


# Leon County Board of County Commissioners

## Cover Sheet for Agenda #15

June 9, 2015

**To:** Honorable Chairman and Members of the Board

**From:** Vincent S. Long, County Administrator 

**Title:** First of Two Public Hearings on a Proposed Ordinance to Amend the Stormwater Standard for the Lake Jackson Basin

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<b>County Administrator Review and Approval:</b>	Vincent S. Long, County Administrator
<b>Department/ Division Review:</b>	Alan Rosenzweig, Deputy County Administrator David McDevitt, Director, Development Support and Environmental Management
<b>Lead Staff/ Project Team:</b>	John Kraynak, Director, Environmental Services Division

**Fiscal Impact:**

This item has no fiscal impact to the County.

**Staff Recommendation:**

Option #1: Conduct the first of two Public Hearings to consider a proposed Ordinance to amend the stormwater standard for the Lake Jackson Basin (Attachment #1), and schedule the second and final Public Hearing for July 7, 2015 at 6:00 p.m.

## Report and Discussion

### **Background:**

The Lake Protection Future Land Use category has been in the Comprehensive Plan since the Plan's inception in 1990, and was created in response to concerns regarding water quality in Lake Jackson. It is important to note that Lake Jackson has been designated both an Outstanding Florida Waterway and Aquatic Preserve by the Florida Department of Environmental Protection (FDEP).

At the time the Comprehensive Plan was being written, the Lake had been recently impacted by development within its watershed, including the construction of Interstate 10 and the large-scale commercial developments along North Monroe Street (U.S. Highway 27). This development degraded the water quality of Lake Jackson by allowing large quantities of untreated stormwater containing organic sediment and undesirable nutrients to flow freely into the Lake.

In response to the Lake Protection initiative in the Comprehensive Plan, the Land Development Regulations (LDRs) were amended in the Environmental Management Act (EMA) to adopt Special Development Zones (SDZs) around Lake Jackson and to adopt a new stormwater standard for non-single family residential uses. Subsequently, the Lake Jackson 50-year stormwater retention standard was adopted on January 28, 1992.

At their regular meeting on January 29, 2013, the Leon County Board of County Commissioners ratified actions taken at the December 10, 2012 Annual Retreat. These actions included establishing a new Strategic Initiative regarding promoting sustainable growth inside the Lake Protection Zone.

This proposed Ordinance is essential to the following revised FY2012-2016 Strategic Initiative that the Board approved at their January 27, 2015 meeting:

- Implement strategies that protect the environment and promote orderly growth, including:
  - Develop solutions to promote sustainable growth inside the Lake Protection Zone. (2013)

This particular Strategic Initiative aligns with the Board's Strategic Priorities - Quality of Life and Governance:

- Protect our water supply, conserve environmentally sensitive lands, safeguard the health of our natural ecosystems, and protect our water quality, including the Floridan Aquifer, from local and upstream pollution. (EN1)
- Promote orderly growth which protects our environment, preserves our charm, maximizes public investment, and stimulates better and more sustainable economic returns. (EN2)
- Sustain a culture of performance, and deliver effective, efficient services that exceed expectations and demonstrate value. (G2)

**Analysis:**

With the guidance of these Strategic Priorities, staff from the Planning Department, Development Support and Environmental Management (DSEM), and Public Works developed recommendations intended to implement this Strategic Initiative. At a workshop held on November 19, 2013, the Board directed staff to move forward with these recommendations as part of the Lake Jackson Sustainable Development Project. A joint workshop with both City and County Commissions was conducted on March 10, 2015, that culminated in the proposed Text Amendment included as Attachment #2. This Amendment was approved by both City and County Commissions for transmittal on April 14, 2015, and was adopted by both Commissions at a public hearing on May 26, 2015.

Currently, there are two stormwater treatment standards for development within the Lake Jackson Basin:

- 1) single family residential, which must meet the base Minimum Countywide Environmental Standard which would typically treat the first 1.125 inches of runoff (there are four options to this minimum standard, but the 1.125 is the option most commonly used); and,
- 2) non-single family residential uses, which must retain post-development stormwater on-site for all storm events up to and including the 50-year, 24-hour duration storm.

The 50-year standard is retention-based and requires a significantly larger volume to be retained on site. A comparison of these two standards is shown in Attachment #3 for a one-acre site. The 50-year standard for commercial (non-single family residential) provides more than six times the volume compared to the base minimum standard for single family residential. More importantly, the base minimum standard for single family residential allows the volume to be discharged through a sand filter, which is inefficient at removing nitrogen and phosphorous compared to a retention standard, as shown in Attachment #4.

The stormwater treatment standard proposed for the Lake Jackson Basin is based on volume control. Volume control in the LDR refers to a volume of stormwater runoff in excess of the pre-development runoff volume generated by a particular storm event (usually the 100-year, 24-hour event) that is retained onsite. In general, as a development increases its impervious area, there is a corresponding increase in the volume of stormwater that is allowed to discharge downstream from the detention stormwater ponds. However, a volume control based pond would retain this corresponding increase on site.

