

Chapter 15.50 LANDSCAPING AND IRRIGATION REQUIREMENTS

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15.50.010. Purpose and intent.

A. The purpose of the Fullerton Landscape Ordinance is to establish standards for the provision of landscaping within the City of Fullerton while promoting conservation and the efficient use of water, prevention of erosion, protection from fire, and restoration of natural systems.

B. The intent of the Fullerton Landscape Ordinance is to maximize the range of landscape materials and design possibilities within the framework established by this Chapter.

C. The Fullerton Landscape Ordinance includes by reference the following chapters of the Fullerton Municipal Code:

9.06 - Community Forestry

12.04 - Water Regulations

12.06 - Water Supply Shortage Conservation Plan

12.18- Water Quality Ordinance

13.19- Fire Prevention Standards

14.03 - Erosion Control

If a discrepancy arises between Chapter 15.50 and the above chapters, the provisions requiring the most landscaping quantities and the stricter design criteria shall apply, unless otherwise determined by the Directors of Community Development and Public Works and the Fire Chief.

(Ord. 3134, 2009)

15.50.015. Applicability and exemptions.

A. The Fullerton Landscape Ordinance applies to:

1. Landscaping required for single- and two-family residential zoned properties pursuant to Section 15.17.050H;
2. Landscaping required for multi-family residential zoned properties pursuant to Section 15.17.070G;
3. Landscaping required for planned residential development zoned properties pursuant to Section 15.20.050E;
4. Landscaping required for specific plan district zoned properties pursuant to Section 15.21.060;
5. Landscaping required for oil-overlay zoned properties pursuant to Section 15.22.110;
6. Landscaping required for public-land zoned properties pursuant to Section 15.25.050;
7. Landscaping required for commercial zoned properties pursuant to Section 15.30.050G;
8. Landscaping required for commercial-greenbelt zoned properties pursuant to Section 15.35.050.J;
9. Landscaping required for industrial zoned properties pursuant to Section 15.40.040G;
10. Landscaping required for commercial stables pursuant to Section 15.55.030C.2.g; and
11. Landscaping required for parking areas pursuant to Section 15.56.130.

B. The Fullerton Landscape Ordinance does not apply to:

1. Local, state or federal historic or cultural resources where application of the Landscape Ordinance would be in conflict with the Secretary of the Interior's Standards for the Treatment of Historic Properties or other such relevant standards.
2. Site alterations to intentionally establish or re-establish a defined, indigenous ecosystem without a permanent irrigation system.

3. Plant collections, as part of botanical gardens and arboretums open to the public.

(Ord. 3134, 2009)

15.50.025. General provisions.

A. Each landscaped area shall be located, designed and material selected such that at any time, including at maturity, it maximizes summer shade and winter solar gain and does not interfere with visibility, access, building integrity, or utility infrastructure.

B. Each landscaped area shall be designed to minimize disruption to existing mature landscaping that is in good, healthy condition, and every effort shall be made to retain and incorporate said landscaping into the overall landscape theme.

C. Each landscaped area shall include a combination of materials compatible with the shape, topography and soil conditions of the site, as well as the architectural characteristics of the structure(s) on the site.

D. Each landscaped area shall use native and appropriate non-native plants adapted to site conditions, climate, and design intent to support biodiversity, reduced pesticide use, and water conservation, with particular avoidance of the use of invasive plant species defined by the California Invasive Plant Council.

E. Each landscaped area shall be designed with an efficient irrigation system that waters only targeted areas when needed in relation to soil and climatic conditions.

F. Each landscaped area shall be installed in accordance with approved landscape, irrigation, grading and soil management plans.

G. Each landscaped area shall be regularly maintained following installation to reach and retain a healthy, established growing condition, while conserving water usage.

(Ord. 3134, 2009)

15.50.030. Requirements and procedures for review.

A. A Landscape Documentation Package shall be submitted to the Community Development Department for review and approval for all projects subject to the provisions of the Fullerton Landscape Ordinance.

