

MODEL FLORIDA-FRIENDLY LANDSCAPING™ IRRIGATION ORDINANCE

PREPARED FOR: []

BY: []

The Model Irrigation Ordinance for Florida Friendly Landscaping is provided as a template to assist local governments and municipalities in developing landscape and irrigation codes that incorporate best management practices and recommendations. This document is intended for guidance only.

Local governments are strongly encouraged to review, modify, and adapt this template to align with local conditions, legal requirements, and community needs.

Prior to adoption, municipalities should consult with legal counsel and local water management professionals to ensure compliance with applicable state, and local laws. The University of Florida and the Florida Friendly Landscaping™ program make no warranties, express or implied, regarding the applicability, enforceability, or suitability of this model ordinance for any specific jurisdiction and assume no liability for the use of this model ordinance.

This model contract does not convey legal advice, does not purport to include all of the provisions that may be required to create a binding agreement to the satisfaction of the parties in any given circumstance, and does not create an attorney-client relationship between the user and the University of Florida. This model contract is based upon the laws of Florida and the United States at the time it was posted. These laws may change from time to time. In addition, local government law may apply. Users of this model contract should seek advice from an attorney before using this contract.

[TITLE BLOCK]:

AN ORDINANCE OF [LOCAL GOVERNMENT] AMENDING THE [LOCAL GOVERNMENT] LAND DEVELOPMENT REGULATIONS; ESTABLISHING THE IRRIGATION ORDINANCE; PROVIDING FOR DESIGN, MAINTENANCE, AND OPERATIONS REQUIREMENTS AND STANDARDS FOR LANDSCAPE IRRIGATION SYSTEMS; PROVIDING FOR LANDSCAPE IRRIGATION SYSTEM PLAN PERMITS; PROVIDING DEFINITIONS, APPLICABILITY, SEVERABILITY, REPEAL OF CONFLICTING ORDINANCES, EFFECTIVE DATE, AND CODIFICATION AND INCORPORATION INTO THE [LOCAL GOVERNMENT] CODE OF ORDINANCES.

RECITALS

1. Florida's water resources constraints, in combination with a rapidly growing population, require that efficient irrigation practices play an essential role in ensuring a sustainable water future for our state.
2. Efficiently designed and installed inground landscape irrigation and Florida-Friendly Landscaping¹ design and maintenance standards can help achieve attractive landscapes, protect our natural resources, and save significant amounts of money and water.
3. The Florida-Friendly LandscapingTM (FFL) program is implemented through a partnership between the Florida Department of Environmental Protection and the University of Florida's Institute of Food and Agricultural Sciences ("UF/IFAS") pursuant to section 166.048, Florida Statutes (F.S.) (2024).
4. The Florida-Friendly LandscapingTM program contributes to the conservation, protection, and restoration of water through the implementation of science-based landscape guidance.
5. The Committee on Landscape Irrigation and Florida-Friendly Design Standards was formed in 2006 to work together to develop landscape irrigation and Florida-Friendly LandscapingTM design standards for new developments that incorporate a landscape irrigation system and develop scientifically based model guidelines for commercial, residential, and other urban landscape irrigation.
6. Section 166.048 F.S. (2024) directs landscape irrigation design standards be based on the Irrigation Code in the Florida Building Code ("FBC") presently found in Appendix F of the Plumbing Volume.²
7. Section 166.048 F.S. (2024) directs that local governments use these standards and guidelines when developing landscape irrigation and Florida-Friendly LandscapingTM ordinances.
8. Automatic inground irrigation is not essential for Florida Friendly LandscapingTM but may provide supplemental irrigation, as needed.
9. Well-designed landscape irrigation system designs can reduce the introduction of nutrients to Florida's waterway.

¹ The Florida-Friendly LandscapingTM program is recognized by sections 166.048 and 373.185, F.S.(2024). For more information visit [FloridaFriendlyLandscaping.com](https://floridafriendlylandscaping.com).

² These standards utilize the definitions and requirements of Appendix F of the FBC. Landscape and irrigation professional should defer to Appendix F and always follow FBC requirements. To learn more about Appendix F, visit <https://up.codes/viewer/florida/fl-plumbing-code-2017/chapter/F/proposed-construction-building-codes-for-turf-andlandscape-irrigation-systems>.