Volume control is not a new concept for stormwater management; both City and County codes require volume control for all closed basins. Closed basins are naturally depressed or artificially closed off portions of the earth's surface for which there is no natural and normal outlet for runoff other than percolation, evaporation, or discharge into a karst feature. Volume control is required to prevent the floodplain at the bottom of the closed basin from increasing its flood elevation. If you subtract the City of Tallahassee and the Apalachicola National Forest from the land area of Leon County, the closed basin areas encompass approximately 30% of the remaining land area within the County. Consequently, volume control regulations apply to 30% of the land regulated by Leon County.

As previously mentioned, detention with filtration does not provide the pollutant removal necessary to protect our lakes. The best form of stormwater treatment is retention, which is utilized in volume control type ponds. It is the best option because the pollutants are kept in the pond and either percolated in the ground or re-used for irrigation purposes. The Bradfordville Stormwater Study showed that to produce no new loading downstream, retention of 4-inches over the impervious area was needed, and retention was required as the primary method to achieve this goal. The size of the volume control type retention pond would exceed this Bradfordville standard as shown in Attachment #3.

Research on comparisons of treatment efficiencies for stormwater management systems show retention (also referred to as “dry retention”) is the best treatment option for achieving maximum pollutant removal efficiencies (Attachment #4). A volume control based pond for both residential at 20% impervious and commercial at 50% impervious would exceed the pollutant load efficiencies for the largest dry retention pond (1.25-inch). This option would provide excellent water quality treatment and protect Lake Jackson.

The proposed Ordinance was drafted to implement the stormwater treatment requirement in the proposed Comprehensive Plan Text Amendment #PCT150104. The stormwater portion of this Amendment was highlighted in yellow for easy recognition. The proposed Ordinance will amend the Minimum Countywide Environmental Standards; therefore, the City will be amending their Environmental Management Ordinance for stormwater treatment standards inside the Lake Jackson Basin to be consistent with both the Minimum Countywide Environmental Standards and the Comprehensive Plan.

The proposed Ordinance was presented to the Science Advisory Committee (SAC) on May 1, 2015. The SAC was in full support of the proposed changes to the stormwater standards. In addition, the Planning Commission found that the Ordinance was consistent with the Tallahassee-Leon County Comprehensive Plan Text Amendment #PT150104 at a Public Hearing on May 5, 2015. The Comprehensive Plan Amendment was adopted by both the City and County Commissions on May 26, 2015.

The Public Hearing has been publicly noticed consistent with the requirements of Florida Statutes (Attachment #5).

**Options:**

1. Conduct the first of two Public Hearings to consider a proposed Ordinance to amend the stormwater standard for the Lake Jackson Basin (Attachment #1), and schedule the second and final Public Hearing for July 7, 2015 at 6:00 p.m.
2. Conduct the first of two Public Hearings to consider a proposed Ordinance to amend the stormwater standard for the Lake Jackson Basin (Attachment #1), and do not schedule the second and final Public Hearing for July 7, 2015 at 6:00 p.m.
3. Board direction.

**Recommendation:**

Option #1.

Title: First of Two Public Hearings on a Proposed Ordinance to Amend the Stormwater Standard for the Lake Jackson Basin

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Attachments:

1. Proposed Ordinance Amendment
2. Proposed Comprehensive Plan Amendment
3. Stormwater Pond Treatment Volumes
4. Comparison of Treatment Efficiencies for Stormwater Management Systems
5. Legal Ad

ORDINANCE NO. 15- \_\_\_\_\_

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF LEON COUNTY, FLORIDA, AMENDING CHAPTER 10 OF THE CODE OF LAWS OF LEON COUNTY, FLORIDA, RELATING TO THE LAND DEVELOPMENT CODE; AMENDING SECTION 10-4.301. WATER QUALITY TREATMENT STANDARDS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

BE IT ORDAINED BY THE BOARD OF COUNTY COMMISSIONERS OF LEON COUNTY, FLORIDA, that:

**SECTION 1. Section 10-4.301 of the Code of Laws of Leon County, Florida, is hereby amended to read as follows:**

**10-4.301 Water Quality Treatment Standards**

(1) *State Stormwater Treatment Requirement Adoption.* Water quality treatment shall be provided as a part of all development activity which requires a stormwater application under this article. Treated stormwater shall meet the applicable water quality standards set forth in F.A.C. chs. 62-4, 62-302, 62-520, 62-522, 62-550 and 62-346, and in this division. Design and performance standards set forth in such F.A.C. chapters are hereby adopted and incorporated in this article by reference. However, design and performance standards more stringent than those specified therein are also required in this section.

(2) *Stormwater treatment.* The following are minimum acceptable methods for stormwater treatment, provided that the discharges meet state water quality criterion. More stringent treatment methods may be required by the county administrator or designee if discharges fail to meet state water quality standards. The drainage area for determining treatment volumes shall include all areas draining to the facility (on-site and off-site).

