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LEON COUNTY ORDINANCE NO. 2022-02

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

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RECITALS

WHEREAS, the Board of County Commissioners desires to protect, maintain, and enhance both the immediate and long-term health, safety, and general welfare of the residents of the county; and

WHEREAS, the Board of County Commissioners established minimum operating and design standards for stormwater management facilities; and

WHEREAS, in 2011, Leon County adopted the County-wide Minimum Environmental Standards (CMES), which included a Continuous Hydrologic Simulation (CHS) option to model if a stormwater management facility's stormwater recovery meets the minimum recovery requirements of the Leon County Environmental Management Act, Article IV of Section 10 of the Code of Laws of Leon County; and

WHEREAS, since adoption of the CMES in 2011, staff has had the opportunity to evaluate the effectiveness of the CHS option to stormwater design, which has shown that projects utilizing the CHS option have more often resulted in downstream flooding than projects utilizing the 30-day recovery option during wet seasons; and

WHEREAS, the Board desires to eliminate the CHS option for modeling stormwater recovery, and replace with an option that requires the simulation of the designed system utilizing the storm events from the years 1964 and 1994, and to verify that post development volumes are restricted to the pre-development volumes for all the individual storm-events during those two critical years.

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

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Section 1. Section 10-4.301 of Article IV of Chapter 10, the Land Development Code, of the Code of Laws of Leon County, Florida, entitled "Water quality treatment standards", is hereby amended to read as follows:

Section 10-4.301. – Water quality treatment standards.

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44 Sec. 10-4.301. - Water quality treatment standards.

45 (a) *State stormwater treatment requirement adoption.* Water quality treatment shall be provided
46 as a part of all development activity which requires a stormwater application under this
47 division. Treated stormwater shall meet the applicable water quality standards set forth in
48 F.A.C. chs. 62-4, 62-302, 62-520, 62-522, 62-550 and 62-346, and in this division. Design
49 and performance standards set forth in such Florida Administrative Code chapters are hereby
50 adopted and incorporated in this division by reference. However, design and performance
51 standards more stringent than those specified therein are also required in this section.

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

57 (1) *Wet detention.* Wet detention treatment volume shall be, at a minimum, the runoff from
58 the first three inches of rainfall, or as an option for sites with drainage areas less than 100
59 acres, the first 1½ inches of runoff. One-half of the treatment volume must be discharged
60 in 60 hours. Subsequently, the remaining one-half of the treatment volume must be
61 discharged in 60 hours or more.

62 (2) *Off-line retention.* Off-line retention treatment volume shall be provided equal to 50
63 percent of the runoff from the first three inches of rainfall, or as an option for sites with
64 drainage areas less than 100 acres, the first three-quarters-inch of runoff. The full
65 treatment volume shall again be available within 72 hours following a storm event, with
66 appropriate on-site soils tests submitted to verify the infiltration rate.

67 (3) *On-line retention.* For on-line retention or detention with filtration, treatment volume
68 shall be equal to 75 percent of the runoff from the first three inches of rainfall, or as an
69 option for sites with drainage areas less than 100 acres, the first 1.125 inches of runoff.
70 For the filtration option, only systems that are capable of recovering the treatment volume
71 within 36 hours shall be allowed.

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

76 (5) If site constraints require another method of water quality treatment, such other method
77 may be approved by the County Administrator or designee if such method provides a
78 level of treatment equivalent to off-line retention as specified in subsection (e)(1)b.2.(ii)
79 of this section.

80 (c) *Closed basins and standards.*

81 (1) Closed basins meeting the following criteria shall be regulated in accordance with this
82 subsection:

83 a. Any closed basin which has been identified and mapped as a regulated closed basin
84 by the Board of County Commissioners; or

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

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

~~a. Option 1. On the basis of a subsurface geotechnical analysis demonstrate the functionality of the retention facility through a continuous hydrologic simulation. The analysis shall clearly demonstrate that the increase in runoff volume above the predevelopment condition is retained within the on-site stormwater facility. Additionally, the rate of discharge shall not exceed predevelopment rates for all duration and return frequencies up to and including the 25-year critical duration storm. The continuous hydrologic simulation can be accomplished by developing a stage/storage/infiltration relationship based on the proposed retention facility configuration and reported design infiltration rate. This relationship can be used to model the retention facility over an extended period of rainfall.~~

~~b. Option 2. a. Option 1: One-half the required pond volume shall be recovered within seven days, and the full volume shall be recovered within 30 days.~~

~~b. Option 2: The stormwater management facility discharge volumes for all storm events during the years 1964 and 1994, shall demonstrate that post development volumes are restricted to pre-development volumes for all the individual storm-events during those two critical years.~~

- (d) *Additional stormwater retention standards for the Lake Jackson Drainage Basin.* Runoff volumes in excess of the pre-development runoff volume shall be retained for all storm events up to a 100-year, 24-hour duration storm, except that if multiple development sites are located within the basin, the excess volume may be discharged from individual sites to an approved regional retention facility located within the basin. For redevelopment, pre-development runoff volume calculations shall be based on a natural condition. The retained volume shall be recovered in accordance with subsection (c)(2) of this section.