10. Well-designed landscape irrigation system installation, maintenance, management, and practices provide a multitude of benefits, including efficient landscape irrigation, a healthy and more drought and pest-resistant landscape, protect the state's water resources, and save money.
11. The purpose of the FBC's Irrigation Code, presently found in Appendix F of the Plumbing Volume, is to establish uniform minimum standards and requirements for the design and installation of cost-effective, reliable, and safe irrigation systems for landscape and turf areas that promote the efficient use and protection of water and other natural resources.
12. The Florida Water StarSM water conservation certification program owned by the St Johns River Water Management District has established water-efficiency guidelines and standards for homes and commercial and residential developments, providing a suite of efficiency practices that focus on ways to reduce water use designed for Florida's environment.
13. Robust local irrigation and landscaping codes assist local governments in meeting their regional water supply plan goals in comprehensive plans and utility facility work plans.
14. Minimum Flows and Levels (MFL) prevention and recovery plan and Basin Action Management Plan (BMAP goals and requirement often include water quality and quantity codes and ordinances.

NOW, THEREFORE, BE IT ORDAINED/RESOLVED BY [THE ELECTED BODY OF LOCAL GOVERNMENT]:

Section 1. CITATION

This Chapter is and may be cited as the Irrigation Design Ordinance of [LOCAL GOVERNMENT].

Section 2. AUTHORITY

This Chapter is authorized pursuant to Article VIII, Florida Constitution of 1968, and Sections 163.3167 and 163.3202 of the Florida Statutes (2024). [LOCAL GOVERNMENT] has the authority to regulate the design, location, maintenance, and operation of landscape irrigation systems.

[Each local government should tailor the recitals to their specific findings or fact in relation to their jurisdiction.]

Section 3. CHAPTER [X] OF THE LAND DEVELOPMENT REGULATIONS IS HEREBY AMENDED TO INCLUDE THE FOLLOWING:

CHAPTER [X]

SEC. X-1. APPLICABILITY.

- (a) This chapter applies to all activities, buildings, lands, structures, and uses over which [LOCAL GOVERNMENT] has jurisdiction under the constitution and laws of the State of Florida and of the United States.
- (b) This chapter provides requirements for the design, installation, inspection, materials, testing, and water quality for landscape irrigation systems. In the event of a conflict with these requirements, landscape irrigation system design and installation must follow the latest version of the *FBC, Plumbing, Appendix F*.
- (c) The provisions of this chapter apply to all landscape irrigation systems used on commercial, institutional, multi-family common areas and residential landscape areas.
- (d) The provisions of this chapter do not apply to irrigation systems for:

- a. agricultural production systems,
- b. greenhouses,
- c. nurseries,
- d. cemeteries,
- e. golf courses,
- f. athletic fields,
- g. Vegetable gardens and fruit and nut trees

[Alternatively]

- (c) The provisions of this chapter apply to:
 - (1) all new commercial, residential, and institutional development proposing to install a landscape irrigation system; and
 - (2) any substantial improvement or modification to an existing landscape irrigation system that 50 (fifty) percent or more of the irrigation system (by area) is replaced or altered.
- (d) All new, or substantial improvements or modifications to commercial and institutional irrigation systems must comply with the requirements of this [ordinance]. (Insert percentage of modification if needed)
- (e) A new residential landscape irrigation system or substantial improvements or modifications of 50 (fifty) percent or more of the irrigation system (by area) must comply with the requirements of this [ordinance].

["Substantial improvement" is a term of art in the National Flood Insurance Program (NFIP) and thus provides a standardized approach to measuring damages or improvements.]

[When these regulations are codified, the reference to [ordinance] may be changed to "article, chapter, division" or some other more appropriate specific reference within the local government's codification system.]

SEC. X-2. DEFINITIONS.

"Application rate" means the rate at which water is applied to a given area by sprinkler(s) and emitter(s), usually expressed as depth per unit time (inches or millimeters per hour); also known as "precipitation rate." Application rates are found in manufacturer recommendations and vary among emission devices and their radius of throw.

"Automatic irrigation controller" means a device that automatically turns on and off an irrigation system, such as lawn sprinklers or drip irrigation systems; also known as clocks or timers.