B. A standard Landscape Documentation Package shall include:

1. Water Efficient Landscape Calculations pursuant to Section 15.50.035;
2. Soil Management Report pursuant to Section 15.50.040;
3. Certified Landscape Design Plan pursuant to Section 15.50.045;
4. Certified Irrigation Design Plan pursuant to Section 15.50.050;

5. Certified Grading Design Plan pursuant to Section 15.50.052, unless grading information is included in the Landscape Design Plan for the project or unless the landscape project is limited to replacement planting and/or irrigation to rehabilitate an existing landscape area;

6. Final Project Certification pursuant to Section 15.50.055; and

7. One-year Maintenance Deposit pursuant to Section 15.50.060.

C. Certain projects shall require additional information as part of the Landscape Documentation Package as follows:

1. Irrigation Audit Report pursuant to Section 15.50.055.C.

2. Private yard and open space documentation pursuant to Section 15.50.090.B.

3. Public education pursuant to 15.50.110.

D. The following Landscape Documentation Package Items shall be submitted for review and approval prior to the issuance of building permits:

1. Water efficient landscape calculations;

2. Soil Management Report, where project grading is minimal such that the soil characteristics will not be significantly altered during construction;

3. Certified Landscape Design Plan;

4. Certified Irrigation Design Plan; and

5. Certified Grading Design Plan, where applicable pursuant to Section 15.50.52.

E. Installation of landscaping and irrigation subject to a Landscape Documentation Package shall not proceed without the issuance of landscape, plumbing, and/or water engineering permits.

F. The following Landscape Documentation Package items shall be submitted for review and approval as a prerequisite to the final occupancy approval of the property:

1. Soil Management Report, where project grading impacted the soil characteristics;

2. Final Project Certification;

3. One-year Maintenance Deposit;

4. Irrigation Audit Report, when required pursuant to Section 15.50.055.D; and

5. Private yard and open space documentation when required by Section 15.50.90.B.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.035. Water efficient landscape calculations.

A. Water efficient landscape calculations shall be prepared by and bear the signature of a professional appropriately licensed in the State of California to provide professional landscape design services; the signature shall be accompanied by a date and the following statement: "I

have complied with the City of Fullerton Landscape Ordinance in preparing the Water Efficient Landscape Calculations."

B. The licensed landscape professional shall calculate the Maximum Applied Water Allowance (MAWA) for the total landscaped area to establish the upper limit of irrigation water that shall be used by the project annually. The MAWA shall be calculated using the formula and methodology established in Appendix C to the Fullerton Landscape Ordinance. A separate worksheet shall be prepared for each point of connection. Seasonal calculations can be aggregated for an annual total.

1. The MAWA for landscaped areas shall be calculated using an Evapotranspiration Adjustment Factor (ETAF) of 0.55 for residential areas and 0.45 for non-residential areas. The ETAF for existing non-rehabilitated landscapes is 0.8. The MAWA for special landscaped areas shall be calculated using an ETAF of 1.0.

2. The MAWA shall be calculated using a Reference Evapotranspiration Rate (ETo) in accordance with Table 15.50.35.A.

Table 15.50.035.A. Reference Evapotranspiration (ETo) Table													
County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Orange													
Fullerton	2.7	2.7	3.3	4.6	5.3	5.7	6.0	6.0	5.2	3.4	2.6	2.0	49.7

* The values in this table were derived from the California Irrigation Management Information System (CIMIS) Spatial CIMIS data by zip code based on the monthly average for zip codes in the City of Fullerton.

C. The licensed landscape professional shall calculate the Estimated Applied Water Use (EAWU) for the total landscaped area to determine the total annual irrigation water need of the project as required to keep plants in a healthy state. The EAWU shall be calculated using the formula and methodology established in Appendix C to the Fullerton Landscape Ordinance. A separate worksheet shall be prepared for each point of connection. Seasonal calculations can be aggregated for an annual total.

D. The EAWU for the total landscaped area shall not exceed the MAWA.

1. The EAWU shall be calculated using a Reference Evapotranspiration Rate (ETo) in accordance with Table 15.50.035A.

2. The EAWU shall be calculated using the plant water use factor according to protocols defined in detail in the Water Use Classification of Landscape Species (WUCOLS) or from a source approved by the California Department of Water Resources. The plant factor ranges from 0 to 0.1 for very low water use plants, 0.1 to 0.3 for low water use plants, 0.4 to 0.6 for moderate water use plants, and 0.7 to 1.0 for high water use plants. The species factor shall be determined for each hydrozone based on the highest-water-use plant species within the zone.

a. The area of a special landscaped area (SLA) or water feature shall be defined as a high water use hydrozone with a species factor of 1.0 unless a plant factor according to protocols defined in detail in the WUCOLS is available. For calculation of the EAWU, the ETAF for SLA shall be calculated as the SLA plant factor divided by the SLA irrigation efficiency factor.

b. A temporarily irrigated hydrozone area, such as an area of highly drought-tolerant native plants that are not intended to be irrigated after they are fully established, shall be defined as a very low water use hydrozone with a species factor of 0.1.