- (i) *Wet detention.* Wet detention treatment volume shall be, at a minimum, the runoff from the first three inches of rainfall, or as an option for sites with drainage areas less than 100 acres, the first 1 1/2 inches of runoff. One-half of the treatment volume must be discharged in 60 hours. Subsequently, the remaining one-half of the treatment volume must be discharged in 60 hours or more.
- (ii) *Off-line retention.* Off-line retention treatment volume shall be provided equal to 50 percent of the runoff from the first 3.0 inches of rainfall, or as

1 an option for sites with drainage areas less than 100 acres, the first 3/4  
2 inch of runoff. The full treatment volume shall again be available within  
3 72 hours following a storm event, with appropriate on-site soils tests  
4 submitted to verify the infiltration rate.

5 (iii) *On-line retention.* For on-line retention or detention with filtration,  
6 treatment volume shall be equal to 75 percent of the runoff from the first  
7 3.0 inches of rainfall, or as an option for sites with drainage areas less than  
8 100 acres, the first 1.125 inches of runoff. For the filtration option, only  
9 systems that are capable of recovering the treatment volume within 36  
10 hours shall be allowed.

11 (iv) *Swales.* Swale treatment volume shall be percolation of 80 percent of  
12 runoff from a three-year, one-hour (2.6 inches) storm event. Calculations  
13 demonstrating percolation of this volume within the swale within 72 hours  
14 shall be submitted with the permit application.

15 (v) If site constraints require another method of water quality treatment, such  
16 other method may be approved by the county administrator or designee if  
17 such method provides a level of treatment equivalent to off-line retention  
18 as specified in subsection (ii).

19 (3) Closed basins and standards.

20 (a) Closed basins meeting the following criteria shall be regulated in  
21 accordance with this subsection:

22 (i) Any closed basin which has been identified and mapped as a  
23 regulated closed basin by the Board of County Commissioners; or

24 (ii) Any closed basin for which it can be shown by hydrologic analysis  
25 that cumulative increases in runoff volume from potential development patterns  
26 will cause a significant adverse impact on the frequency, duration, or extent of  
27 flooding.

28 (b) *Volume control required.* Runoff volumes within regulated closed basins  
29 in excess of the pre-development runoff volume shall be retained for all storm  
30 events up to a 100-year, 24-hour duration storm, except that if multiple  
31 development sites are located within the closed basin, the excess volume may be  
32 discharged from individual sites to an approved regional detention or retention  
33 facility located within the closed basin as may be allowed under other subsections  
34 of this section and pursuant to section 10-4.305. Recovery of the retention volume  
35 shall comply with one of the following:

36 Option (1): On the basis of a subsurface geotechnical analysis demonstrate the  
37 functionality of the retention facility through a continuous hydrologic simulation.  
38 The analysis shall clearly demonstrate that the increase in runoff volume above  
39 the predevelopment condition is retained within the on-site stormwater facility.  
40 Additionally, the rate of discharge shall not exceed predevelopment rates for all

1 duration and return frequencies up to and including the 25-year critical duration  
2 storm. The continuous hydrologic simulation can be accomplished by developing  
3 a stage/storage/infiltration relationship based on the proposed retention facility  
4 configuration and reported design infiltration rate. This relationship can be used to  
5 model the retention facility over an extended period of rainfall.

6 Option (2): One-half the required pond volume shall be recovered within seven  
7 days, and the full volume shall be recovered within 30 days.

8 (4) *Additional stormwater retention standards for the Lake Jackson Drainage Basin.*  
9 ~~Non single family residential uses which are approved for development (as specified in the~~  
10 ~~comprehensive plan) subsequent to March 15, 1992, shall retain post development stormwater~~  
11 ~~on-site for all storm events up to and including the 50-year 24-hour duration storm.~~ Runoff  
12 volumes in excess of the pre-development runoff volume shall be retained for all storm events up  
13 to a 100-year, 24-hour duration storm, except that if multiple development sites are located  
14 within the basin, the excess volume may be discharged from individual sites to an approved  
15 regional retention facility located within the basin. For redevelopment, pre-development runoff  
16 volume calculations shall be based on a natural condition. The retained volume shall be  
17 recovered in accordance with subsection (3)(b) above.

18 (5) *Stormwater treatment standards within the Bradfordville Study Area.* Stormwater  
19 runoff from new development in the Bradfordville Study Area shall meet the standards set forth  
20 in this section in addition to other standards within Article IV.

21 (a) Stormwater runoff shall be treated to one of the following standards below:

22 (i) Systems utilizing on-line dry retention only. A volume of runoff  
23 calculated as four inches times the total impervious area that will be  
24 situated on the site shall be retained on the site or in an approved master  
25 stormwater facility. This calculation can exclude the wetted area of the  
26 pond/stormwater facility. This volume of runoff shall be collected from  
27 the entire developed portion of the site and directed to on-line dry  
28 retention storage. Retention can occur in cisterns, ponds, shallow swales,  
29 landscaped areas, or natural areas.

30 (ii) Systems utilizing a combination of off-line dry retention and detention:

31 a. Off-line retention shall be provided with a treatment volume  
32 calculated as two and one-half inches times the total impervious  
33 area on the site.