"Bubbler" means an emission device that applies water to the soil, discharging greater than 0.5 to 2 gallons per hour but generally less than 60 gallons per hour (gph).

"Bubbler irrigation" mean the application of water to the soil surface or a container as a small stream or fountain with discharge rates greater than the one-half to two gallons per hour (0.5 to 2 gph), characteristic of drip emitters, but generally less than 60 gallons per hour (60 gph).

“Check valve” means a device that permits water to flow in one (1) direction only and must be installed on any sprinkler where low point drainage occurs or when the sprinkler is located lower than the valve box.

“Controller” means the timing mechanism—that signals automatic valves to open and close on a pre-set program or based on sensor readings—and its mounting box.³

“Coverage” means the way water is applied to an area.

“Design pressure” means the pressure at which the irrigation system or certain components are designed to operate, measured at the pump discharge, or entrance to the system if there is no pump.

“Distribution pattern” means the water depth-distance relationship measured from a single emission device.

“Distribution uniformity” (“DU”) means even application of irrigation across a landscaped area, and expressed as a decimal or percentage value.

“District” means the **[jurisdictional]** Water Management District(s).

“Drip irrigation” means the precise low-rate application of water to or beneath the soil surface near or directly into the plant root zone. Applications normally occur as small streams, discrete or continuous drops in the range of 0.5 to 2.0 GPH.

“Drip line emitter” means A tube which discharges water from integrated evenly spaced emitters, perforations or a porous wall.

“Emission device” means a landscape irrigation system component used to dispense irrigation water to the landscape at a specific rate.

“Emitter” means a device used to control irrigation discharge from lateral pipes, primarily the devices used in micro-irrigation systems.

“Florida Building Code” (“FBC”) means the statewide set of building regulations that apply uniformly throughout the entire state of Florida.

[These codes are adopted at the state level and establish minimum standards for the design, construction, and maintenance of buildings and structures. Local jurisdictions in Florida are required to adopt and enforce the FBC, but they have some flexibility in terms of amendments or additions to address specific regional concerns or conditions. However, any local amendments must be consistent with the minimum standards set forth in the statewide code. The Florida Building Commission, as part of the Department of Business & Professional Regulation (DBPR), maintains and updates the FBC to enhance safety, energy efficiency, and sustainability in construction projects and sets forth standards for building design, construction, and compliance.]

³ Modified from *Landscape Irrigation and Florida-Friendly Landscaping Design Standards – 2024*.

“Florida-Friendly Landscaping™” means a statewide program implemented by UF|IFAS and the Florida Department of Environmental Protection. Florida-Friendly Landscaping™ describes quality landscapes that conserve water, protect the environment, are adaptable to local conditions, and are drought tolerant.

[The principles of such landscaping include planting the right plant in the right place, efficient watering, appropriate fertilization, mulching, attraction of wildlife, responsible management of yard pests, recycling yard waste, reduction of stormwater runoff, and waterfront protection. Additional components include practices such as landscape planning and design, soil analysis, the appropriate use of solid waste compost, minimizing the use of irrigation, and proper maintenance.]

“Florida Water StarSM” means a statewide certification program, owned by the St Johns River Water Management District, for new and existing homes and commercial developments that meet specific water-efficiency criteria in the landscape and irrigation system, as well as plumbing fixtures and appliances.

“Flow rate” means the measure of a volume of water moving in a certain amount of time.

“Head” means the exterior case or shell of a sprinkler incorporating a means of connecting to the piping system and designed to provide above ground or overhead irrigation; also known as rotor, spray head, mist head, and impact sprinkler, when referring to the type of emission used interchangeably with and in conjunction with “sprinkler.”⁴

“Head-to-Head Spacing” means spacing sprinkler heads so the distance between sprinklers is equal to the sprinkler head rated throw radius (i.e., water from one (1) sprinkler reaches the other sprinkler).

[Irrigation efficiency is generally defined from three points of view: (1) irrigation system performance, (2) uniformity of water application, and (3) the response of the crop or landscape to irrigation. These irrigation efficiency measures are interrelated and vary on a spatial and temporal scale. The spatial scale may be defined for a single landscape, or on a larger scale up to a whole irrigation district or watershed. The temporal scale can vary from a single irrigation event to a longer period such as part of the growing season, or a period of years.]⁵

“Hydrozone” means a distinct grouping of plants with similar water requirements and climatic requirements that can be irrigated within a common zone to conserve water, improving efficiency, and avoiding overwatering and underwatering.

