal to vertical) on the lot.

E. Lot Grading Plan Requirements.

1. A lot grading plan shall be submitted and approved prior to the start of the lot grading if it does not qualify as exempt or does not qualify for the simplified lot grading approval. The plan shall identify the Federal Housing Agency grading type used.

2. A lot grading plan shall be submitted and approved prior to the start of any lot grading that would impact flood zones or wetlands.
3. The lot grading plan submittal shall be from a Florida licensed professional landscape architect, surveyor, or engineer showing existing elevations and proposed elevations for finished floor, and proposed lot grading. Spot elevations for existing and proposed grades shall be required at property corners and the street centerline, and must detail a proposed drainage pattern. If necessary in order to evaluate impacts to adjacent lots or properties, as determined by the County Manager or designee, a partial topography survey (spot elevations) that includes adjacent lots shall be required.
4. The lot grading plan shall be reviewed by the County Manager or designee utilizing the requirements of subsection (A) above and the following:
 - a. Where filling is necessary, the property owner shall demonstrate that stormwater runoff will be managed to not adversely affect adjacent or nearby properties.
 - b. Filling or cutting shall not result in slopes directed toward or away from adjoining properties steeper than 4:1 (horizontal:vertical) within five (5) feet of the property line.
 - c. Swales shall be required to divert runoff around any structure so as to not adversely impact the structure, adjacent property owners, open water bodies, or wetlands.

(Ord. No. 1996-63, § 3, 8-6-96; Ord. No. 2008-60, § 2, 9-2-08)

9.08.00 Fire Protection Standards.

9.08.01 Installation and Maintenance of Fire Protection Water Supply Systems and Appliances. All new Buildings or Structures Shall be required to have available by either an existing system or provide a suitable approved fire protection water supply, unless exempted herein. Fire protection water supply systems Shall be designed and constructed in accordance with the fire protection requirements of the Insurance Services Office (National Board of Fire Underwriters), as stated in their Fire Protection Rating Schedule "Needed Fire Flow" Section, NFPA (National Fire Protection Association) Standards, and state and local codes, if not in conflict with the following:

(Ord. No. 1996-42, § 1, 5-7-96)

9.08.02 Required Fire Flows.

- A. Residential Fire Protection Waterflow Requirements. Every subdivider Shall be required to install the following public and other improvements in accordance with the conditions and specifications as follows, for one and two-family dwellings:
 1. Water Supply for Single and Two-Family Dwellings. In all new subdivisions, expansion

of existing subdivisions, planned unit Developments, or master park plans, an adequate water supply system and an adequate water delivery system for fire protection as defined in this Section Shall be provided.

(a) Water Supply System. For 1- and 2-family dwellings not exceeding 2 stories in height, the following Needed Fire Flows Shall be used.

Distance between Buildings	Needed Fire Flow
=>31	750
11--30'	1,000
10' or less	1,500

There Shall be a minimum of one (1) fire hydrant provided for every one thousand (1,000) gpm required.

2. Exceptions to Water Supply Requirements.

- (a) In all subdivisions where no public or private water system is available for fire flow and where a water source, such as a canal, pond or lake is available, and the source meets the fifty (50) year draught requirement for ISO fire rating, a "dry hydrant" shall be required. At least one (1) "dry hydrant" shall be within five hundred (500) feet of all the lots in the subdivision and an easement granted for access. All "dry hydrants" shall be approved by the appropriate authority having jurisdiction. An agreement, approved by the County Manager or designee, shall be in place for maintenance of the "dry hydrants".
- (b) In subdivisions with one (1) acre or larger lots where no public or private water system is available, no water shall be required.
- (c) In subdivisions with smaller than one (1) acre lots and where no public or private water system is available for flow, an alternative means of fire protection water supply shall be provided with the County Manager or designee's approval, such as:
 - 1) Residential fire sprinkler system.
 - 2) Spacing of homes a minimum of sixty (60) feet apart, minimum of thirty (30) feet from the property lines and, a minimum of thirty (30) feet clear open space on all sides of the structure.

B. Water Supply for Multiple-Dwelling Complexes as Defined in Florida Building Code. Water supplies for multiple dwelling complexes Shall meet the requirements for Commercial Structures with the following additions, not to exceed three thousand five hundred (3,500) gpm, as per Insurance Services Office:

1. Sprinkler systems. Multiple-family dwelling three or more stories in height are required to have sprinklers. The water requirement for a fire sprinkler system is in addition to the required fire protection water flow.

- C. Commercial Waterflow Requirements. Fire flows in commercial, institutional, industrial Areas and Apartment or multi-unit complexes, Shall provide a minimum of seven hundred fifty (750) gpm at twenty (20) psi residual pressure. Larger commercial/industrial parks or industrial plants, major shopping centers, schools, and similar uses Shall have a fire flow capacity as determined necessary by the Fire Official.