3. The EAWU shall be calculated using an Irrigation Efficiency assumption by head type in accordance with Table 15.50.035B. Other values may be used when supported by manufacturer's specifications or landscape professional's calculations when derived from measurements and estimates of irrigation system characteristics and management practices.

Irrigation Method	DU_{LQ}	DU_{LH}*	EU	IE**
Spray nozzles	65%	79%		71%
High efficiency spray nozzles	70%	82%		73%
Multi stream/Multi trajectory rotary (MSMT) nozzles	75%	85%		76%
Stream rotor nozzle	70%	82%		73%
Microspray	75%	85%		76%
Bubblers			85%	77%
Drip emitter			90%	81%
Subsurface drip			90%	81%

DU = Distribution Uniformity (the measure of the uniformity of irrigation water over a defined area)

*DU_{LH} = .386 + (.614)(DU_{LQ})

** IE (spray) = (DU_{LH})(IME)

** IE (drip) = Emission uniformity (EU)(IME)

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.040. Soil and Stormwater Management.

A. All planted landscape areas are required to have friable soil to maximize retention and infiltration. On engineered slopes, only amended planting holes need meet this requirement.

B. The licensed landscape professional shall submit soil samples to a certified agronomic soils laboratory for analysis and recommendations in order to ensure the landscaped area is designed to drain to promote healthy plant growth and to prevent excessive erosion and runoff. These samples shall be taken when the soil conditions of the landscape areas will no longer be impacted by grading or other earthmoving activities.

C. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

D. The minimum information to be included in the report shall be:

1. Soil texture;
2. Infiltration rate determined by laboratory test or soil texture;
3. Infiltration rate table;
4. pH;
5. Total soluble salts;
6. Sodium;
7. Percent organic matter; and
8. Recommendations to ensure landscaped areas are designed to drain to promote healthy plant growth and to prevent excessive erosion and runoff.

E. In projects with multiple landscape installations (i.e., production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% of the site will satisfy this requirement.

F. Information and recommendations from the Soil Management Report shall be incorporated into the Certified Landscape and Irrigation Design Plans, and implemented in the installation of the landscape project as set forth in Sections 15.50.045 and 15.50.050.

G. It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from additional capacity as required by any applicable local, regional, state, or federal regulation and/or one of the following: the one inch, 24-hour rain event or the 85th percentile, 24-hour rain event.

H. It is recommended that storm water projects incorporate any of the following elements to improve on-site stormwater and dry weather runoff capture and use:

1. Grade impervious surfaces, such as driveways, during construction to drain into vegetated areas.
2. Minimize the area of impervious surfaces such as paved areas, roof, and concrete driveways.
3. Incorporate pervious or porous surfaces (e.g. gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
4. Direct runoff from paved surfaces and roof areas into planting beds or landscape areas to maximize site water capture and reuse.
5. Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
6. Incorporate infiltration beds, swales, basins, and drywells to capture stormwater and dry weather runoff and increase percolation into the soil.

7. Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

[Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.045. Certified Landscape Design Plan.

A. Design Requirements.

1. For the efficient use of water, landscapes shall be carefully designed and planned for the intended function of the project. Landscaped areas shall be designed in accordance with the following:

a. Designs and materials shall be in accordance with the General Provisions as set forth in Section 15.50.025;

b. The EAWU for the total landscaped area shall not exceed the MAWA as set forth in Section 15.50.035; and

c. Plant Material

i. Any plant may be selected for the landscape, providing the EAWU in the landscape area does not exceed the MAWA.

