

1 equal to 50 percent of the runoff from the first 3.0 inches of rainfall, or as
2 an option for sites with drainage areas less than 100 acres, the first 3/4
3 inch of runoff. The full treatment volume shall again be available within
4 72 hours following a storm event, with appropriate on-site soils tests
5 submitted to verify the infiltration rate.

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

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

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

20 (3) Closed basins and standards.

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

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

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

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

37 Option (1): On the basis of a subsurface geotechnical analysis demonstrate the
38 functionality of the retention facility through a continuous hydrologic simulation.
39 The analysis shall clearly demonstrate that the increase in runoff volume above

1 the predevelopment condition is retained within the on-site stormwater facility.
2 Additionally, the rate of discharge shall not exceed predevelopment rates for all
3 duration and return frequencies up to and including the 25-year critical duration
4 storm. The continuous hydrologic simulation can be accomplished by developing
5 a stage/storage/infiltration relationship based on the proposed retention facility
6 configuration and reported design infiltration rate. This relationship can be used to
7 model the retention facility over an extended period of rainfall.

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

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

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

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

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

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

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

- 1 b. Detention portion of system--In addition to the dry retention
2 volume, one of the following detention options shall also be
3 provided:
- 4 1. Dry detention systems will provide a treatment volume
5 calculated as two inches times the total impervious area on
6 the site, or
- 7 2. Wet detention system with a permanent pool volume
8 equivalent to two and nine-tenths inches times the
9 impervious area onsite.
- 10 c. The calculation of the above volumes can exclude the wetted area
11 of the stormwater facility.
- 12 d. Runoff from the entire developed portion of the site shall be
13 directed in sequence to each of the above facilities.
- 14 (b) Drawdown requirements:
- 15 (i) For on-line dry retention (Subsection (5)(a)(i) above), the entire treatment
16 volume must recover within 72 hours.
- 17 (ii) For off-line dry retention (Subsection (5)(a)(ii)a. above), the entire
18 treatment volume must recover within 24 hours.
- 19 (iii) For dry detention systems (Subsection (5)(a)(ii)b.1.above), the treatment
20 volume must recover within 72 hours. Dry detention systems will not
21 include underdrains but will utilize an orifice or V-notch weir for
22 drawdown. The bottom of the drawdown device will be a minimum of six
23 inches above the pond bottom.
- 24 (iv) For wet detention systems (Subsection (5)(a)(ii)b.2. above), the bottom of
25 the weir crest will be a minimum of 12 inches above the normal water
26 level (seasonal high groundwater table elevation).
- 27 (v) Regardless of the method of volume recovery, the entire retention volume
28 must recover within the time frame established above unless an approved
29 continuous analysis, using Tallahassee Airport rainfall data from January
30 1, 1959 to December 31, 1998, demonstrates that the total volume retained
31 within the stormwater system over the 40-year period is greater than or
32 equal to that retained by a dry retention system as set forth in subsection
33 (5)(a)(i) based on the above described recovery times. For systems

1 requiring a combination of retention and detention, this analysis shall only
2 be used for the retention portion of the system. The detention portion of
3 this combination system will still be required in full pursuant to
4 Subsection (5)(a)(ii)b.

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

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

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

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

20 (d) Groundwater table:

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

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

32 (e) Where volume recovery is to be by irrigation, the rate of land application shall not
33 exceed one and one-half inches per week unless the applicant can conclusively
34 demonstrate that the on-site soil conditions and vegetation warrant a higher

1 application rate. Under no circumstances shall irrigation water be allowed to
2 discharge from the irrigation-site.

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

6 (g) Facility design standards.

7 (i) Facility configuration: All on-line facilities shall have a flow-path-length
8 to flow-path-width ratio of 2:1 or greater. The inlets and outlets shall be on
9 opposite ends of the facility. If this is not possible, the effective flow
10 length shall be increased by adding diversion barriers within the facility as
11 necessary to provide this minimum flow length.