For Structures with less than a 1000 gpm requirement, the Fire Official may consider such alternatives that may provide for alternate fire protection water supplies. These alternatives may include, but are not limited to, fire sprinkler systems and water storage tanks with approved distribution systems. Such approval Shall consider certain criteria such as:

1. Type Construction.
2. Square footage.
3. Type occupancy.
4. Hazardous conditions.
5. Other fire protection measures.

(Ord. No. 1996-42, § 1, 5-7-96; Ord. No. 2003-32, § 2, 4-22-03)

9.08.03 System Criteria.

- A. Public Water Systems. Where public water systems are required by other County requirements, systems Shall be capable of providing sufficient flow and pressure for an approved fire hydrant system.
- B. Fire Flow Duration.
1. Fire flow duration Shall be two (2) hours for Needed Fire Flows up to two thousand five hundred (2,500) gpm, and three (3) hours for Needed Fire Flows in excess of two thousand five hundred (2,500) gpm.
 2. The maximum credited flow from any given hydrant is one thousand (1,000) gpm at and must have a minimum of twenty (20) psi residual. If flow requirements exceed one thousand (1,000) gpm, then additional hydrants will be required.
 3. Fire hydrants installed on well systems and/or pumps must be pressurized at all times. Pumps must auto engage when hydrants are opened.

4. Locations and numbers of hydrants will be required based on location to Buildings, exposures and at the discretion of the Fire Official in accordance with the National Fire Protection Association (NFPA) standards.

- C. Fire Hydrants. Distance from or spacing of fire hydrants Shall be a maximum of five hundred (500) feet from the furthest point of any Structure, as the Fire Department would lay hose or as otherwise specified by the Fire Department to meet determined water flow requirements for fire protection and/or increase fire protection effectiveness. Fire hydrants Shall be connected to water mains of six-inch minimum size which are of satisfactory loop design in low density Residential subdivisions and a minimum of eight-inch mains in all other areas. Connection to dead end stubs are acceptable, provided that said stubbed water main is not less than eight (8) inches and will provide acceptable flow.
- D. System Size Computation. If system is to be used for domestic and fire flow, the minimum design for water distribution system Shall provide for at least one hundred (100) percent of the combined maximum day demand rate and required fire flow for said rate, with special provisions for peak flows in excess thereof. The allowable minimum service pressure under said design condition Shall not be less than twenty (20) pounds per square inch. Design flows and method of computation Shall be subject to review and approval by the County.
- E. Valve Locations. Valves Shall be provided for all branch connections, loop ends, fire hydrant stubs, or other locations, as required to provide an operable, easily maintained, and repaired water distribution system. Valves are to be placed so that the maximum allowable length of water main required to be shutdown for repair work Shall be five hundred (500) feet in commercial, industrial or high density Residential districts, or one thousand (1,000) feet in other areas.

(Ord. No. 1996-42, § 1, 5-7-96; Ord. No. 2003-32, § 3, 4-22-03)

9.08.04 Standard Requirements. Fire Hydrants. Hydrants Shall comply with AWWA Standard C502, "Fire Hydrants for Ordinary Water Works Service", and Shall be equipped with a minimum of one (1) pumper outlet nozzle, four and one-half (4 1/2) inches in diameter and two (2) hose nozzles, two and one-half (2 1/2) inches in diameter. Threads, nozzle caps, operating nuts and color Shall conform to NFPA Standards. Units Shall be traffic type with breakable safety clips or flange, and stem with safety coupling located below barrel break line to preclude valve opening. Hydrants Shall be dry top type. Outlet nozzles Shall be on the same plane, with minimum distance of eighteen (18) inches from center of nozzles to ground line. Valve Shall be compression type with five and one-quarter (5 1/4) inches minimum opening unless otherwise requested and show inlet connection to be six (6) inches minimum.

- A. Hydrants Shall be installed plumb and in true alignment with the connection pipes to the water main. They Shall be securely braced against the end of the trench (undisturbed soil) with concrete thrust blocks. The gravel or crushed stone for the drain sump, followed by backfilling, Shall be carefully placed and compacted. Installed hydrants Shall be painted red for the final coat.
- B. Hydrant placement is to be a minimum of six-foot and a maximum of nine-foot from the curb or paved Road surface unless otherwise approved. The center of the steamer port Shall be eighteen

(18) inches minimum and twenty-four (24) inches maximum above final Grade. Steamer port Shall be correctly positioned for the proper connection.

C. Fire hydrant marker is a blue device visible during daylight and reflective at night, which is to be approved by the Fire Department as permanently installed on the Road surface. All fire hydrants installed after the effective date of this ordinance Shall be required to have fire hydrant marker(s) installed. Hydrant markers are to be installed by the Developer, owner, or contractor as follows:

1. As may comply with Department of Transportation regulations.
2. Areas such as, but not limited to, parking Lots, loading areas, or storage yards, Shall have marker location designated by the Fire Department.