Methods to achieve water efficiency shall include one or more of the following:

a. Protection and preservation of non-invasive water-conserving plant, tree and turf species;

b. Selection of water-conserving plant, tree and turf species;

c. Selection of plants based on local climate suitability, disease and pest resistance;

d. Selection of trees based on size at maturity as appropriate for the planting area;

e. Selection of plants from local or regional landscape program plant lists;

f. In high fire hazard areas, selection of plants from City of Fullerton Very High Fire Hazard Severity Zone Requirements.

ii. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site, including the following:

a. Use the Sunset Western Climate Zone System, or equivalent generally accepted models, which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;

- b. Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, and power lines); allow for adequate soil volume for healthy root growth; and
 - c. Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- iii. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
- iv. Turf shall not be treated as a fill in material, but rather as a planned element of the landscape. The use of turf grass is only recommended in active use areas where it provides a playing surface. Groundcovers and drought tolerant grasses that require less water are recommended in non-active areas. Turf for non-active use shall be limited to 25% of the landscaped area or as otherwise restricted by the MAWA. Turf shall not be permitted in landscaped areas with a slope percentage greater than 25%. Where turf is utilized, it shall be separated from other landscape areas by a border, mow strip, or other material as approved by the Community Development Director.
- v. Planting design (species, quantity, size and spacing) shall achieve 70% landscape area coverage within 2 growing seasons from installation.
- vi. Plant material shall be utilized to: screen trash enclosures and public utilities and connections; relieve solid, unbroken building elevations and soften continuous wall expanses; or as otherwise required by Fullerton Municipal Code 15.46.050A and 15.47.050A.
- vii. All planting areas shall be separated from parking and vehicular circulation areas by a raised, continuous six-inch Portland cement concrete curb. The Community Development Director may approve other materials that accomplish the same purpose.
- viii. Projects including unimproved private yards or open spaces to be landscaped or otherwise completed by the buyer of the lot shall comply with Section 15.50.090.A.
- xiv. Artificial plants and surfaces painted to appear as plant material are not acceptable under any circumstances in a landscaped area. Synthetic turf shall be permitted pursuant to Fullerton Municipal Code Section 15.56.140.

2. Materials shall be located by hydrozone such that:

- a. Hydrozones shall consist of plants materials with similar water use except where specified as a permitted mix.
- b. Individual hydrozones that mix plants of moderate and low water use or moderate and high water use shall be permitted if:
 - i. The plant factor calculation is based on the proportions of the respective plant water uses and their respective plant factors; or
 - ii. The plant factor of the higher water using plant is used for the calculations.

c. Individual hydrozones that mix high and low water use plants shall not be permitted.

3. A landscape design plan for projects in fire-prone areas and fuel modification zones shall comply with requirements of the Fullerton Fire Department Fullerton Very High Fire Hazard Severity Zone Requirements. When conflicts between water conservation and fire safety design elements exist, the fire safety requirements shall have priority.

4. Water Features

a. No water shall be used to clean, fill, or maintain levels in decorative water features, or other similar aesthetic structures, unless such water is part of a recycling system.

b. Where available and consistent with public health guidelines, recycled water shall be used as a source for decorative water features.

c. The surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.

d. Pool and spa covers are highly recommended.

5. Soil Preparation, Mulch and Amendments

a. Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

b. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.

c. For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil, as determined by the Soil Management Plan, are exempt from adding compost and tilling.

d. The exposed soil surfaces on the ground plane shall be covered with a minimum three-inch layer of material to improve waterholding capabilities of soil through reduced evaporation and compaction. Organic materials from recycled or post-consumer shall take precedent over inorganic materials or virgin forest product. Material may be decorative gravel, stones, decomposed granite, compost, or mulch as appropriate for the plant material and of a size sufficient to remain in place once it has been installed. Stabilizing mulching products that meet current engineering standards shall be used on slopes.

e. Stabilizing mulching products shall be used on slopes that meet current engineering standards such as those detailed in the USDA/USAID Low-Volume Roads Engineering Best Management Practices Field Guide.

f. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.

B. Content.

1. Plans shall:

a. Be prepared by and bear the signature of a professional appropriately licensed by the State of California to provide professional landscape design services; the signature shall be accompanied by a date and the following statement: "I have complied with the City of Fullerton Landscape Ordinance in preparing the Landscape Design Plan."

b. Provide project summary information which, at a minimum, includes:

- Project Name;
- Project Number;
- Project Location (Street Address, parcel or lot number(s));
- Zoning Classification of the Project Location;
- Water Supply (e.g., potable, recycled, graywater);
- Landscaped Area (in square feet) and rehabilitated landscape area (if applicable);
- Project Type (e.g., new, rehabilitated, public, private, homeowner-installed);
- Water supply type (e.g., potable or recycled);
- Planting Area (in square feet);
- Turf Area (in square feet);
- Water Feature Area (in square feet);
- Special Landscaped Area (in square feet);
- Identify components of the Total Landscaped Area;
- Planting Areas and Turf Areas;
- Delineate and label each hydrozone by number, letter, or other method for identification and indicate on a separate table the water use for each hydrozone (low, moderate, high, low-moderate mix, or moderate-high mix);
- Temporarily irrigated areas of the landscape area shall be included in the low water use hydrozone for the water budget calculation;
- Identify recreational areas;
- Identify areas permanently and solely dedicated to edible plants;
- Identify areas irrigated with recycled water;
- Spatially locate the planting materials within each hydrozone and indicate on a separate table the size, quantity and WUCOLS species factor of each plant by hydrozone;

- Identify location, type of mulch and application depth;
 - Identify location and type of separation between turf and planting areas;
 - Identify location and type of separation between planting areas and parking and vehicular circulation areas;
 - Identify soil amendments, type, and quantity based on Soil Management Report;
 - Indicate height of graded slopes and slope percentage;
 - Indicate proposed drainage patterns, proposed topography of site with a separate identification of areas to be compacted, and location of retaining or non-retaining walls; alternatively the grading plan and wall plan submitted for the project shall be provided;
 - Indicate methods of tree staking or guying for single and multi-trunk trees, as appropriate, and indicate time after which stakes or guys can be removed; a minimum of two stakes on either side of the tree or three guy wires equidistantly spaced around the tree shall be required; central nursery stakes shall be removed once staked or guyed per plan; and
 - Indicate method to espalier vines, as appropriate; nursery stakes or trellises shall be removed once espaliered per plan.
- Water Features.
- Identify type of water features;
 - Identify if water is recirculated;
 - Identify if water is recycled; and
 - Identify surface area of water features.
- c. Identify pervious or non-pervious hardscapes surrounded by or abutting landscape areas.
- d. Identify location of, for reference purposes only, any stormwater best management practices that encourage on-site retention and infiltration of stormwater.
- e. Identify any rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
- f. Identify any applicable graywater discharge piping, system components and area(s) of distribution.
- g. Identify locations of buildings and other structures on site.
- h. Identify locations of above-ground utilities and connections as well as trash enclosures.

- i. Include a schedule for on-going maintenance.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.050. Certified Irrigation Design Plan.

A. Design Requirements.

- 1. Irrigation systems shall be designed in accordance with the following:

- a. Designs and materials shall be in accordance with the General Provisions as set forth in Section 15.50.025.

- b. The EAWU for the total landscaped area shall not exceed the MAWA as set forth in Section 15.50.035.

- c. The system shall be appropriate for and conform to the hydrozones of the landscape design plan.

- d. All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

- e. The system shall utilize "smart" automated irrigation technology as follows:

- i. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data using non-volatile memory shall be required for irrigation scheduling in all irrigation systems;

- ii. Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions to avoid irrigation during windy or freezing weather or during rain; and

- iii. High flow sensors that detect and report high flow conditions created by system damage or malfunction shall be provided for landscape areas with a slope greater than five feet height or for a landscape area over 5,000 square feet in size.

- f. The following System Specifications shall be applied:

- i. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

- ii. Minimum average system irrigation efficiency shall be 0.71.

- iii. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

iv. Trees shall utilize bubbler or drip irrigation and, where feasible, be placed on separate valves from shrubs, groundcovers, and turf.

v. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.

vi. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.

vii. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

viii. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

ix. Check valves or anti-drain valves shall be utilized to minimize or prevent low-head drainage.

x. Narrow or irregularly shaped turf areas less than eight feet in width shall be irrigated with subsurface irrigation or other means that produce no runoff or overspray.

xi. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces 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:

a. the landscape area is adjacent to permeable surfacing and no runoff occurs; or

b. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or

c. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 15.50.050.A. Prevention of overspray and runoff must be confirmed during the irrigation audit.

xii. Spray heads, pop-up stream rotator heads, and stream rotor heads shall not be permitted within 24 inches of any non-permeable surface unless the adjacent non-permeable surface is designed and constructed to drain entirely to landscaping.

xiii. Turf areas shall be irrigated with equipment that has a precipitation rate of one inch or less per hour as specified by the manufacturer.