⁴ Modified from *Landscape Irrigation and Florida-Friendly Landscaping Design Standards – 2024*

⁵ 2011 Irrigation Efficiency and Uniformity, and Crop Water Use Efficiency Suat Irmak University of Nebraska-Lincoln, suat.irmak@unl.edu Lameck O. Odhiambo University of Nebraska-Lincoln, lodhiambo2@unl.edu William L. Kranz University of Nebraska-Lincoln, wkranz1@unl.edu Dean E. Eisenhauer University of Nebraska-Lincoln, deisenhauer1@unl.edu.

“Irrigation” means the intentional application of water by artificial means, i.e., means other than natural precipitation, for purposes of sustained plant growth or optimized production.⁶

“Landscape” means areas that are planted, including but not limited to ground covers, shrubs, trees, turf, and similar plant materials.

“Landscape area” means the total site area less the building footprint, impervious or paved surfaces, stormwater control structures, and waterbodies. Specifically, any permeable surface on a given lot or parcel that is typically covered with gardens, landscape, mulch, or turfgrass.⁷

“Landscape irrigation” means the outside watering of plants in a landscape, e.g.—gardens, turfgrass, groundcovers, plants, lawns, vines, shrubbery, trees, other flora, etc.—that are situated in such diverse locations as commercial and industrial establishments, public and residential areas, and public medians and rights-of-way. Landscape irrigation does not include farm operations, nursery plants, cemeteries, golf courses, and vegetation associated with recreation areas, e.g., playgrounds, baseball, football, and soccer fields, etc.

“Landscape irrigation plan” means a legible plan of the property with legible, scaled dimensions, that shows:

- (1) existing rights-of-way, easements, and other land reservations;
- (2) the source of water that will be used for irrigation.
- (3) Irrigation submission shall include the following information:

Layout information

- a. Pipe location, type and size
- b. Sprinkler head location, including spacing to adjacent sprinkler heads and structures
- c. Location of soil moisture sensor probe, when applicable
- d. Location and area of irrigation zones

Component information

- a. Sprinkler head type and application rate
- b. Microirrigation type and application rate
- c. Location of heads with check valves
- d. All relevant pressure regulation

⁶ Modified from <https://www.irrigation.org/IA/Resources/Tools-Calculators/Irrigation-Glossary/IA/Resources/Irrigation-Glossary.aspx?hkey=c9c8c832-2603-40f0-a761-aff99d85f59d> (last visited Sept. 4, 2024).

⁷ Modified from *Landscape Irrigation and Florida-Friendly Landscaping Design Standards – 2024*

“Landscape irrigation system” means a method of delivering water to an area where it is needed, but not normally present in necessary volume. For the purposes of this chapter, landscape irrigation system does not include systems used in agricultural or farm operations. See section 823.14 F.S. (2024).

“Lateral” means a water delivery pipeline that supplies water from a manifold or header pipe downstream of a control valve to irrigation emission devices.

“Low-volume irrigation” means heads that emit less than one-half gallon per minute (0.5 gpm).

“Micro bubbler” means a unit designed for micro-irrigation applications requiring higher flow and coverage than a spot emitters or drip, but a lower amount of water than a regular bubbler.

“Micro-irrigation” means the application of small quantities of water directly on or below the soil surface or plant root zone, usually as discrete drops, thin streams, or miniature sprays, through emitters placed along lateral water delivery pipes.

[Microirrigation encompasses a number of methods or concepts—including drip, micro-bubbler, micro-spray, and subsurface irrigation—previously known as low-flow, low volume, or trickle irrigation.]

“Microirrigation emission device” means an emission device intended to discharge water in the form of drops or continuous flow at rates less than 30 gallons per hour (gph) or 113.5 liters per hour (lph) at the largest area of coverage available for the nozzle series when operated at 30 psi (206.8 kPa), except during flushing.

