

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHINO HILLS, CALIFORNIA AMENDING THE CHINO HILLS MUNICIPAL CODE TITLE 16 (DEVELOPMENT CODE) IN ITS ENTIRETY CHAPTER 16.07 (LANDSCAPE AND WATER CONSERVATION REQUIREMENTS), AND DETERMINING THAT THE MUNICIPAL CODE AMENDMENT IS EXEMPT FROM REVIEW UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

THE CITY COUNCIL OF THE CITY OF CHINO HILLS DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. The City Council hereby makes the following findings of fact:

- A. On July 15, 2015 the State of California adopted the Model Water Efficient Landscape Ordinance in response to the California Department of Water Resources Executive Order No. B-29-15. The intent of the Model Water Efficient Landscape Ordinance is to promote efficient landscape in new developments and retrofitted landscapes by increasing water efficiency standards for new and retrofitted landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and by limiting the portion of landscapes that can be covered in turf.
- B. In response, staff contracted with Architerra, a landscape consulting firm, to assist in the review of Section 16.07 (Landscape and Water Conservation Requirements) of the Municipal Code. Due to the volume of changes required, the proposed Municipal Code amendment will replace Section 16.07 in its entirety.
- C. On June 20, 2017, the Planning Commission held a public hearing to receive oral and documentary evidence from staff and the public regarding the proposed amendment to the Municipal Code. The Commission recommended the adoption of the proposed amendment.
- D. Notice of public hearing was published in the Chino Hills Champion newspaper on July 29, 2017.
- E. A duly noticed public hearing before the City Council was conducted on August 8, 2017, at which time all interested persons were given an opportunity to testify in support of, or in opposition to the project.

SECTION 2. CEQA. The City Council finds and determines that this ordinance is not subject to the California Environmental Quality Act (California Public Resources Code §§ 21000, et seq. ("CEQA")) for the following reasons: (1) it will not result in a

direct or reasonably foreseeable indirect physical change in the environment (14 Cal. Code Regs. § 15060(c)(2)), (2) there is no possibility that the ordinance may have a significant effect on the environment (14 Cal. Code Regs. § 15061(b)(3)). Further, the proposed amendment is exempt pursuant to CEQA Guideline § 15308 (Actions by Regulatory Agencies for Protection of the Environment which consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment).

SECTION 3. Amend in its entirety Section 16.07 of the Chino Hills Municipal Code to read as follows:

Chapter 16.07 – Landscape and Water Conservation Requirements

16.07.010 – Intent and Purpose

This chapter is adopted in accordance with Government Code section 65595(c) for the purpose of complying with California law and promoting water conservation. The intent and purpose of this Chapter is to:

1. Promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;
2. Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction, and rehabilitated projects, by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;
3. Establish provisions for water management practices and water waste prevention for existing landscapes;
4. Use water efficiently without waste by setting a Maximum Applied Water Allowance (MAWA) as an upper limit for water use, and reduce water use to the lowest practical amount without a decline in the quality or quantity of landscapes;
5. Create the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits;
6. Conserve water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment; and
7. Protect existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants.

16.07.020 – Definitions

“Applied water” means the portion of water supplied by the irrigation system to the landscape.

“Automatic irrigation controller” means a timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-

adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

“Backflow prevention device” means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

“Certificate of completion” means the document required under Section 16.07.100.

“Certified irrigation designer” means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency’s WaterSense irrigation designer certification program and Irrigation Association’s Certified Irrigation Designer program.

“Certified landscape irrigation auditor” means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency’s WaterSense irrigation auditor certification program and Irrigation Association’s Certified Landscape Irrigation Auditor program.

“Check valve” or “Anti-drain valve” means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

“Common interest developments” means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

“Compost” means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

“Conversion factor (0.62)” means the number that converts acre-inches per acre per year to gallons per square foot per year.

“Distribution uniformity” means the measure of the uniformity of irrigation water over a defined area.

“Drip irrigation” means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

“Ecological restoration project” means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

“Emitter” means a drip irrigation emission device that delivers water slowly from the system to the soil.

“Established landscape” means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

“Establishment period of the plants” means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

“Estimated total water use” (ETWU) means the total water used for the landscape as described in Section 16.07.060.