xiv. Areas with a slope percentage greater than 25% shall be irrigated with equipment that has a precipitation rate of 0.75 inches or less per hour as specified by the manufacturer. An exception to the precipitation rate may be granted by the Community Development Director for an area which is less than five feet high and 12 feet in length if it can be shown that the equipment meets the intent of this Ordinance. An irrigation audit will be required at the time of final completion.

xv. Manual shut-off valves shall be provided as close as possible to the point of connection to minimize water loss in case of an emergency or routine repair. (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.

xvi. Dynamic or operating pressure at each emission device shall be within the manufacturer's recommended pressure range for optimal performance:

- Pressure (static and dynamic/operating) and water supply flow measurements shall be taken at the point of connection or nearest service point at the earlier of the design stage or installation.
- Pressure-regulating devices, booster pumps, or other devices shall be installed if the static pressure is above or below the pressure required by the irrigation system.

xvii. Projects including unimproved private yards or open spaces to be landscaped or otherwise completed by the buyer of the lot shall comply with Section 15.50.090A.

g. Backflow shall be prevented in accordance with Plumbing Code and Engineering Department requirements.

h. Separate water meters for irrigation shall be provided when required by State law.

B. Content.

1. Plans shall:

- a. Be prepared by and bear the signature of a professional appropriately licensed in the State of California to provide professional irrigation design services; the signature shall be accompanied by a date and the following statement: "I have complied with the City of Fullerton Landscape Ordinance for the efficient use of water in preparing the Irrigation Design Plan.
- b. Provide Water Efficient Landscape Worksheet (Appendix "C").
- c. Provide project summary information which at a minimum includes:
 - Average irrigation efficiency of total landscaped area.
 - Percentage of total landscaped, based on square footage, irrigated with spray heads (spray, pop-up stream rotator, stream rotor, or other spray) versus non-spray heads (micro-spray, bubbler, drip emitter, subsurface, or other non-spray).
- d. Identify components of the Landscaped Area:
 - i. Planting Areas and Turf Areas.

- Delineate and label each hydrozone by number, letter, or other method for identification and indicate on a separate table the water use for each hydrozone (low, moderate, high, low-moderate mix, or moderate-high mix);
- Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;
- Spatially locate the irrigation system components within each hydrozone and identify corresponding valves by number and indicate on a separate table the type and size of all components including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
- Identify the location and size of separate water meters or sub-meters for landscape;
- Provide the static water pressure at the point of connection to the public water supply; and
- Provide the flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station.

ii. Recycled water irrigation systems

- Provide irrigation schedule parameters necessary to program automatic irrigation controllers for the landscape establishment period (first six months after installation unless otherwise specified by landscape professional); and
- Provide irrigation schedule parameters necessary to program automatic irrigation controllers following the establishment period.

iii. Water Features.

- Spatially locate recirculating system and components; and
- Spatially locate recycled or reclaimed water system and components.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.052. Certified Grading Plan.

A. For the efficient use of water, grading of a landscape project site shall be designed to minimize soil erosion, runoff, and water waste. Finished grading configuration of the landscape area, including pads, slopes, drainage, post-construction erosion control, and stormwater control Best Management Practices, as applicable, shall be shown on the Landscape Design Plan unless this information is fully included in separate Grading Plans for the project, or unless the project

is limited to replacement planting and/or irrigation to rehabilitate an existing landscape area. If separate Grading Plans have been or are prepared, submit a copy with Landscape Design Plans.

B. The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:

- Height of graded slopes;
- Drainage patterns;
- Pad elevations;
- Finish grade; and
- Storm water retention improvements, if applicable.

C. To prevent excessive erosion and runoff, it is highly recommended that the project applicant:

- Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
- Avoid disruption of natural drainage patterns and undisturbed soil; and
- Avoid soil compaction in landscape areas.

D. The Grading Design Plan shall 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 grading design plan" and shall bear the signature of the landscape professional, as required by law.

15.50.055. Final Project Certification.

A. Landscape Installation Certificate of Completion in the form included as Appendix D shall be submitted upon completion of the project, and shall include: (i) certification by a landscape professional that the landscape project has been installed per the approved Landscape Documentation Package; and (ii) the following statement: "The landscaping has been installed in substantial conformance to the design plans, and complies with the provisions of the Water Efficient Landscape Ordinance for the efficient use of water in the landscape."