“Microspray” means a micro-irrigation emission device that uses small diameter tubing and small orifice micro-spray heads to limit water output delivering water more directly to the plant root zone by converting irrigation water pressure to discharge water at a flow rate not exceeding 30 gallons per hour (30 gph) (113.5 liters per hour) at the largest area of coverage available for the nozzle series when operated at 30 psi (206.8 kPa). “Micro-spray” includes “micro-bubblers,” “micro-spinners” and “micro-spray jets.”⁸

“Nozzle” means the discharge opening or orifice of an emission device used to control the volume of discharge, distribution pattern, and droplet size.

“Nozzle throw diameter” means the entire measured width of the throw of a sprinkler head.

“Operating pressure” means the water pressure necessary to operate an emission device.

- (1) “Maximum operating pressure” means the highest manufacturer recommended pressure to ensure proper operation of an emission device.
- (2) “Minimum operating pressure” means the lowest manufacturer recommended pressure to ensure proper operation of an emission device.
- (3) “Recommended operating pressure” means the manufacturer’s recommended pressure for operation of an emission of an emission device.

⁸ Modified from *Landscape Irrigation and Florida-Friendly Landscaping Design Standards – 2024*

Operator/Manager - person or entity responsible for management of irrigation system. (For example) Homeowner, business owner, tenant, municipality, etc.

“Orifice” means an opening with a closed perimeter through which water flows. Certain shapes of orifices are calibrated for use in measuring flow rates.

“Radius of throw” means the distance of throw for a circular wetted pattern.

“Reclaimed Water” means water that has been treated in municipal wastewater facilities, has received at least secondary treatment and basic disinfection, and is safe to use for irrigation and other permitted purposes.

“Riser” means a threaded pipe to which sprinklers or other emitters are attached for above-ground placement.

“Rotor Sprinkler” means a sprinkler that applies water in a pattern to a defined landscape area by means of one (1) or more rotating streams.

“Smart irrigation controller” means a device designed to reduce outdoor water use by irrigating based on plant water need. There are two (2) basic types:

- (1) Weather-based irrigation controllers use local weather and landscape conditions to tailor watering schedules.
- (2) Soil moisture-based irrigation controllers (soil moisture sensors) monitor moisture levels in the soil to prevent irrigation when water is not needed

“Spacing” means the distance between sprinklers or other emitters.

“Spray Sprinkler” means a sprinkler that steadily applies water in a pattern to a defined landscape area.

“Sprinkler” means an emission device consisting of a sprinkler body with one (1) or more orifices to convert irrigation water pressure to high velocity water discharge through the atmosphere, discharging a minimum of 0.5 gallons per minute (0.5 gpm) (1.9 liters per minute) (1.9 lpm) at the largest area of coverage available for the nozzle series when operated at 30 psi (206.8 kPa) or more with a full-circle pattern. *See also, “head.”*⁹

“Sprinkler body” means the exterior case or shell of a sprinkler incorporating a means of connection to the piping system, designed to convey water to a nozzle or orifice.

- (1) “Rotor sprinkler body” means a sprinkler body that contains components to drive the rotation of the nozzle or orifice during operation without an integral control valve.
- (2) “Spray sprinkler body” means a sprinkler body that does not contain components to drive the rotation of the nozzle or orifice during operation without an integral control valve.
- (3) “Valve-in-head sprinkler body” means a sprinkler body that contains an integral control valve.

⁹ Modified from *Landscape Irrigation and Florida-Friendly Landscaping Design Standards – 2024*.

“Sprinkler” An emission device consisting of a sprinkler body with one or more orifices to convert irrigation water pressure to high velocity water discharge through the air, discharging a minimum of 0.5 Gallons Per Minute (GPM) (1.9 Liters Per Minute [LPM]) at the largest area of coverage available for the nozzle series when operated at 30 PSI (206.8 kPa) or more with a full-circle pattern.

“Substantial improvement or modification” means any reconstruction, rehabilitation, addition, or other modification of a structure, the cost of which equals or exceeds 50 percent (50%) of the market value of the structure before the “start of construction” of the modification. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and that are the minimum necessary to assure safe living conditions or
- (2) Any alteration of an “historic structure”, provided that the alteration will not preclude the structure's continued designation as an “historic structure”.¹⁰

“Subsurface irrigation” means a landscape irrigation system with water emitters and a delivery line installed below the soil surface to distribute water to soils directly from under the surface that prevents airborne drift and minimizes runoff.