34 b. Detention portion of system--In addition to the dry retention  
35 volume, one of the following detention options shall also be



1 provided:

2 1. Dry detention systems will provide a treatment volume  
3 calculated as two inches times the total impervious area on  
4 the site, or

5 2. Wet detention system with a permanent pool volume  
6 equivalent to two and nine-tenths inches times the  
7 impervious area onsite.

8 c. The calculation of the above volumes can exclude the wetted area  
9 of the stormwater facility.

10 d. Runoff from the entire developed portion of the site shall be  
11 directed in sequence to each of the above facilities.

12 (b) Drawdown requirements:

13 (i) For on-line dry retention (Subsection (5)(a)(i) above), the entire treatment  
14 volume must recover within 72 hours.

15 (ii) For off-line dry retention (Subsection (5)(a)(ii)a. above), the entire  
16 treatment volume must recover within 24 hours.

17 (iii) For dry detention systems (Subsection (5)(a)(ii)b.1. above), the treatment  
18 volume must recover within 72 hours. Dry detention systems will not  
19 include underdrains but will utilize an orifice or V-notch weir for  
20 drawdown. The bottom of the drawdown device will be a minimum of six  
21 inches above the pond bottom.

22 (iv) For wet detention systems (Subsection (5)(a)(ii)b.2. above), the bottom of  
23 the weir crest will be a minimum of 12 inches above the normal water  
24 level (seasonal high groundwater table elevation).

25 (v) Regardless of the method of volume recovery, the entire retention volume  
26 must recover within the time frame established above unless an approved  
27 continuous analysis, using Tallahassee Airport rainfall data from January  
28 1, 1959 to December 31, 1998, demonstrates that the total volume retained  
29 within the stormwater system over the 40-year period is greater than or  
30 equal to that retained by a dry retention system as set forth in subsection  
31 (5)(a)(i) based on the above described recovery times. For systems  
32 requiring a combination of retention and detention, this analysis shall only  
33 be used for the retention portion of the system. The detention portion of  
34 this combination system will still be required in full pursuant to

1 Subsection (5)(a)(ii)b.

2 (c) For calculating the treatment volume required for pervious pavements and  
3 graveled areas, initially such surfaces shall be assumed to be 100 percent  
4 impervious, then deductions in the required treatment volume for such areas can  
5 be taken that is equivalent to:

6 (i) The porosity of the pavement material times the thickness of the paving  
7 material times a safety factor of five-tenths.

8 (ii) If, and only if, the soils immediately underlying the pavement for a depth  
9 of 18 inches have a permeability of three inches per hour or greater, as  
10 demonstrated by onsite percolation tests, then a further deduction can be  
11 taken equivalent to the porosity of the soil strata times four inches times a  
12 safety factor of five-tenths.

13 The above deductions will be allowed provided that the applicant  
14 specifically commits, in his Stormwater Operating Permit, to regularly  
15 sweep/vacuum the area covered with pervious pavement and to verify the  
16 pavement's percolation capacity when the operating permit is renewed.

17 (d) Groundwater table:

18 (i) Where volume recovery is to be by percolation, groundwater mounding  
19 calculations to demonstrate recovery of the retention volume pursuant to  
20 the requirements set forth in subsection (b) above shall be required unless  
21 the applicant conclusively demonstrates by other engineering methods that  
22 pond recovery will not be adversely affected by an elevated groundwater  
23 table. If the bottoms of all retention areas intended to percolate stormwater  
24 are shown by soil borings to be less than three feet above the historical  
25 wet-season high water table, a mounding analysis shall be required.

26 (ii) For dry detention systems, the bottom elevation of the detention basin  
27 shall be a minimum of one foot above the historical seasonal high  
28 groundwater table.

29 (e) Where volume recovery is to be by irrigation, the rate of land application shall not  
30 exceed one and one-half inches per week unless the applicant can conclusively  
31 demonstrate that the on-site soil conditions and vegetation warrant a higher  
32 application rate. Under no circumstances shall irrigation water be allowed to  
33 discharge from the irrigation-site.

34 (f) The requirements in this section shall not preclude the applicant from voluntarily  
35 choosing to design and construct the on-line dry retention facility as an off-line