- (e) *Stormwater treatment standards within the Bradfordville Study Area.* Stormwater runoff from new development in the Bradfordville Study Area shall meet the standards set forth in this section in addition to other standards within article IV of this chapter.

- (1) Stormwater runoff shall be treated to one of the following standards below:

- a. Systems utilizing on-line dry retention only. A volume of runoff calculated as four inches times the total impervious area that will be situated on the site shall be retained on the site or in an approved master stormwater facility. This calculation can exclude the wetted area of the pond/stormwater facility. This volume of runoff shall be collected from the entire developed portion of the site and directed to on-line dry

127 retention storage. Retention can occur in cisterns, ponds, shallow swales, landscaped
128 areas, or natural areas.

129 b. Systems utilizing a combination of off-line dry retention and detention:

130 1. Off-line retention shall be provided with a treatment volume calculated as $2\frac{1}{2}$
131 inches times the total impervious area on the site.

132 2. Detention portion of system; in addition to the dry retention volume, one of the
133 following detention options shall also be provided:

134 (i) Dry detention systems will provide a treatment volume calculated as two
135 inches times the total impervious area on the site; or

136 (ii) Wet detention system with a permanent pool volume equivalent to two
137 and nine-tenths inches times the impervious area on site.

138 3. The calculation of the above volumes can exclude the wetted area of the
139 stormwater facility.

140 4. Runoff from the entire developed portion of the site shall be directed in sequence
141 to each of the above facilities.

142 (2) Drawdown requirements:

143 a. For on-line dry retention, subsection (e)(1)a of this section, the entire treatment
144 volume must recover within 72 hours.

145 b. For off-line dry retention, subsection (e)(1)b.1 of this section, the entire treatment
146 volume must recover within 24 hours.

147 c. For dry detention systems, subsection (e)(1)b.2.(i) of this section, the treatment
148 volume must recover within 72 hours. Dry detention systems will not include
149 underdrains but will utilize an orifice or V-notch weir for drawdown. The bottom of
150 the drawdown device will be a minimum of six inches above the pond bottom.

151 d. For wet detention systems, subsection (e)(1)b.2.(ii) of this section, the bottom of the
152 weir crest will be a minimum of 12 inches above the normal water level (seasonal
153 high groundwater table elevation).

154 e. Regardless of the method of volume recovery, the entire retention volume must
155 recover within the time frame established above unless an approved continuous
156 analysis, using Tallahassee Airport rainfall data from January 1, 1959 to December
157 31, 1998, demonstrates that the total volume retained within the stormwater system
158 over the 40-year period is greater than or equal to that retained by a dry retention
159 system as set forth in subsection (e)(1)a of this section based on the above described
160 recovery times. For systems requiring a combination of retention and detention, this
161 analysis shall only be used for the retention portion of the system. The detention
162 portion of this combination system will still be required in full pursuant to subsection
163 (e)(1)b.2 of this section.

164 (3) For calculating the treatment volume required for pervious pavements and graveled
165 areas, initially such surfaces shall be assumed to be 100-percent impervious, then

deductions in the required treatment volume for such areas can be taken that is equivalent to:

- a. The porosity of the pavement material times the thickness of the paving material times a safety factor of five-tenths.
- b. If, and only if, the soils immediately underlying the pavement for a depth of 18 inches have a permeability of three inches per hour or greater, as demonstrated by on-site percolation tests, then a further deduction can be taken equivalent to the porosity of the soil strata times four inches times a safety factor of five-tenths.

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

(4) Groundwater table:

- a. Where volume recovery is to be by percolation, groundwater mounding calculations to demonstrate recovery of the retention volume pursuant to the requirements set forth in subsection (e)(2) of this section shall be required unless the applicant conclusively demonstrates by other engineering methods that pond recovery will not be adversely affected by an elevated groundwater table. If the bottoms of all retention areas intended to percolate stormwater are shown by soil borings to be less than three feet above the historical wet-season high water table, a mounding analysis shall be required.
- b. For dry detention systems, the bottom elevation of the detention basin shall be a minimum of one foot above the historical seasonal high groundwater table.

(5) Where volume recovery is to be by irrigation, the rate of land application shall not exceed 1½ inches per week unless the applicant can conclusively demonstrate that the on-site soil conditions and vegetation warrant a higher application rate. Under no circumstances shall irrigation water be allowed to discharge from the irrigation-site.

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

(7) Facility design standards.