“ET adjustment factor” (ETAF) means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

“Evapotranspiration rate” (ETo) means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time. The monthly and annual evapotranspiration rate used for the City of Chino Hills is as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Eto
2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6

“Flow rate” means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

“Flow sensor” means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

“Front yard aggregate landscape area” means the landscaping area between the property line adjacent to the front yard setback and the dwelling.

“Fuel modification plan guideline” means guidelines from the Chino Valley Fire District to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

“Graywater” means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

“Hardscapes” means any durable material (pervious and non-pervious).

“Hydrozone” means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

“Infiltration rate” means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

“Invasive plant species” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

“Irrigation audit” means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution

uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "WaterSense" labeled auditing program.

"Irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this Chapter are 0.75 for overhead spray devices and 0.81 for drip systems.

"Irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

"Irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.

"Landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

"Landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

"Landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

"Landscape documentation package" means the documents required under 16.07.050.

"Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this Chapter, meeting requirements under Section 16.07.030.

"Landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

"Lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

"Low volume irrigation" means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

"Main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

"Master shut-off valve" is an automatic valve installed at the irrigation supply point that controls water flow into the irrigation system. When this valve is closed water

will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

“Maximum applied water allowance” (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 16.07.060. It is based upon the area’s reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. $MAWA = (ET_o) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$

“Median” is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

“Mined–land reclamation projects” means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

“Mulch” means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

“New construction” means, for the purposes of this Chapter, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

“Non–residential landscape” means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.

“Operating pressure” means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

“Overhead sprinkler irrigation systems” or “Overhead Spray Irrigation Systems” means systems that deliver water through the air (e.g., spray heads and rotors).

“Overspray” means the irrigation water that is delivered beyond the target area.

“Parkway” means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.

“Permit” means an authorizing document issued by the City for new construction or rehabilitated landscapes.

“Pervious” means any surface or material that allows the passage of water through the material and into the underlying soil.

“Plant factor” or “Plant water use factor” (PF) is a factor, when multiplied by ET_o , estimates the amount of water needed by plants. For purposes of this Chapter, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this Chapter are derived from the publication “Water Use Classification of Landscape Species”. Plant factors may also be obtained from horticultural researchers from

academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

“Project applicant” means the individual or entity submitting a Landscape Documentation Package to request a permit, plan check, or design review from the City of Chino Hills. A project applicant may be the property owner or his or her designee.

“Rain sensor” or “Rain Sensing Shut-Off Device” means a component that automatically suspends an irrigation event when it rains.

“Record drawing” or “As-builts” means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

“Recreational area” means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf course tees, fairways, roughs, surrounds and greens.

“Recycled water,” “Reclaimed water,” or “Treated sewage effluent water” means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.

“Reference evapotranspiration” or “ET_o” means a standard measurement of environmental parameters that affect the water use of plants. ET_o is expressed in inches per day, month, or year as represented in Appendix A, and is an estimate of the evapotranspiration of a large field of four-to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.

“Rehabilitated landscape” means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 16.07.030, and the modified landscape area is equal to or greater than 2,500 square feet.

“Residential landscape” means landscapes surrounding single or multifamily homes.

“Run off” means water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, run off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

“Soil moisture sensing device” or “Soil moisture sensor” means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

“Soil Texture” means the classification of soil based on its percentage of sand, silt, and clay.

“Special landscape area” (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

“Sprinkler head” or “Spray head” means a device that delivers water through a nozzle.

“Static water pressure” means the pipeline or municipal water supply pressure when water is not flowing.

“Station” means an area served by one valve or by a set of valves that operate simultaneously.

“Swing joint” means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

“Submeter” means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.

“Turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.

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

“Water conserving plant species” means a plant species identified as having a very low or low plant factor.

“Water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

“Watering window” means the time of day irrigation is allowed.

“WUCOLS” means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014 (or most current edition).