- 1 facility.
- 2 (g) Facility design standards.
- 3 (i) Facility configuration: All on-line facilities shall have a flow-path-length  
4 to flow-path-width ratio of 2:1 or greater. The inlets and outlets shall be on  
5 opposite ends of the facility. If this is not possible, the effective flow  
6 length shall be increased by adding diversion barriers within the facility as  
7 necessary to provide this minimum flow length.
- 8 (ii) Retention ponds/areas shall have 4H:1V maximum side slopes on a  
9 sufficient length of the perimeter to allow adequate maintenance access to  
10 the bottom of the facility. If any of the side slopes are steeper than this, a  
11 security fence shall be placed completely around the perimeter of the  
12 facility and located exterior to the maintenance access ways. The fence  
13 shall not be required if the pond depth is less than 18 inches.
- 14 (iii) Wet detention ponds shall have 6H:1V maximum side slopes to two feet  
15 below the normal water level, then a maximum side slope of 2H:1V to the  
16 bottom.
- 17 (iv) Retention facilities shall have flat bottoms in order to maximize the  
18 surface area for percolation.
- 19 (v) Maintenance access requirements:
- 20 a. For every facility, the owner or developer shall provide, at a  
21 minimum, a 15 feet wide clear and stable access to the facility  
22 from the nearest "public" right-of-way or road. Such access shall  
23 be evidenced by a recorded reservation or grant of an easement,  
24 which shall run with the land. If the facility is to be dedicated to a  
25 local government, then such access shall be evidenced by the grant  
26 of an easement, which shall run with the land, to the benefit of the  
27 local government.
- 28 b. For retention facilities with an overall depth greater than 18 inches,  
29 provide, at a minimum, a 20 foot wide clear, level and stable  
30 access around a sufficient portion of the perimeter of the facility,  
31 that is inside of any fences and external to the top-of-bank of the  
32 facility, to allow adequate maintenance from dry land. For  
33 retention facilities with an overall depth of 18 inches or less,  
34 provided the facility has side slopes of four horizontal to one  
35 vertical (or less) on at least one side of the facility, the applicant

- 1 can provide the above access on the sloped side of the facility only.  
2 Any access required by the provisions of this subsection shall be  
3 evidenced by a recorded reservation or grant of an easement,  
4 which shall run with the land, to the benefit of the county.
- 5 c. The minimum inside radiuses of all access ways shall be 20 feet.
- 6 d. Adequate access for both personnel and mechanized equipment  
7 shall be provided to all inlet and outlet structures.
- 8 e. If Leon County is proposed to be the maintenance entity for any  
9 stormwater management facility permitted under this section,  
10 either by dedication, or by reservation of an easement, or by any  
11 other process, the applicant shall submit the engineering design for  
12 the facility directly to the Leon County Department of Public  
13 Works for its review and approval as to the adequacy of  
14 maintenance access to the facilities. An environmental permit shall  
15 not be issued until the applicant demonstrates, in writing, the  
16 approval of the department of public works.
- 17 (vi) Skimmer/trash rack requirements:
- 18 a. Trash/leaf traps with easy maintenance access shall be provided at  
19 key inlets and all outlets from a facility unless the applicant can  
20 conclusively demonstrate that it is not possible.
- 21 b. All outlet structures shall have an oil skimmer that extends above  
22 and below any outlet structure opening.
- 23 (vii) Energy dissipation requirements:
- 24 a. Energy dissipation devices sufficient to prevent erosion and  
25 resuspension of loose sediments shall be placed on all inlets to  
26 retention facilities.
- 27 b. Energy dissipation devices sufficient to prevent downstream  
28 channel erosion shall be placed at the outlets of all retention  
29 facilities.
- 30 (viii) Stabilization of stormwater treatment facilities: All berms and side slopes  
31 shall be stabilized with pinned sod. Pond bottoms can be seeded and  
32 mulched. Restabilization by the contractor or owner shall be necessary  
33 until such time that the sod is fully rooted and otherwise well established.
- 34 (ix) Rate control as required in Subsection 10-4.302 can be provided within

1 any of the above water quality treatment facilities provided that the water  
2 quality treatment as required within this section is fully satisfied prior to  
3 any overflow/discharge from the facility.

4 (h) Nothing in this section shall affect the redevelopment standards for the  
5 incorporated area of the Bradfordville Study Area, which shall remain subject to  
6 the requirements of Chapter 5, Environmental Management, of the Tallahassee  
7 Land Development Code, as it may be amended from time to time.

8 (6) *Retention for all post-development runoff.* No newly concentrated or increased  
9 concentration of stormwater flow, including discharge from detention and retention facilities,  
10 shall be discharged off-site before or after treatment as required by subsection (2), unless such  
11 discharge is into an adequate conveyance, watercourse, wetland or waterbody of sufficient  
12 capacity at the time of discharge to sustain the effects of, and to convey such discharges, without  
13 detriment to the continued natural function of the resource and in accordance with the  
14 requirements of this division. Design of stormwater management systems should not allow  
15 changes in rate or course in a manner substantially different from pre-development conditions. If  
16 there is no adequate conveyance, floodplain or easement available, full retention of the  
17 stormwater for all events up to and including the 100-year, 24-hour duration storm is required.

18 (7) *Treatment for direct discharge to active karst features.* Runoff to be discharged to active  
19 karst features shall be treated to comply with F.A.C. 62-520.420 prior to discharge.

20 \* \* \*

21  
22 **SECTION 2.** Conflicts. All ordinances or parts of ordinances in conflict with the provisions of  
23 this Ordinance are hereby repealed to the extent of such conflict, as of the effective date of this  
24 Ordinance, except to the extent of any conflicts with the Tallahassee-Leon County  
25 Comprehensive Plan, as amended, which provisions shall prevail over any parts of this  
26 Ordinance which are inconsistent, either in whole or in part, with the Comprehensive Plan.

