

POLK COUNTY DEVELOPMENT REVIEW COMMITTEE STAFF REPORT

DRC Date: March 9, 2024	Level of Review: 4
PC Date: April 3, 2024	Type: LDC Text Amendment
BoCC Date: May 7, 2024	Case Numbers: LDCT-2024-7
May 21, 2024	Case Name: Water Star Ordinance
Applicant: Polk County	Case Planner: Erik Peterson, AICP

Request:	An LDC text amendment to Chapter 2, Section 226, Irrigation Systems, to implement uniform procedures that promote water conservation through more efficient landscape and irrigation systems and methods; amending Section 720.E, Water-Efficient Landscaping, to recognize requirements of Section 226; amending Chapter 10, Definitions, to add, modify, and delete definitions for consistency with proposed amendment and the Florida Water Star program; providing for severability; providing an effective date.
Location:	n/a
Property Owner:	n/a
Parcel Size (Number):	n/a
Development Area:	n/a
Nearest Municipality:	n/a
DRC Recommendation:	Approval
Planning Commission Vote:	Pending Hearing

The changes to Chapter 2, Section 226, Irrigation Systems are:

- Section applies to more than just new systems but existing system modifications beyond 50%.
- No more than ½ acre may be irrigated on any residential lot.
- High-volume spray shall not exceed 60% for residential lots above 1/8 acre.
- More restrictions on high-volume spray and what can be irrigated.
- Matched precipitation rates, sprinkler head types, and head-to-head coverage required.
- All irrigation systems must have programable timers, shut off for rain, and a battery backup.
- Requirements on plumbing and installation.
- Contractors are required to provide customers with operation and maintenance instruction.
- Exemptions provided for Bona fide agricultural activities, vegetable gardens and fruit and nut trees, athletic fields, neighborhood recreation areas/parks, golf courses, cemeteries, nurseries, and temporary establishment irrigation.
- Alternative compliance methods may be requested.

The changes to Chapter 7, Section 720.E Water-Efficient Landscaping are:

- Additional exemptions added,
- Licensed irrigation professionals are required for non-residential and common areas within a residential development.
- Water Star self-certification from either the contractor, builder, licensed professional irrigation installer is required for non-residential and common areas within a residential development.

The additions to Chapter 10, Definitions are:

Automatic Irrigation System, Automatic Controller, Distribution Equipment, Florida Water Star, Florida Water Star Irrigation and Landscape Accredited Professional, Head-To-Head Spacing, High-Volume Irrigation, Irrigation Design Professional, Irrigation Professional, Landscaped Area

Licensed Irrigation Professional, Matched Precipitation, Rotor, Spray Head, Substantial Modification of Irrigation System, Temporary Establishment Irrigation, Watersense.

The modifications to Chapter 10, Definitions are:

Irrigation System, Low-Volume Irrigation, Micro-Irrigation.

Effective Date: December 1, 2024.

Summary:

The Upper Floridan Aquifer has been an inexpensive water source for Polk County residence since populations first arrived. However, like all resources it too has its physical limits. Growth in the County has reached the point where further drawdown of the Upper Floridan Aquifer will jeopardize the safety of many residents of both Polk County and others. The County is coming to the end of its ability to draw more water from the Upper Floridan Aquifer and must seek alternatives. But the cost of alternative water supplies is much higher which will inevitably increase the cost of water to consumers. The cost of conservation is far less than these alternatives. If the public uses less water, it will hold down the average cost of water in the near future.

Florida Water Star is a voluntary certification program designed to increase water efficiency inside the home and in landscapes and irrigation systems. While many certification programs provide general guidelines for water efficiency, Florida Water Star specifically addresses uses relevant to Florida. The Florida Water Star program provides a plan based on best management practices that encourages and promotes decisions about water use that will help sustain the area's water resources for years to come.