“Supplemental irrigation” means the practice of adding small amounts of water to landscapes that are primarily dependent on rainfall, when rainfall is insufficient for normal plant growth.

[The goal of SI is to improve and stabilize landscape plants and to help mitigate the negative effects of drought.¹¹]

“Supply” means the origin or source of the water used in the landscape irrigation systems.

“Temporary establishment irrigation” means the short-term use of irrigation for the establishment of new vegetation that must be removed once the plants are established. [Establishment period may be added by local government].

¹⁰ 44 CFR 59.1 Definitions. *See also* 44 CFR 9.4, Definitions: “means any repair, reconstruction or other improvement of a structure or facility, which has been damaged in excess of, or the cost of which equals or exceeds, 50 percent of the pre-disaster market value of the structure or replacement cost of the facility (including all “public facilities” as defined in the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988) before the repair or improvement is started, or if the structure or facility has been damaged and is proposed to be restored. Substantial improvement includes work to address substantial damage to a structure or facility. If a facility is an essential link in a larger system, the percentage of damage will be based on the cost of repairing the damaged facility relative to the replacement cost of the portion of the system which is operationally dependent on the facility.”

¹¹ [There appears to be a distinction between supplemental irrigation and supplementary irrigation. “Supplemental irrigation” appears to be a term of art for irrigation employed on a temporary, establishment basis or as needed because of drought, etc.; “supplementary irrigation” seems better employed for leaching, chemigation, and environmental adjustment.

“Throw” means the measured distance from the orifice of a sprinkler head to where the sprinkler deposits water.

“Turfgrass” means a groundcover surface of mowed grass.

“Valve” means a device used to control the flow of water within a landscape irrigation system.

“Weather-based irrigation controller” means a device that uses climatic information to determine when the landscape irrigation system operates by reducing or skipping irrigation in response to temperature and other climatic conditions in addition to rainfall.

“Wetted area” means a wetted pattern created by an emission device or multiple emission devices in a defined area.

SEC. X-3. INTENT AND PURPOSE.

An automatic landscape irrigation system is not required, and a carefully designed landscape and temporary irrigation is an option for any landscape.

The purpose of this article is to implement procedures that promote water conservation through more efficient landscape irrigation and to ensure efficient water use by establishing minimum standards for landscape and irrigation design, recognizing climate, soils, water resources, land use, and resource planning of the watersheds within the city. Implementation will aid in improving environmental quality and water use efficiency in the city. Creative site development concepts shall be used in order to promote water conservation. Water requirements may be reduced by providing for:

- (1) The preservation of existing plant communities;
- (2) The use of site appropriate plant materials;
- (3) The use of pervious paving materials;
- (4) The use of water efficient landscape irrigation; and
- (5) Other environmentally sensitive site development concepts;
- (6) Utilization of applicable best management practices.

SEC. X-4. SCOPE.

This article shall be applied and enforced within all incorporated areas of the city/county and within the potable and reclaimed water service area.

SEC. X-5. LANDSCAPE IRRIGATION SYSTEM PERMITS.

- (1) The landscape irrigation system permit application procedures in this section provide an economical, efficient, and safe method of reviewing proposed landscape irrigation systems plans and specifications prior to installation, by:
 - (a) evaluating in detail proposed plans for a landscape irrigation system; and

- (b) ensuring that, if approved, the landscape irrigation system is installed, maintained, and operated in a manner consistent with the Comprehensive Plan, this Code of Ordinances, and the health, safety, and general welfare of citizens and visitors.

(2) Application Requirements.