27  
28 **SECTION 3.** Severability. If any section, subsection, sentence, clause, phrase or portion of this  
29 article is for any reason held invalid or unconstitutional by any court of competent jurisdiction,  
30 such portion shall be deemed a separate, distinct, and independent provision and such holding  
31 shall not affect the validity of the remaining portions of this Ordinance.

32  
33 **SECTION 4.** Effective date. This ordinance shall be effective according to law.

34  
35 DULY PASSED AND ADOPTED BY the Board of County Commissioners of Leon County,  
36 Florida, this \_\_\_\_ day of \_\_\_\_\_, 2015.

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38 LEON COUNTY, FLORIDA  
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BY: \_\_\_\_\_  
MARY ANN LINDLEY, CHAIRMAN  
BOARD OF COUNTY COMMISSIONERS

ATTEST:  
BOB INZER, LEON COUNTY CLERK OF THE COURT AND COMPTROLLER  
LEON COUNTY, FLORIDA

BY: \_\_\_\_\_

APPROVED AS TO FORM:  
LEON COUNTY ATTORNEY'S OFFICE

BY: \_\_\_\_\_  
HERBERT W.A. THIELE, ESQ.  
COUNTY ATTORNEY

**Policy 2.2.18: [L]**

**LAKE PROTECTION** (Rev. Effective 12/22/95; Revision Effective 7/26/06; Renumbered 3/14/07)

**Intent**

Lake Jackson, designated both an Outstanding Florida Water (OFW) and Aquatic Preserve, is one of the most unique waterways in Florida. Historically, the lake has suffered from water quality issues associated with rapid urbanization and large-scale roadway projects. Lake Jackson's water quality has improved since adoption of the Comprehensive Plan, due in large part to the adoption of stringent stormwater treatment standards and the implementation of capital projects; however, nutrient levels in the Lake remain elevated and the Lake continues to be designated "Impaired" by the Florida Department of Environmental Protection.

The intent of the Lake Protection category is to ensure that development within the Lake Jackson basin occurs in a sustainable and environmentally sound manner with minimal impact to water quality. The Lake Protection category is the basis for regulation and, where appropriate, limitation of development and redevelopment of land within the Lake Jackson Basin. The bounds of this category are to be the Lake Jackson basin boundary adjusted to include contributing watersheds but excluding existing, more intensely developed areas south of Interstate 10 and areas outside the Urban Service Area.

**Allowable Uses, Densities, and Intensities**

Residential

The Lake Protection category shall allow for single family residential uses at a base density of one (1) dwelling unit per two (2) gross acres.<sup>1</sup> To encourage compact and efficient development, two density bonus options are available for properties within the category:

1. A residential density of up to two (2) dwelling units per gross acre may be permitted within developments designed as a Clustered Subdivision.
2. A residential density of up to eight (8) dwelling units per gross acre may be permitted within the Lake Protection Node (LPN) zoning district.

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<sup>1</sup> (Leon County) Any development affecting real property located in whole or in part within the Lake Protection Future Land Use Map category west of US 27 North for which an initial Planned Unit Development Concept or Final Development Plan was approved before January 1, 2005 shall be vested for all uses, intensities and densities set forth in the PUD Concept Plan Ordinance. Said PUD shall be entitled to rely on the closed basin exemption previously set forth in this section if the Commission determined prior to January 1, 2005 that the PUD met the requirements for such closed basin exceptions and that such determination has not been overturned by a court of competent jurisdiction at the time vested rights are sought under this provision. If a court of competent jurisdiction invalidates such a PUD due to reasons unrelated to whether the property met the requirements for the closed basin exemption, any new or modified PUD application relating to the same real property shall be vested for the uses, intensities and densities of the previously approved PUD. All development within said certified closed basins approved pursuant to this provision shall be approved through the PUD amendment process, except that in unincorporated Leon County a one-into-two residential lot split exemption shall be processed according to the established County procedures instead of the PUD process.

Mixed-use & Non-residential

Non-residential and mixed-use development (including, but not limited to, office and commercial uses) within the Lake Protection category may only be permitted within areas designated with the Lake Protection Node (LPN) zoning district. Within this district, single use, non-residential development shall be allowed at a maximum intensity of 10,000 square feet (s.f.) per acre. Projects containing a vertical mixture of uses, including any combination of office, commercial and residential uses, may receive a bonus of 2,500 s.f. per acre, for a total of 12,500 s.f. per acre.

Community and Recreational Facilities

Community facilities and recreational uses, including, but not limited to, schools, parks, police and fire stations, and religious facilities, shall be permitted within the Lake Protection (LP) and Lake Protection Node (LPN) zoning districts. These uses shall be allowed at a maximum intensity of 10,000 square feet (s.f.) per acre.