- a. Facility configuration. All on-line facilities shall have a flow-path-length to flow-path-width ratio of 2:1 or greater. The inlets and outlets shall be on opposite ends of the facility. If this is not possible, the effective flow length shall be increased by adding diversion barriers within the facility as necessary to provide this minimum flow length.
- b. Retention ponds/areas shall have 4H:1V maximum side slopes on a sufficient length of the perimeter to allow adequate maintenance access to the bottom of the facility. If any of the side slopes are steeper than this, a security fence shall be placed completely around the perimeter of the facility and located exterior to the maintenance access ways. The fence shall not be required if the pond depth is less than 18 inches.

- 207 c. Wet detention ponds shall have 6H:1V maximum side slopes to two feet below the
208 normal water level, then a maximum side slope of 2H:1V to the bottom.
- 209 d. Retention facilities shall have flat bottoms in order to maximize the surface area for
210 percolation.
- 211 e. Maintenance access requirements:
- 212 1. For every facility, the owner or developer shall provide, at a minimum, a 15 feet
213 wide clear and stable access to the facility from the nearest "public" right-of-
214 way or road. Such access shall be evidenced by a recorded reservation or grant
215 of an easement, which shall run with the land. If the facility is to be dedicated to
216 a local government, then such access shall be evidenced by the grant of an
217 easement, which shall run with the land, to the benefit of the local government.
- 218 2. For retention facilities with an overall depth greater than 18 inches, provide, at
219 a minimum, a 20-foot wide clear, level and stable access around a sufficient
220 portion of the perimeter of the facility, that is inside of any fences and external
221 to the top-of-bank of the facility, to allow adequate maintenance from dry land.
222 For retention facilities with an overall depth of 18 inches or less, provided the
223 facility has side slopes of four horizontal to one vertical (or less) on at least one
224 side of the facility, the applicant can provide the above access on the sloped side
225 of the facility only. Any access required by the provisions of this subsection shall
226 be evidenced by a recorded reservation or grant of an easement, which shall run
227 with the land, to the benefit of the county.
- 228 3. The minimum inside radiuses of all access ways shall be 20 feet.
- 229 4. Adequate access for both personnel and mechanized equipment shall be
230 provided to all inlet and outlet structures.
- 231 5. If the county is proposed to be the maintenance entity for any stormwater
232 management facility permitted under this section, either by dedication, or by
233 reservation of an easement, or by any other process, the applicant shall submit
234 the engineering design for the facility directly to the county department of public
235 works for its review and approval as to the adequacy of maintenance access to
236 the facilities. An environmental permit shall not be issued until the applicant
237 demonstrates, in writing, the approval of the department of public works.
- 238 f. Skimmer/trash rack requirements:
- 239 1. Trash/leaf traps with easy maintenance access shall be provided at key inlets
240 and all outlets from a facility unless the applicant can conclusively demonstrate
241 that it is not possible.
- 242 2. All outlet structures shall have an oil skimmer that extends above and below
243 any outlet structure opening.
- 244 g. Energy dissipation requirements:
- 245 1. Energy dissipation devices sufficient to prevent erosion and resuspension of
246 loose sediments shall be placed on all inlets to retention facilities.

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

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

i. Rate control as required in section 10-4.302 can be provided within any of the above water quality treatment facilities, provided that the water quality treatment as required within this section is fully satisfied prior to any overflow/discharge from the facility.

(8) Nothing in this section shall affect the redevelopment standards for the incorporated area of the Bradfordville Study Area, which shall remain subject to the requirements of chapter 5, environmental management, of the Tallahassee Land Development Code, as it may be amended from time to time.

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

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

Section 2. Applicability.

This ordinance shall apply to all applications for development, including applications and subdivision proposals, submitted on or after the effective date of this ordinance.

Section 3. Severability.

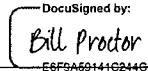
If any word, phrase, clause, section, or portion of this Ordinance is declared by any court of competent jurisdiction to be void, unconstitutional, or unenforceable, then all remaining provisions and portions of this Ordinance shall remain in full force and effect.

Section 4. Effective Date.

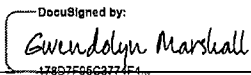
This ordinance shall have effect upon becoming law.

288 DONE, ADOPTED AND PASSED by the Board of County Commissioners of Leon
289 County, Florida, this 8th day of February, 2022.
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291 LEON COUNTY, FLORIDA

292 By: 
293 Bill Proctor, Chair
294 Board of County Commissioners
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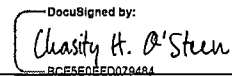
297 ATTESTED BY:
298 Gwendolyn Marshall Knight, Clerk of the Court
299 & Comptroller, Leon County, Florida
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301 By: 
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DocuSigned by:



304 APPROVED AS TO FORM:
305 Chasity H. O'Steen, County Attorney
306 Leon County Attorney's Office
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308 By: 
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