16.07.030 – Applicability and Exemptions

A. Applicability. This Chapter applies to all of the following landscape projects:

1. New single family residential construction projects with an aggregate landscape area in the front yard equal to, or greater than, 500 square feet requiring a building or landscape permit, plan check or design review;
2. New construction projects with an aggregate landscape area equal to, or greater than, 500 square feet requiring a building or landscape permit, plan check or design review; and
3. Rehabilitated landscape projects with an aggregate landscape area equal to, or greater than, 2,500 square feet requiring a building or landscape permit, plan check, or design review.

B. Exemptions. This Chapter does not apply to:

1. Registered local, state or federal historical sites;
2. Ecological restoration projects that do not require a permanent irrigation system;
3. Mined-land reclamation projects that do not require a permanent irrigation system;

4. Existing plant collections, as part of botanical gardens and arboretums open to the public; and
5. Any project that is lawfully constructed, erected, or approved prior to the effective date of this chapter, or for which the application for entitlement is deemed complete prior to the effective date of this chapter, in compliance with applicable laws, and which project does not conform to the requirements of this chapter shall be accepted and allowed as a legal nonconforming project. Legal nonconforming projects shall comply at all times with the laws, ordinances, and regulations in effect at the time the application was deemed complete, and any applicable federal or state laws as they may be amended or enacted from time to time, and shall at all times comply with the conditions of approval. Any legal nonconforming project which fails to comply with applicable laws, ordinances, regulations, or conditions of approval may be required to conform to the provisions of this chapter.

16.07.040 – Authority; Compliance with Landscape Documentation Package

A. The Community Development Director, or designee, has the duty and authority to administer and enforce this Chapter.

B. Prior to construction, and the issuance of a permit, the City shall review and approve the complete Landscape Documentation Package prepared by a licensed landscape architect. The licensed landscape architect shall ensure that all components of the package adhere to the requirements of this Chapter. Any application submitted without the signature of a licensed landscape architect shall not be accepted for review.

C. Prior to the issuance of the Certificate of Occupancy, or final inspection, the applicant shall submit a Certificate of Completion certifying that the landscaping has been completed in accordance with the approved Landscape Documentation Package.

16.07.050 – Elements of the Landscape Documentation Package

A. The Landscape Documentation Package shall include the following six (6) elements:

1. Project information;
 - a. date,
 - b. project applicant,
 - c. project address (if available, Assessor's Parcel Number, tract and/or lot number(s)),
 - d. total landscape area (square feet),
 - e. project type (e.g., new, rehabilitated, public, private, single-family, multi-family, retail, and/or commercial),
 - f. water supply type (e.g., potable, recycled, and/or well) and identify the retail water purveyor if the applicant is not served by a private well,
 - g. index of all documents in Landscape Documentation Package,
 - h. project contacts to include contact information for the project applicant and property owner, and

- i. applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package".
- 2. Landscape design plan;
- 3. Water Efficient Landscape Data and Calculations;
 - a. Hydrozone Information Table, and
 - b. Water Efficient Landscape Worksheet,
 - Maximum Applied Water Allowance (MAWA)
 - Estimated Total Water Use (ETWU)
- 4. Soil management report;
- 5. Irrigation design plan; and
- 6. Grading design plan.

16.07.060 – Landscape Design Requirements and Plan

- A. For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan, prepared by a licensed landscape architect, meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.
 - 1. Plant Material
 - a. Any plant may be selected for the landscape, providing the Estimated Total Water Use (ETWU) in the landscape area does not exceed the Maximum Applied Water Allowance (MAWA). Refer to City's Landscape Plan Check Information and Application.
 - b. Plants having similar water needs shall be grouped together in distinct hydrozones.
 - c. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. The protection and preservation of existing native species and natural areas is encouraged.
 - d. Turf areas shall be minimized and used wisely in response to functional needs and shall not cause the ETWU to exceed the MAWA. Where turf is installed the use of warm season turf is strongly encouraged.
 - e. Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape, and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
 - f. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
 - g. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention consistent with the regulations from the Chino Valley Independent Fire Department. Refer to City's Municipal Code Chapter 16.22 – Fire Hazard Overlay District for additional information.
 - h. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is prohibited near parks, buffers, greenbelts, water bodies, and open spaces because of their potential to cause harm in sensitive areas.

2. Water Features
 - a. Recirculating water systems shall be used for water features.
 - b. Where available, recycled water shall be used as a source for decorative water features.
 - c. Surface area of water features shall be included as a high water use hydrozone in the water budget calculation.