- (a) Name, address, phone, and email of applicant.
- (b) Licensed professional or authorized representative.
- (c) Application fee.
- (d) A landscape irrigation system permit application and plan must be submitted prior to building construction. A landscape irrigation system permit application and plan must include specifications that identify all design elements, development materials, and proposed installation methods. Landscape irrigation system design drawings must be clearly readable, at a reasonable scale, show the entire site to be irrigated, and include all modifications. Note: Additional requirements for commercial, industrial, multi-family, and municipal buildings are provided in [Appendix F of the Plumbing Volume of the FBC](#).
- (e) Landscape irrigation system application and plan design drawings must depict sprinkler spacing, application rate, location, valve size, station number, and sprinkler type with notes associated with landscape irrigation system plan design drawings confirming this requirement. Refer to the Florida Water Star Technical Manual <https://floridawaterstar.com/technical-manual/certification-process/#submissions>

[Alternatively, if the Local Government decides not to require a landscape irrigation system permit:]

[For any community or local government participating in the National Flood Insurance Program ("NFIP"), permits are required for all development in the special flood hazard area ("SFHA"). Permits may not be required in areas outside of the SFHA]

[Alternative] SEC. X-4. LANDSCAPE IRRIGATION SYSTEM, GENERALLY

- (1) A "Letter of Certification of Design for a Landscape Irrigation System," signed by a landscape irrigation system professional certifying the design is consistent with the requirements of this [ordinance], must be provided to the city prior to issuance of building or irrigation permits, or
- (2) A "Letter of Completion Certifying Compliance with Design for Landscape Irrigation System," signed by a landscape irrigation system professional certifying installation is consistent with the design certified in accordance with subsection (1) of this section, prior to issuance of a certificate of completion or certificate of occupancy, or
- (3) Proof of certification by the Florida Water StarSM certification program.

SEC. X-6. LANDSCAPE IRRIGATION SYSTEM REQUIREMENTS.

- (1) Development Standards. The intent and purpose of these landscape irrigation system standards is to ensure water conservation by considering:
 - (a) Efficient design (including a design drawing);
 - (b) Correct installation, [Appendix F of the Plumbing Volume of the FBC](#);
 - (c) Site-appropriate scheduling and run time consistent with water management district watering rules;

- (d) Regular maintenance by qualified entities; and
 - (e) Irrigation for establishment, post-establishment scheduling, and appropriate removal.
- (2) General Design. If a landscape irrigation system permit is required, plans and specifications must identify all proposed design elements, materials, and installation methods. In accordance with [Appendix F of the Plumbing Volume of the FBC](#), drawings and plans for landscape irrigation installation must be submitted prior to building construction. Design drawings and plans must be clearly readable, at a reasonable scale, show the entire site to be irrigated, and include all improvements.
- (a) Landscape Irrigation System Zones. Divide the landscape irrigation system into zones based on consideration of the following hydrozone conditions, in accordance with the following six (6) factors:
1. Available flow rate
 2. Cultural use of the area
 3. Type of vegetation irrigated (e.g., native plants, shrubs, turfgrass, etc.)
 4. Type of sprinklers (i.e., sprinklers with matching precipitation rates)
 5. Soil characteristics and slope
 6. Sun exposure
- (b) Reduced Sprinkler Areas.
1. Design the landscape with smaller areas of sprinkler irrigation (e.g., irrigated turfgrass areas, irrigated landscape bed areas, and unirrigated areas, etc.). (Maximum percentage of sprinkler irrigation can be inserted here, for example 60% sprinkler irrigation)
 2. Avoid creating narrow areas, i.e., four feet (4') or less wide, where possible and consider all state, district, and local laws, including those that require turf strips in side yards or rights-of-way. Irrigated areas less than four feet (4') wide must be irrigated with microirrigation or zone-appropriate spray heads, e.g., center or side strip spray nozzles in their own dedicated zone(s).
 3. Landscape irrigation systems must use micro-irrigation in landscape beds when supplemental irrigation is needed.
- (c) Check valves. Landscape irrigation system designs must ensure that when the system is off, there is no drainage from any emission device. Heads requiring check valves (e.g., heads located at a low point, sloped away from the building, at the site perimeter, etc.) must be clearly identified on the landscape irrigation system design plan and must be field verified.



- (3) Sprinkler spacing. Sprinkler spacing must be designed and installed to maximize water efficiency, to include:
- (a) Sprinkler head spacing at fifty percent (50%) of the nozzle throw diameter from adjacent sprinkler heads in all directions the nozzle is throwing. [Variance may be considered for narrow

areas under eight feet (8') where head-to-head spacing will oversaturate the soil or lead to other hydro-inefficiencies]; and

- (b) Sprinklers must be spaced and inspected [quarterly] to avoid watering impervious surfaces such as buildings, roadways, and sidewalks.
- (c) Sprinklers shall be located 24" from buildings and 6" from impervious areas.