**Special Conditions**

The following special conditions shall apply to the Lake Protection Future Land Use category:

1. The Lake Protection Node zoning district shall only be permitted at the following intersections:
  - Highway 27 North and Sessions Road
  - Highway 27 North and Capital Circle NW/Old Bainbridge Road
  - Highway 27 North and Fred George Road
  - Bannerman Road and Bull Headley Road

The exact extent of these Nodes shall be specified in the City of Tallahassee and Leon County land development regulations, but generally shall not extend beyond ¼ mile from the respective intersection and shall not include areas within a Special Development Zone (SDZ) or existing single-family subdivisions.

2. As an alternative to large-lot developments, Clustered Subdivisions shall be permitted within the Lake Protection zoning district. Clustered Subdivisions shall:
  - Contain a minimum of 60% contiguous open space preserved in perpetuity and comprised of such things as preservation and conservation features, Special Development Zones, undeveloped uplands, passive recreation areas, and storm water facilities designed as a community amenity;
  - Be developed at a maximum density of two (2) dwelling units per gross acre; and,
  - Be served by central water and sewer systems.

3. A volume control based stormwater treatment standard shall be required for all development and redevelopment within the Lake Protection land use category. This standard shall ensure that runoff volumes in excess of the pre-development runoff

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volume shall be retained for all storm events up to a 100-year, 24-hour duration storm. To encourage redevelopment in the Lake Protection category, a partial credit may be applied toward existing impervious surface on previously developed sites.

4. Additional development standards deemed necessary to protect Lake Jackson from further degradation and/or improve existing water quality may be included in the land development code.
5. Existing, lawfully established, non-residential uses within the Lake Protection land use category that are compatible with surrounding uses and meet all water quality standards for the Lake Jackson Basin shall be considered permitted uses.

~~This is a protection category that is specific to the well documented scientific concerns regarding the degradation and continuing pollution of Lake Jackson. The category is based on the lake basin boundary adjusted to include contributing watersheds but to exclude existing, more intensely developed areas south of Interstate 10. Consistent with the purpose of this category, Lake Protection densities and intensities shall be applied to undeveloped areas within the Lake Jackson drainage basin when such properties are developed. The Lake Protection category allows residential uses of one unit per two acres<sup>1</sup>. An option to develop at a density of one unit per gross acre is available within the City as long as the resultant development clusters the units on 25% of the property and maintains the remaining 75% in natural open space. In the unincorporated portions of the Lake Protection category clustering is allowed on 40% of the site at a net density of two (2) units per acre on the developed portion of the property. The remaining 60% of the property must remain in natural open space. The cluster options are intended to preserve green space within this land use category and be designed to minimize non point pollution from the site. Cluster of residential development in areas designated for Lake Protection land use shall be permitted only on those portions of parcels not located within the Lake Jackson Special Development Zone and lying below one hundred ten (110) feet NGVD, and for higher elevations not determined to be severely limited by environmental constraints. Such constraints may be determined by on site environmental analysis, building or soil limitation ratings in the Leon County Soil Survey, or other natural resource inventory determined appropriate by the local government. Industrial, office and commercial uses are prohibited in the Lake Protection category within the city limits. In the unincorporated areas of the Lake Protection category, minor office and minor commercial uses may be approved through the PUD process only if development retains its resultant stormwater on site. All industrial, commercial and office uses other than minor are prohibited in the unincorporated areas of the Lake Protection category as well. Urban services are intended for this category inside the Urban Service Area.~~

~~Additional requirements based on scientific studies and deemed necessary to protect the lake from further degradation, as well as improve existing water quality, will be included in the land development code. Existing non residential uses within the Lake Protection land use category~~

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| ~~that meet all water quality standards required in the comprehensive plan by the time frames required in the plan, will be considered permitted uses.~~

~~Within the Lake Protection Category, stormwater for non single family and non vested uses shall be retained on site.~~

DRAFT

### Stormwater Pond Treatment Volumes

Ordinance Provision Met	*Pond Volumes for a One Acre Site (inches over the site/total cubic feet)	
	Assume Residential at 20% Impervious	Assume Commercial At 50% Impervious
**FDEP - 0.5" (State Min. Standard)	0.50" / 1,815cf	0.50" / 1,815cf
**FDEP -0.75" (Outstanding Florida Water Standard)	0.75" / 2,723cf	0.75" / 2,723cf
**Lake Protection - 1.125" (Base Min. Countywide Standard)	1.125" / 4,084cf	N/A
Bradfordville - 4" Over Impervious Standard	0.80" / 2,904cf	2.00" / 7,260cf
<b>Volume Control -Pre/Post retention through the 100-year, 24 hour storm</b>	<b>1.72" / 6,278cf</b>	<b>3.01" / 10,922cf</b>
Lake Jackson 50-year Post-development Retention Standard	N/A	7.39" / 26,826cf

\*All of the values above are for stormwater facilities serving a 1.0-acre site developed with a post-developed pervious area CN of 66 – which has been constructed on an undeveloped site with an original CN of 60.

\*\*Calculated as inches over the 1.0-acre drainage area – recovery by filtration is allowable.