3. Soil Management Report, Amendments and Mulch
 - a. Soil samples shall be collected and submitted to a laboratory to obtain a soil management report.
 - Soil management report shall include a written analysis of soil texture, infiltration rate, pH, total soluble salts, sodium, percent organic matter and soil amendment recommendations.
 - b. Soil preparation and amendments shall comply with the recommendations of the soil management report and what is appropriate for the plants selected.
 - c. Documentation (e.g., soil amendment delivery tickets) shall be submitted verifying implementation of soil analysis management report recommendations with the Certificate of Completion.
 - d. A minimum three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
 - e. Stabilizing mulching products shall be used on slopes that meet current engineering standards.

B. The landscape design plan, at a minimum, shall:

1. Delineate and label each hydrozone by number, letter, or other method;
2. Identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;
3. Identify recreational areas;
4. Identify areas permanently and solely dedicated to edible plants;
5. Identify areas irrigated with recycled water;
6. Identify type of mulch and application depth;
7. Identify soil amendments, type, and quantity;
8. Identify type and surface area of water features;
9. Identify hardscapes (pervious and non-pervious);
10. Identify location, installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the City or regional Water Quality Control Board for information on any applicable stormwater technical requirements;
11. Identify any applicable rain harvesting or catchment technologies;

12. Identify any applicable graywater discharge piping, system components and area(s) of distribution;
13. Contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the landscape design plan"; and
14. Bear the signature of a licensed landscape architect.

16.07.070 – Irrigation Design Requirements and Plan

A. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan, prepared by a licensed landscape architect or a certified irrigation designer, meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

1. System

- a. Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. or greater and residential irrigated landscapes of 5,000 sq. ft. or greater.
- b. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.
- c. If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
- d. Sensors (rain, freeze, wind, etc.) that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems.
- e. Manual shut-off valves shall be required, at the point of connection, to minimize water loss in case of an emergency or routine repair.
- f. Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system.
- g. Flow sensors that detect high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.
- h. Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.
- i. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.

- j. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
 - k. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
 - l. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria set by the Maximum Applied Water Allowance (MAWA).
 - m. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turf-grass.
 - n. Check valves, or anti-drain valves, are required on all sprinkler heads where low point drainage could occur.
 - o. Planting areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
 - p. Overhead irrigation shall not be permitted within a 24 inch setback of any non-permeable surface. Allowable irrigation within that setback may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:
 - The landscape area is adjacent to permeable surfacing and no runoff occurs; or
 - The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping. Prevention of overspray and runoff must be confirmed during the irrigation audit.
 - q. Slopes greater than 25% shall not be irrigated with an irrigation system with an application rate exceeding 0.75 inches per hour. Prevention of runoff and erosion must be confirmed during the irrigation audit.
2. Hydrozone
- a. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
 - b. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.
 - c. Individual hydrozones that mix moderate and low water use plants, or moderate and high water use plants shall use the plant factor of the higher water using plant for calculations.
 - d. Individual hydrozones that mix high and low water use plants shall not be permitted.
 - e. Assign a hydrozone number and designate the areas irrigated by each related valve. The hydrozone number shall be used in the Hydrozone Information Table.

3. Recycled Water
 - a. The installation of recycled water irrigation systems shall allow for the current and future use of recycled water, unless the City Engineer has granted a written exemption stating that recycled water will not be available in the foreseeable future.
 - b. All recycled water irrigation systems shall be designed and operated in accordance with all applicable City and State laws. Refer to the City's Guidelines for new development and retrofit projects that outline the requirements and procedures involved in applying for recycled water services.
 - c. Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.
4. Graywater Systems
 - a. Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable City ordinance standards.

B. The irrigation design plan, at a minimum, shall contain:

1. Location and size of separate water meters for landscape;
2. Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
3. Static water pressure at the point of connection to the public water supply;
4. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
5. Recycled water irrigation systems;
6. Contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan"; and
7. Bear the signature of a licensed landscape architect or certified irrigation designer.

16.07.080 – Grading Design Requirements and Plan

- A. For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for City permits satisfies this requirement.