While it is a volunteer program, the Board has provided staff with direction to make it a requirement for irrigation permits for three main reasons:

- 1) Saving water saves energy. It takes a considerable amount of energy to deliver and treat the water we use every day. *(For example, letting your faucet run for five minutes uses about as much energy as letting a 60-watt light bulb run for 14 hours.)*
- 2) Using water more efficiently helps maintain water supplies at safe levels, protecting human health and the environment. *(Water system efficiency improves water flow needed for fire rescue services.)*
- 3) Water is going to become much more expensive to the customer because of the increased cost of more expensive alternative sources to the upper Floridan aquifer. *(Using less water does not cost as much.)*

This ordinance provides minimum standards for landscape irrigation design. It requires the permit applicant to self-certify. Staff recommends the ordinance not go into effect until December in order to provide the construction and landscaping industry enough time to fit their practices into compliance with these new standards.

Data and Analysis Summary

A more detailed analysis is provided to follow within this report that explains further reasoning behind the need for this change to the Land Development Code. A concise but detailed listing of the requirements is included. Staff addresses the ordinance benefits and costs and there is an analysis per FS 125.66(3)(a) included as reference in the casefile.

Staff have researched Florida Water Star program requirements and identified the methods and policies that may be the most effective for reducing water consumption of irrigation devices. Staff have also reached out to members of the Polk County Building Association to seek their input into the proposed ordinance.

Staff gathered water conservation and irrigation system ordinances from 15 nearby and similar jurisdictions including the County's two most populated cities. The proposed ordinance is consistent with at least half of the jurisdictions surveyed.

This amendment applies to all residential lots or parcels within the unincorporated areas of the County regardless of the Future Land Use Map district, including the Green Swamp Area of Critical State Concern. The Department of Economic Opportunity (DEO) requires a 45-day review on all policy changes affecting development in the Green Swamp Area of Critical State Concern regardless of whether it has a direct relationship to the primary purpose of the Critical Area, which is aquifer recharge and protection. There are no conflicts with the Comprehensive Plan or Florida Statutes in the implementation of this amendment.

Findings of Fact

1. *The request is a Land Development Code text amendment to Chapter 2, Section 226, Irrigation Systems, to implement uniform procedures that promote water conservation through more efficient landscapes and irrigation systems and methods; amending Section 720.E, Water-Efficient Landscaping, to recognize requirements of Section 226; amending Chapter 10, Definitions, to add, modify, and delete definitions for consistency with proposed amendment and the Florida Water Star program.*
2. *This amendment applies to all new irrigation systems residential and non-residential, and existing systems which are modified more than 50% within the unincorporated areas of the County regardless of the Future Land Use Map district.*
3. *Section 226 of the Land Development Code regulates the installation of irrigation systems on all properties. The section requires rain sensor installations and building permits for all new irrigation systems.*
4. *Section 720 of the Land Development Code regulates landscaping and buffering for non-residential and common areas within a residential development.*
5. *SECTION 2.1251 - COMMUNITY DESIGN of the Comprehensive Plan encourages the use of conservation planning principles such as Water Star on parcels contiguous to public or privately-owned environmental lands.*
6. *The Florida Statutes address water conservation programs in Chapter 373.227 which encourages local governments to seek water conservation methods and programs.*
7. *This amendment changes the regulations of residential properties in the Green Swamp Area of Critical State Concern.*
8. *This proposed amendment provides new and modified definitions in Chapter 10 of the Land Development Code to aid in the implementation of the proposed requirements.*
9. *Planning staff has reviewed the land development requirements of 12 central Florida counties that bear commonalities with Polk and the two largest municipalities in the County. Staff found that nine (9) of the 12 county local governments require water conservation methods for irrigation permits. The cities do not at this time but are reviewing future policy changes.*
10. *Seven (7) of the 12 counties surveyed restricted the amount of high-volume irrigation that could be applied to a property seeking irrigation system approval.*
11. *Five (5) of the 12 counties surveyed require all irrigation permits to be on automated operating systems.*

Development Review Committee Recommendation:

The Land Development Division, based on the information provided with the proposed text amendment application, finds that the proposed text change request is **CONSISTENT** with the Polk County Land Development Code and the Polk County Comprehensive Plan. Staff recommends **APPROVAL** of LDCT-2024-7.