12 (ii) Retention ponds/areas shall have 4H:1V maximum side slopes on a
13 sufficient length of the perimeter to allow adequate maintenance access to
14 the bottom of the facility. If any of the side slopes are steeper than this, a
15 security fence shall be placed completely around the perimeter of the
16 facility and located exterior to the maintenance access ways. The fence
17 shall not be required if the pond depth is less than 18 inches.

18 (iii) Wet detention ponds shall have 6H:1V maximum side slopes to two feet
19 below the normal water level, then a maximum side slope of 2H:1V to the
20 bottom.

21 (iv) Retention facilities shall have flat bottoms in order to maximize the
22 surface area for percolation.

23 (v) Maintenance access requirements:

24 a. For every facility, the owner or developer shall provide, at a
25 minimum, a 15 foot wide clear and stable access to the facility
26 from the nearest "public" right-of-way or road. Such access shall
27 be evidenced by a recorded reservation or grant of an easement,
28 which shall run with the land. If the facility is to be dedicated to a
29 local government, then such access shall be evidenced by the grant
30 of an easement, which shall run with the land, to the benefit of the
31 local government.

32 b. For retention facilities with an overall depth greater than 18 inches,
33 provide, at a minimum, a 20 foot wide clear, level and stable
34 access around a sufficient portion of the perimeter of the facility,

1 that is inside of any fences and external to the top-of-bank of the
2 facility, to allow adequate maintenance from dry land. For
3 retention facilities with an overall depth of 18 inches or less,
4 provided the facility has side slopes of four horizontal to one
5 vertical (or less) on at least one side of the facility, the applicant
6 can provide the above access on the sloped side of the facility only.
7 Any access required by the provisions of this subsection shall be
8 evidenced by a recorded reservation or grant of an easement,
9 which shall run with the land, to the benefit of the county.

10 c. The minimum inside radiuses of all access ways shall be 20 feet.

11 d. Adequate access for both personnel and mechanized equipment
12 shall be provided to all inlet and outlet structures.

13 e. If Leon County is proposed to be the maintenance entity for any
14 stormwater management facility permitted under this section,
15 either by dedication, or by reservation of an easement, or by any
16 other process, the applicant shall submit the engineering design for
17 the facility directly to the Leon County Department of Public
18 Works for its review and approval as to the adequacy of
19 maintenance access to the facilities. An environmental permit shall
20 not be issued until the applicant demonstrates, in writing, the
21 approval of the department of public works.

22 (vi) Skimmer/trash rack requirements:

23 a. Trash/leaf traps with easy maintenance access shall be provided at
24 key inlets and all outlets from a facility unless the applicant can
25 conclusively demonstrate that it is not possible.

26 b. All outlet structures shall have an oil skimmer that extends above
27 and below any outlet structure opening.

28 (vii) Energy dissipation requirements:

29 a. Energy dissipation devices sufficient to prevent erosion and
30 resuspension of loose sediments shall be placed on all inlets to
31 retention facilities.

32 b. Energy dissipation devices sufficient to prevent downstream
33 channel erosion shall be placed at the outlets of all retention
34 facilities.

1 (viii) Stabilization of stormwater treatment facilities: All berms and side slopes
2 shall be stabilized with pinned sod. Pond bottoms can be seeded and
3 mulched. Restabilization by the contractor or owner shall be necessary
4 until such time that the sod is fully rooted and otherwise well established.

5 (ix) Rate control as required in Subsection 10-4.302 can be provided within
6 any of the above water quality treatment facilities provided that the water
7 quality treatment as required within this section is fully satisfied prior to
8 any overflow/discharge from the facility.

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

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

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

25 * * *

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

32
33 **SECTION 3.** Severability. If any section, subsection, sentence, clause, phrase or portion of this
34 article is for any reason held invalid or unconstitutional by any court of competent jurisdiction,
35 such portion shall be deemed a separate, distinct, and independent provision and such holding
36 shall not affect the validity of the remaining portions of this Ordinance.

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

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DULY PASSED AND ADOPTED BY the Board of County Commissioners of Leon County,
Florida, this ____ day of _____, 2015.

LEON COUNTY, FLORIDA

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