**POLLUTANT REMOVAL  
EFFICIENCIES FOR TYPICAL  
STORMWATER MANAGEMENT  
SYSTEMS IN FLORIDA**

Presented at the  
Fourth Biennial Stormwater Research Conference  
Clearwater, FL

October 18-20, 1995

Sponsored By:

The Southwest Florida Water Management District

Prepared By:

**Environmental Research & Design, Inc.**

3419 Trentwood Blvd., Suite 102  
Orlando, FL 32812

Harvey H. Harper, Ph.D., P.E.

**Comparison of Treatment Efficiencies  
for Stormwater Management Systems**

A comparison of treatment efficiencies for typical stormwater management systems used in the State of Florida is given in Table 8 based on information obtained in the literature review. In cases where a range of removal efficiencies are presented in technical reports related to a particular stormwater management technique, the mid-point of the range is given in Table 8 for comparison purposes.

The Florida State Water Policy, outlined in Chapter 17-40 of the Florida Administrative Code, establishes a goal of 80% annual reduction of stormwater pollutant loadings by stormwater management systems. Of the stormwater management systems listed in Table 8, only dry retention systems, with 0.5-inch of runoff retained, meet the State Water Policy goal of 80% reduction in annual pollutant loadings to the system. Off-line retention/detention facilities meet the 80% reduction goal for total phosphorus, TSS, BOD and total zinc, but provide only a 60-75% annual pollutant reduction for total nitrogen, copper and lead. Wet detention systems can meet the 80% reduction goal for TSS only, with removal efficiencies from 40-50% for total nitrogen, total phosphorus and BOD. Dry detention with filtration systems meet the 80% reduction goal for total lead only and provide virtually no pollutant removal for total nitrogen, total phosphorus and BOD. Based on the available literature, dry detention with filtration systems were found to exhibit a high degree of variability in estimated removal efficiencies. The actual removal efficiencies achieved by dry detention with filtration systems are a function of the relationship between the underdrain system and the seasonal high groundwater table.

**TABLE 8  
COMPARISON OF TREATMENT EFFICIENCIES  
FOR TYPICAL STORMWATER MANAGEMENT  
SYSTEMS USED IN FLORIDA**

TYPE OF SYSTEM	ESTIMATED REMOVAL EFFICIENCIES (%)						
	TOTAL N	TOTAL P	TSS	BOD	TOTAL Cu	TOTAL Pb	TOTAL Zn
Dry Retention							
a. 0.25-inch retention	-60	-60	-60	-60	-60	-60	-60
b. 0.50-inch retention	-80	-80	-80	-80	-80	-80	-80
c. 0.75-inch retention	-90	-90	-90	-90	-90	-90	-90
d. 1.00-inch retention	-95	-95	-95	-95	-95	-95	-95
e. 1.25-inch retention	-98	-98	-98	-98	-98	-98	-98
Off-Line Retention/Detention	-60	-85	-90	-80	-65	-75	-85
Wet Retention	-40	-50	-85	-40	-25	-50	-70
Wet Detention	-25	-65	-85	-55	-60	-75	-85
Wet Detention with Filtration	-25	-60	-98	-99	-35	-70	-90
Dry Detention	-15	-25	-70	-40	-35	-60	-70
Dry Detention with Filtration	0	0	-75	0	-65	-90	-25
Alum Treatment	-50	-90	-90	-75	-80	-90	-80

## NOTICE OF ESTABLISHMENT OR CHANGE OF A LAND USE REGULATION

Notice is hereby given that the Board of County Commissioners of Leon County, Florida (the "County") will conduct a public hearing on Tuesday, June 9, 2015, at 6:00 p.m., or as soon thereafter as such matter may be heard, at the County Commission Chambers, 5th Floor, Leon County Courthouse, 301 South Monroe Street, Tallahassee, Florida, to consider adoption of an ordinance entitled to wit:

**AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF LEON COUNTY, FLORIDA, AMENDING CHAPTER 10 OF THE CODE OF LAWS OF LEON COUNTY, FLORIDA, RELATING TO THE LAND DEVELOPMENT CODE; AMENDING SECTION 10-4.301, WATER QUALITY TREATMENT STANDARDS; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.**

All interested parties are invited to present their comments at the public hearing at the time and place set out above.

Anyone wishing to appeal the action of the Board with regard to this matter will need a record of the proceedings and should ensure that a verbatim record is made. Such record should include the testimony and evidence upon which the appeal is to be based, pursuant to Section 286.0105, Florida Statutes.

In accordance with the Americans with Disabilities Act and Section 286.26, Florida Statutes, persons needing a special accommodation to participate in this proceeding should contact Jon Brown or Facilities Management, Leon County Courthouse, 301 South Monroe Street, Tallahassee, Florida 32301, by written request at least 48 hours prior to the proceeding. Telephone: 850-606-5300 or 850-606-5000; 1-800-955-8771 (TTY), 1-800-955-8770 (Voice), or 711 via Florida Relay Service.

Copies of the ordinance may be inspected at the following locations during regular business hours:

Leon County Courthouse  
301 S. Monroe St., 5th Floor Reception Desk  
Tallahassee, FL 32301

and

Leon County Clerk's Office  
315 S. Calhoun Street, Room 750  
Tallahassee, Florida 32301