Analysis:

Central Florida is on the precipice of a new era in water use permitting. Polk County has traditionally relied on fresh groundwater from the Upper Floridan aquifer (UFA) as a primary water source for public, agricultural and industrial uses. However, it is also a limited resource. High rates of consumption of the UFA have been linked to the rise in sinkhole activity in our region and saltwater intrusion in coastal areas. The Southwest Florida Water Management District's (SWFWMD) 2015 Regional Water Supply Plan identified a 22 percent increase in water supply would be needed to meet future demand in Polk County by 2035. SWFWMD has directed Polk County to explore alternative water supplies (AWS), such as the brackish groundwater from the Lower Floridan aquifer (LFA) and from surface water resources, such as the Cypress Lake surface water facility in Osceola County, to help meet future demand in this region and relieve the strains placed on the UFA.

Based on the local and regional water supply needs of Polk County's communities, the County and its municipalities created a non-profit, special district known as the Polk Regional Water Cooperative (PRWC) to plan, develop, and deliver a future high-quality drinking water supply. The PRWC was created by interlocal agreement among member governments and is a regional utility funded by contributions from the member governments and State agency grants. The 16 member governments have equal voting rights and share the cost of developing new water supplies and environmental stewardship. Policies are established by a 16-member board of directors that includes one representative from Polk County and one representative from each of the 15 member cities: Auburndale, Bartow, Davenport, Dundee, Eagle Lake, Fort Meade, Frostproof, Haines City, Lake Alfred, Lake Hamilton, Lake Wales, Lakeland, Mulberry, Polk City, and Winter Haven. The PRWC assures fair representation in the decision-making process while also representing the regional water supply needs of Polk County with a single voice.

It is anticipated that drinking water rates will increase in order to pay for the cost to construct and operate the PRWC water treatment and supply system. The individual utilities will make the determination for any changes to their customer drinking water rates. However, it is certain that the alternative water supplies will come at a higher cost than direct access to the UFA.

While seeking alternative water supplies is an option worth pursuing, another less costly way to extend our water supply is through using less water. Landscape irrigation can make up over half of the water usage of a typical household in Polk County. The best place to start with water conservation is in landscaping practices. This ordinance is a step towards encouraging homeowners to use less water. In the end it will help us all save money on our water bills.

Changes to Section 226

The current language in Section 226 of the Land Development Code accomplishes only two things that help retard the use of water: requires rain sensors and references water restrictions during drought periods found in Chapter 12, Article V of the County Code of Ordinances (Ordinance No. 04-07, adopted Feb. 18, 2004). This ordinance will greatly expand Section 226 to include irrigation design standards that will apply to all forms of development. The following is an outline of the new requirements proposed:

- A. Permit Requirements
- Requires all irrigation permits go through building division eventually. Even when they show on Level 2 Plans, the Building Division will issue final approval of the irrigation system.
 - The **contractor, builder, licensed professional irrigation installer or homeowner** is required to **certify the plans are Water Star compliant**.
- B. Irrigation Design
1. Applicability
 - Applies to all new irrigation systems residential and non-residential, and
 - Applies when an existing system is modified more than 50% .
 2. General
 - No one has to have irrigation,
 - Rain or soil moisture sensors are required on new and modified irrigation, systems and must function properly, and
 - Following this ordinance does not exempt you from following other requirements (local, state, or federal).
 3. System Design and Installation
 - ½ acre maximum irrigated area on residential lots,
 - High-volume spray shall not exceed 60% for residential above 1/8 acre, and 50% for non-residential,
 - No high-volume on irrigation on areas less than 4' wide,
 - No high-volume irrigation on trees, shrubs, or groundcover beds,
 - No mixing sprinkler head types (spray or rotor, not both) in same zone,
 - Each zone shall have matched precipitation rates,
 - Head-to-head coverage with rotors and sprinklers,
 - 4" space between spray heads and pavement,
 - 24" between spray heads and building,
 - Systems must have programable timers, shut off for rain, and battery backup,
 - Check valves required in low areas,
 - Systems must be installed to manufacturers specs,
 - No spray on walkways, buildings, or pavement,
 - Pipelines must have adequate pressure to provide uniformity,
 - Pipes must be buried at least 6" deep in the ground, and
 - Sprinklers shall rise above turfgrass height: a minimum of 6-inch pop-up for sprays and 4-inch pop-up for rotors for St. Augustine, Zoysia and Bahia grasses; a minimum of a 4-inch pop-up for sprays and rotors for Centipede, Bermuda and Seashore Paspalum grasses.
- C. Maintenance
1. Contractors must provide:
 - a maintenance checklist affixed to or near the controller and accompanied by a recommended maintenance schedule,
 - proper irrigation system settings according to season,
 - recommendations for checking technology that inhibits or interrupts operation of the system,
 - filter cleaning recommendations, and
 - information on the current water restrictions

2. Irrigation systems with known leaks shall not be operated until the leaks are repaired, except for testing purposes.
- D. Exemptions
1. Bona fide agricultural activities,
 2. Vegetable gardens and fruit and nut trees,
 3. Athletic fields,
 4. Neighborhood recreation areas/parks,
 5. Golf courses,
 6. Cemeteries,
 7. Nurseries, and
 8. Temporary establishment irrigation.
- E. Alternative Compliance
- Applicants may request to vary to accommodate unique site features or characteristics, utilize innovative design, prevent extraordinary hardship, or promote the overriding public interest or general public welfare.
- Diminished value or inconvenience is not an acceptable reason.
 - Burden is on the applicant.
 - Alternative plan must fulfill the purpose of the Water Star requirements.

Changes to Section 720

Water conservation requirements are not new to the Land Development Code. There have been standards applied to non-residential development and common areas in residential developments since March of 2009. The following are the only substantive changes to Section 720:

- Cemeteries, plant nurseries, neighborhood parks, entire golf courses, and temporary irrigation for plant establishment are added to exemptions.
- System design is referred to Section 226
- Licensed irrigation professionals are required for non-residential and common areas within a residential development.
- Water Star self-certification from either the contractor, builder, licensed professional irrigation installer is required for non-residential and common areas within a residential development.

Chapter 10

This proposed ordinance has a lot more detailed requirements for irrigation systems. With that detail comes some new terms that must be defined. These definitions come directly from the Florida Water Star program.

Benefit-cost Analysis of the Amendment

Who does it help?

This ordinance will help every homeowner and business in Polk County utilizing public water to save money on their water bills both directly and indirectly. Water will become more expensive over time. When a homeowner uses less water, they have more money to spend on other goods and services. When less water is used, there is less of a need for more expensive alternative water sources.

Who does it hurt?

There will be higher upfront costs to the consumer to contract with a licensed professional skilled in water efficient irrigation design. Some irrigation spray emitters called for in the ordinance are slightly more expensive and there is the expense of installing an automated system. However, in the end this will save the consumer money on their irrigation costs.

What is the cost?

A Business Impact Estimate pursuant to FS 125.66 (3)(a) has been prepared as an attachment to the casefile. Staff met with the Polk County Builders Association on March 7, 2024, to discuss the proposed ordinance. Valuable feedback was provided. Many builders are currently implementing the Florida Water Star program as a marketing tool. Promoting Water Star is a benefit to homeowners because it saves money in the long run.