B. Establishment period and post-establishment period irrigation schedule parameters shall be affixed inside irrigation controller boxes.

C. For landscaped areas with 75% or more of the total landscaped area irrigated with spray heads (spray, pop-up stream rotator, stream rotor, or other spray head), an irrigation audit report shall be provided from a certified irrigation auditor to verify that the irrigation system is operating as designed and that the design complies with the Fullerton Landscape Ordinance.

D. An irrigation audit report from a local agency landscape irrigation auditor or third party certified landscape irrigation auditor, documentation of enrollment in regional or City of Fullerton Water Utility water conservation programs, and/or documentation that the MAWA and EAWU information for the

landscape project has been submitted to the City of Fullerton Water Utility may be required at the option of the City. Example Inspection Affidavit is included as Appendix H.

1. Landscape audits shall not be conducted by the person who designed or installed the landscape.

2. In large projects or projects with multiple landscape installations (i.e. production home developments or common interest developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.060. One-year maintenance deposit.

A one-year maintenance deposit in the amount equal to 50 percent of the combined cost of the landscaping materials and irrigation system, or as otherwise agreed to by the Community Development Director, but not less than 500 dollars, shall be posted as a prerequisite to the final approval/clearance of the use or development of property.

(Ord. 3134, 2009)

15.50.070. Modifications to approved plans.

Modifications to approved Water Efficient Landscape Calculations, Certified Landscape Design Plans and/or Certified Irrigation Design Plan shall be reviewed and approved by the Community Development Director prior to installation of said landscaping or irrigation system. All modifications require re-certification pursuant to Sections 15.50.035A, 15.50.045B.1.a, or 15.50.050B.1.a, respectively.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.080. Landscape and irrigation maintenance requirements.

A. Each landscaped area shall be regularly maintained including proper pruning, staking, mowing and aerating of lawns, weeding, removing litter, fertilizing, and replenishing mulch as needed to replace mineral levels. Plants shall remain in a healthy growing condition or be replaced. Like-for-like replacements require no approval. Modifications shall be reviewed pursuant to Section 15.50.070.

B. The irrigation system shall be regularly maintained and evaluated to utilize the minimum amount of water required to maintain plant health and ensure water use efficiency. Irrigation schedules shall meet the following criteria:

1. Irrigation scheduling shall be regulated by automatic irrigation controllers.

2. Overhead irrigation shall be scheduled in accordance with the City of Fullerton Water Utility's Water Conservation Ordinance. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

(Ord. XXXX, 2015; Ord. 3134, 2009)

15.50.90. Treatment of private yards or open space.

A. When a project is being developed that includes unimproved private yards or open spaces to be landscaped or otherwise completed by the buyer of the lot, the Landscape Documentation Package shall be prepared with assumptions as to the ultimate improvement of these areas such that the Water Efficient Landscape Calculations consider all outdoor water use of the project.

B. The CC&Rs, or other binding document provided to buyer at time of sale (if the project does not have CC&Rs), shall include sufficient parameters such that the private yard or open space improvements are completed consistent with the estimated water usage. The information provided to the buyer shall include, at a minimum, sample landscape and irrigation plans with plant and material pallets and shall not preclude the use of low water use plants as a group. It is recommended that multiple designs be developed with a menu of options from which the buyer could develop a design consistent with the Water Efficient Landscape Calculation assumptions.

15.50.100 Provisions for Existing Landscape

A. Irrigation of all landscape areas shall be conducted in a manner conforming to the rules and requirements and shall be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by the City of Fullerton Water Utility and as may be mutually agreed by the City.

B. The City of Fullerton Water Utility and/or the regional may administer programs such as irrigation water use analyses, irrigation surveys and/or irrigation audits, tiered water rate structures, water budgeting by parcel, or other approaches to achieve landscape water use efficiency community-wide to a level equivalent to or less than would be achieved by applying a MAWA calculated with an ETAF of 0.8 to all landscape areas in the City over one acre in size.

C. The architectural guidelines of a common interest development, including apartments, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

(Ord. XXXX, 2015)

15.50.110 Public Education

A. Publications. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management, and maintenance that save water is encouraged in the community.

B. Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes as described.

1. Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the site water efficient landscape; and demonstrate low water use approaches to landscaping such as using appropriate plants, alternative water sources, or rainwater catchment systems.

2. Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

(Ord. XXXX, 2015)