16.07.090 – Stormwater Management and Rainwater Retention

- A. Stormwater management practices minimize runoff and increase infiltration, which recharges groundwater and improves water quality. Implementing stormwater best management practices into the landscape and grading design

plans to minimize runoff and to increase on-site rainwater retention and infiltration are encouraged.

- B. Project applicants shall refer to the City or Regional Water Quality Control Board for information on any applicable stormwater technical requirements.

16.07.100 – Certificate of Completion

- A. The Certificate of Completion, refer to the Landscape Plan Check Information and Application, includes the following six (6) elements:
 1. Project information sheet;
 2. Certification of installation according to the landscape documentation package by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor;
 3. Irrigation scheduling parameters used to set the controller;
 4. Landscape and irrigation maintenance schedule;
 5. Irrigation audit report; and
 6. Soil management report, if not previously submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations.

16.07.110 – Irrigation Scheduling

- A. For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall be developed and submitted for each of the following conditions: plant establishment period, established landscape, and temporarily irrigated areas.
- B. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.

16.07.120 – Landscape and Irrigation Maintenance Schedules

- A. Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.
- B. A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing obstructions to emission devices.

- C. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.

16.07.130 – Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis

- A. All landscape irrigation audits shall be conducted by a City landscape irrigation auditor, or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.

16.07.140 – Enforcement

- A. It is unlawful and a misdemeanor for any person, firm, or corporation to violate, disobey, omit, neglect, refuse to comply with, or resist the enforcement of any of the provisions of this chapter. Such behavior shall subject the violator to penalty as set forth in Section 1.36.020 of this Code. Each day that a violation exists shall constitute a separate offense.

- B. In addition to subsection A above, any violation of the provisions of this chapter or the conditions of operation of any permit issued pursuant to this Chapter constitute a public nuisance subject to abatement by the City through obtaining a court injunction from a court of competent jurisdiction or through the procedures set forth in Chapter 8.12 of this Code.

SECTION 4. Upon the effective date of this Ordinance, the provisions hereof shall supersede any inconsistent or conflicting provisions of the San Bernardino County Code, as the same were adopted by Reference by City Ordinance Nos. 91-01 and 92-02.

SECTION 5. If any part of this Ordinance or its application is deemed invalid by a court of competent jurisdiction, the City Council intends that such invalidity will not affect the effectiveness of the remaining provisions or applications and, to this end, the provisions of this Ordinance are severable.

SECTION 6. This Ordinance must be broadly construed in order to achieve the purposes stated in this Ordinance. It is the City Council's intent that the provisions of this Ordinance be interpreted or implemented by the City and others in a manner that facilitates the purposes set forth in this Ordinance.

SECTION 7. The City Clerk is directed to certify the passage and adoption of this Ordinance, cause it to be entered into the City of Chino Hills' book of original Ordinances, make a note of the passage and adoption in the records of this meeting, and, within fifteen days after the passage and adoption of this Ordinance, cause it to be published or posted in accordance with California law.

SECTION 8. This Ordinance will take effect on the 30th day following its final passage and adoption.

SECTION 9. The City Clerk shall certify as to the adoption of this Ordinance.

PASSED, APPROVED, AND ADOPTED this _____ day of _____, 2017.

RAY MARQUEZ, MAYOR

ATTEST:

CHERYL BALZ, CITY CLERK

APPROVED AS TO FORM:

MARK HENSLEY, CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) ss.
CITY OF CHINO HILLS)

I, CHERYL BALZ, City Clerk of the City of Chino Hills, do hereby certify that the foregoing Ordinance No. _____, was duly passed and adopted at a regular meeting of the Chino Hills City Council held on the _____ day of _____, 2017 by the following roll call vote, to wit:

AYES: COUNCIL MEMBERS:

NOES: COUNCIL MEMBERS:

ABSENT: COUNCIL MEMBERS:

CHERYL BALZ, CITY CLERK

I hereby certify that the foregoing is the original of Ordinance No. _____ duly passed and adopted by the Chino Hills City Council at their regular meeting held on _____ and that summaries of the Ordinance were published on _____ and _____ in the Chino Hills Champion newspaper.

CHERYL BALZ, CITY CLERK