Regulatory History

Polk County did not have any regulations of landscape irrigation design until 2009. Early in the 2000s, the County was cited and fined by the Southwest Florida Water Management District (SWFWMD) for over pumping at a well facility in the northeastern part of the County. As a remedy to the infractions in addition to a redesign of the Northeast Utility Service Area, the County was encouraged to make policy changes to curb the high amount of per capita water usage that had contributed to the over pumping. Staff brought forth a Waterwise ordinance to hearings that was recommended by SWFWMD and proposed alterations in the structure of the water rates. The Waterwise ordinance called for a 50% limit in the amount of area dedicated to high-volume irrigation on new systems. This had significant public opposition and was withdrawn before it reached the Board of County Commissioners. The changes to the water rate structure were approved with less fanfare. It reoriented the cost per gallon from being less as more water was consumed to becoming more per gallon as the homeowner's usage increased. Within months the new water rates began to influence per capita consumption.

The Waterwise ordinance was revisited in 2008 at the request of the Board. Although housing growth was in sharp decline, the County was again encouraged by SWFWMD to address the high consumptive use rates. Staff were also directed to improve some landscaping and buffering standards. This ordinance applied to just non-residential development and common areas within residential developments. It is not as difficult for non-residential development to implement water conservation practices. Use of low-volume irrigation is less expensive than high-volume irrigation for parking areas and perimeter landscape buffering.

The cost to implement water conservation practices may be perceived as more expensive but opposition is more often a matter of inconvenience and fear of government overreach. In reality, using less water saves the consumer money at every market level. As market prices increase, market forces most often prevail.

Limits of the Proposed Ordinance

This amendment broadens the scope of the current irrigation requirements and provides more detailed guidance in the design of irrigation systems. It applies to all new irrigation systems residential, and non-residential, and existing systems modified more than 50%. It applies for non-residential and residential development.

Since this amendment applies to all residential and non-residential lots or parcels within the unincorporated areas of the County regardless of the Future Land Use Map district, it includes the Green Swamp Area of Critical State Concern. Florida Commerce requires a 45-day review on all policy changes affecting development in the Green Swamp Area of Critical State Concern regardless of whether it has a direct relationship to the primary purpose of the Critical Area, which is aquifer recharge and protection. Therefore, this request will be reviewed by the Florida Commerce Community Planning Department Areas of Critical State Concern Program. Staff believes that this amendment will have no impact on the Critical Area since it does not change the effect of the current code. It may even benefit the Critical Area indirectly.

Comparisons to other Jurisdictions:

Staff commonly survey counties on the I-4 corridor for regulatory comparisons because they are most closely similar to Polk. Some of the abutting counties are reviewed along with the two largest cities within the County. Alachua and Duval are also reviewed because of similar demographic and urban-rural mixtures. The cities of Winter Haven and Lakeland were also surveyed for comparison. This method of selection creates a survey of 14 total local jurisdictions. In the survey of these jurisdictions water conservation and irrigation requirements, staff reviewed multiple aspects of each ordinance. In addition to whether or not there were conservation requirements, to whom the requirements applied were inventoried. Particular to the analysis were restrictions on the amount of irrigation and whether automated systems were mandatory. A summary of the survey results is provided in Table 1 to follow.

The majority of the jurisdictions studied applied water conservation standards to most development with the exception of agriculture, recreation facilities, and other minor uses. Limitations to irrigated areas mostly applied to high-volume spray. Only a third required automated systems. Water Star was only mentioned in four out of the 14 jurisdictions.

Table 1

Jurisdiction <i>(Code citation)</i>	Are there water conservation standards for irrigation systems and to whom does it apply?	Are there limitations on the amount of land that may be irrigated?	Are automated systems required?
Alachua County <i>Ch. 77, Article V</i>	Yes. All irrigation systems except for agriculture, gardening, athletic fields, golf courses, cemeteries, plant nurseries, and temporary establishment.	Yes. “maximum total irrigated area on residential lots, regardless of lot size, shall not exceed 0.5 acres. ” “High volume irrigation area shall not exceed 60 percent of the landscaped area.”	Yes.
Brevard County <i>Ch. 62, Article VIII</i>	Yes, but just non-residential. County projects exempted.	Yes. “No more than 50 percent of the landscape shall be equipped with high volume (micro) irrigation delivery systems”	Yes.
Duval County <i>Title X, Sec.336, part 5</i>	No regulations on irrigation design. Many limitations on watering. Time of day and duration limits.	No.	No.
Hardee County <i>Sec. 3.15.05 LDR</i>	No.	No.	No.
Highlands County	Yes. Single-family, duplex,	No.	Yes.