[The frequency of inspections may be modified from quarterly depending on the needs of the jurisdiction.]

- (4) Sprinkler clearance. All sprinkler heads in turfgrass areas must be designed and maintained with:
 - (a) A minimum six-inch (6") high sprinkler body for St. Augustine, Zoysia, and Bahia grasses.
 - (b) A minimum four-inches (4") high sprinkler body for Centipede, Bermuda, and Seashore Paspalum grasses.
- (5) Pipe sizing. Design and maintain a maximum five feet per second (5 ft/s) water flow velocity for landscape irrigation system integrity.
- (6) Pressure Regulation. All sprinkler heads must be pressure regulated at the head or zone valve and set to manufacturers specifications.
- (7) Water Supply. Design the landscape irrigation system to utilize the lowest quality water available, feasible, and evaluated as suitable, including reclaimed water and stormwater.
- (8) Operation and Scheduling.
 - (a) Automatic Landscape Irrigation Controller Systems. All landscape irrigation systems must be equipped with irrigation controller(s) or smart irrigation controller(s) that include a weather-based irrigation controller.
 - (b) Post establishment irrigation (no more than 60 days), the owner of the system shall change the schedule in compliance with the District restrictions.

SEC. X-7 [ADDITIONAL PROVISIONS FOR CONSIDERATION BY LOCAL GOVERNMENT]

- (2)(a)7. Irrigation systems must be designed for maximum uniformity over an irrigation zone.
- (2)(a)8. Spray heads and rotors must not be mixed within the same zone and bubblers for trees shall be on separate zones
- (2)(b)4. High volume irrigation area(s) must not exceed 60% of total area to be irrigated. Low-volume irrigation areas may be utilized in lieu of any high-volume irrigation area.

[The Local Government may choose to adjust the area limits for high volume irrigation downward from 60%.]

- (2)(b)5. Turfgrass and landscape beds must be irrigated by distinctly separate irrigation zones.
- (2)(b)6. The landscape irrigation system must be designed so that there is no direct spray onto buildings, driveways, roadways, or other impervious hardscapes leading to water-wasting.
- (3)(c) Rotors and sprays in turf areas must be spaced to achieve head-to-head coverage.
- (4)(c) Irrigation risers must not be installed.
- (4)(d) There must be a minimum of four inches between distribution equipment and pavement.
- (6)(b) Landscape irrigation system must be designed and equipped to operate in the range of 30 to 40 psi at each spray head and 40 to 50 PSI at each rotor

- (7)(b) Landscape irrigation system must be equipped with filter device(s) to ensure emitters maintain proper cast and coverage.
- (8)(c) The landscape irrigation system installer must provide the property owners and users with the following post-construction and maintenance system information:
 - 1. Detailed design drawings [[Appendix F of the Plumbing Volume of the Florida Building Code](#)].
 - 2. Maintenance activities and schedules.
 - 3. Operational schedule.
 - 4. Instructions for adjusting the system to irrigate in accordance with the rules of the [Water Management District] after a landscape is established.
 - 5. Water shut-off method.
 - 6. Manufacturer's operational guide for the controller.
- (d) All landscape irrigation systems must be equipped with irrigation controller(s) with nonvolatile memory or battery backup that retains the irrigation schedule during and after power outages.

SEC. X-8. ENFORCEMENT.

- (1) **[The Local Government should follow the standard enforcement language consistent with other enforcement penalties.]**
- (2) Funds generated and penalties imposed under this chapter will be used by **[Local Government]** to administer and enforce the corresponding sections of this chapter and to further water conservation and nonpoint pollution prevention activities.

Section 4. SEVERABILITY

Section 5. REPEAL OF CONFLICTING ORDINANCES

Section 6. EFFECTIVE DATE

Section 7. INCORPORATION INTO THE CODE

Effective Date and Duration of Contract

The effective date of this Contract is _____ [insert date]. All terms of this Contract remain in effect for one year through 11:59 PM on _____ [insert ending date].

The signatures below bind Owner and Contractor to abide by the provisions contained in this Contract, including the appendices.

OWNER/MANAGER:

CONTRACTOR:

DATE:

DATE:

NOTARY SPACE