D. Fire Hydrant Classifications and Colors. Hydrants should be classified in accordance with their rated capacities (at twenty (20) psi residual pressure);

Class AA	Rated capacity of 1500 gpm or greater
Class A	Rated capacity of 1000-1499 gpm
Class B	Rated capacity of 500-999 gpm
Class C	Rated capacity of less than 500 gpm

All barrels are to be red. The tops and nozzle caps will be painted with the following capacity indicating color scheme to provide simplicity and consistency with colors used in signal work for safety, danger, and intermediate condition:

Class AA	Light Blue
Class A	Green
Class B	Orange
Class C	Red

E. Water Supply Easements, Dedications, or Rights-of-Way. For any water system created pursuant to this standard, necessary easements, dedications, or rights-of-way Shall be dedicated, conveyed, or deeded to Lake County so that Lake County or its authorized agents Shall have the right to Access for Use for fire protection purposes all parts of the water system. Such dedications or easements Shall also provide for unlimited Use of water when necessary for training, firefighting or other emergency operational purposes.

(Ord. No. 1996-42, § 1, 5-7-96)

9.08.05 Municipal Systems. Should any of these requirements conflict with municipal requirements, consideration will be given, after coordinating with municipality involved, to possible alternative measures.

(Ord. No. 1996-42, § 1, 5-7-96)

9.08.06 Calculations. Fire flow calculations for all Development other than one and two-family Residential Developments are based on Insurance Services Office Rating Schedule. They are based on the following criteria with certain revisions:

1. Construction Type.
2. Occupancy Type.
3. Square Footage.
4. Exposure.

A copy of the fire flow calculations and methodology used is available in the Lake County Fire Rescue Administrative Offices, 315 W. Main Street, Tavares, Florida 32778.
(Ord. No. 1995-9, § 1, 5-3-95; Ord. No. 1996-42, § 1, 5-7-96)

9.09.00 Noise Protection Standards.

9.09.01 Purpose and Applicability.

- A. The purpose of this section is to require new development to consider noise impacts to different land uses. This section shall be implemented so as to promote noise compatibility between existing and proposed land use and to provide for mitigation measures in the design and layout of proposed development to avoid conflicts with different land uses.
- B. This section shall apply to all site plans, preliminary plats, construction plans and master park plans.

9.09.02 Noise Standards. The allowable decibel level for new development shall be determined by an acceptable noise study, as described below.

9.09.03 Determination of Need for Noise Study.

- A. **Adjoining Property.** At the time of application for a preliminary plat, site plan, or master park plan, an applicant shall identify the uses on all property within three hundred (300) feet of the property to be developed. If the use on such neighboring property is a different use, as defined below, than that proposed on the applicant's property, the applicant shall be required to submit a noise study. The noise study shall identify the sound level and quality of noise coming from the neighboring property as well as the sound level and quality of noise proposed to come from the development of the applicant's property. If existing noise impacts from neighboring property are greater than expected from the proposed development, or if the noise impact expected from the proposed development is greater than exists on the neighboring property, the noise study shall include recommendations to mitigate the noise impacts and all plans for development shall incorporate such recommendations in their design and implementation.

- B. Mixed Use Projects. In addition to the noise study required by (A) above, any application for a final development order for property located in a mixed use development shall include a noise study. The noise study shall identify the sound level and quality of noise for each use expected from the development of the applicant's property. If the noise impacts expected from any of the uses will exceed the noise impacts expected from other uses, the noise study shall include recommendations to mitigate the excessive noise impacts and all plans for development shall incorporate such recommendations in their design and implementation.

9.09.04 Definition of Different Use. The Use Classifications of Section 3.01.03 of the Land Development Regulations shall be used to determine whether a use is different. For purposes of this section, whether a use on neighboring property is different from the proposed use shall be determined as follows:

1. If the neighboring property is developed, the actual neighboring use shall be used for the comparison.
2. If the neighboring property is undeveloped, neighboring uses allowed by the current zoning district which do not require a conditional use permit shall be used for the comparison.

9.09.05 Requirements for Noise Study.

- A. Terminology and standards. All technical acoustical terminology and standards used to comply with this section shall be read or construed in conformance with applicable publications of the American National Standards Institute, Inc. (ANSI), Housing and Urban Development (HUD) Noise Guidelines, or similar comprehensive criteria approved by the Director of Growth Management, or designee.
- B. Standardized measurements. Sound measurements shall conform to standardized practices and must be completely delineated in any submitted noise study. Measurements shall be taken so as to present an accurate representation of the sound.
- C. Required measurement procedures. Calibration of all instruments, components, and attachments used in the noise study shall conform to the latest ANSI standards, HUD standards, or similar authoritative noise study standards approved by the Director of Growth Management, or designee.

9.09.06 Noise Study Mitigation.

- A. The County Manager, or designee, shall review findings and recommendations of the Noise Study. If it is determined by the County Manager, or designee, that the proposed recommendations do not adequately mitigate expected noise impacts, then the application shall be denied.
- B. If the mitigation of noise impacts is not sufficient it may still constitute a nuisance and be subject to code enforcement action that may require further mitigation.

(Ord. No. 2009-19, § 2, 4-21-09)