Table 1

Jurisdiction <i>(Code citation)</i>	Are there water conservation standards for irrigation systems and to whom does it apply?	Are there limitations on the amount of land that may be irrigated?	Are automated systems required?
<i>Section 12.11.106</i>	manufactured home dwellings on individual lots, agriculture buildings and developments requiring 60 parking spaces or less are exempt.		
Hillsborough County <i>Article VI, Sec. 6.06</i>	Yes. Agriculture, mining, sports fields, golf courses, cemeteries, turf parking areas, and stormwater management systems are exempt.	Yes. No more than 50% turfgrass.	Yes.
Lake County <i>Sec. 9.01.00 LDR</i>	Yes. Agriculture, silviculture, golf courses, parks, conservation areas and irrigation systems installed before 6/1/2016.	Yes. No more than 60% turfgrass.	Yes.
Manatee County <i>Ch 7, Part I Sec. 701.11</i>	No. Just backflow preventer and rain sensor if automated system is used.	No.	No.
Orange County <i>Ch. 37 and LDR 24-4,5,&6</i>	Yes. Lots ≤ 5,000 SF exempt. Re-use water connection, water from SWMP also exempt.	Yes. No more than 20% high-water use. No less than 40% low-water use.	No.
Osceola County <i>Sec. 4.8.10</i>	Yes. Applies to all required landscaping	Yes. No more than 60% high-volume.	No.
Seminole County <i>Sec. 30.1226-1231</i>	Yes. Irrigation connected to reuse systems.	No.	No.
Volusia County <i>Ch.50 Art.III, Dv.10 Sec.50</i>	Yes. Hand watering, agriculture, and golf courses are exempt.	Yes. No more than 50% high-volume.	No.
City of Lakeland <i>Sec. 4.5</i>	No.	No.	No.
City of Winter Haven <i>Ch. 19 Art.VIII</i>	No.	No.	No.

Staff understands that both Lakeland and Winter Haven are working on implementing Water Star requirements, but they have not been codified. It is presumed that other members of the PRWC will be adopting similar requirements eventually following Polk County’s example.

Consistency with the Comprehensive Plan

The Comprehensive Plan only encourages the use of conservation planning principles such as Water Star on parcels contiguous to public or privately-owned environmental lands. There are no other references to irrigation practices other than connection to re-claim water when available.

Consistency with the Florida Statutes

The Florida Statutes address water conservation in Chapter 373.227. It encourages utilities to implement water conservation programs that are economically efficient, effective, affordable, and appropriate. As part of an application for a consumptive use permit, a public water supply utility may propose a goal-based water conservation plan that is tailored to its individual circumstances. Progress towards goals must be measurable. If the utility provides reasonable assurance that the plan will achieve effective water conservation at least as well as the water conservation requirements adopted by the appropriate water management district and is otherwise consistent with statutes, the district must approve the plan which shall satisfy water conservation requirements imposed as a condition of obtaining a consumptive use permit. The conservation measures included in an approved goal-based water conservation plan may be reviewed periodically and updated as needed to ensure efficient water use for the duration of the permit. If the plan fails to meet the water conservation goal or goals by the timeframes specified in the permit, the public water supply utility

shall revise the plan to address the deficiency or employ the water conservation requirements that would otherwise apply in the absence of an approved goal-based plan.

Comments from Other Agencies: Building Division staff participated in the drafting and review of this request.

Draft Ordinance: under separate attachment