Ordinance No. 10.XXXX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CUPERTINO REPEALING THE EXISTING CHAPTER 14.15 OF THE CUPERTINO MUNICIPAL CODE, XERISCAPE LANDSCAPING, AND ADOPTING A NEW CHAPTER 14.15, LANDSCAPE ORDINANCE, IN ORDER TO ESTABLISH NEW LANDSCAPING REGULATIONS PURSUANT TO THE CALIFORNIA WATER CONSERVATION IN LANDSCAPING ACT.

THE CITY OF CUPERTINO ORDAINS AS FOLLOWS:

Section 1. *Statement of Purpose.* This ordinance establishes new water-efficient landscaping and irrigation requirements as mandated by the California Water Conservation in Landscaping Act.

Section 2. *Code Amendment.* The following new Chapter 14.15 entitled "Landscape Ordinance" replaces the current Chapter 14.15 entitled "Xeriscape Landscaping" of the Cupertino Municipal Code, to read as shown in Attachment A.

Section 3. *Severability.* Should any provision of this Ordinance, or its application to any person or circumstance, be determined by a court of competent jurisdiction to be unlawful, unenforceable or otherwise void, that determination shall have no effect on any other provision of this Ordinance or the application of this Ordinance to any other person or circumstance and, to that end, the provisions hereof are severable.

Section 4. *Effective Date.* This Ordinance shall take effect thirty days after adoption as provided by Government Code Section 36937.

Section 5. *Certification.* The City Clerk shall certify to the passage and adoption of this Ordinance and shall give notice of its adoption as required by law. Pursuant to Government Code Section 36933, a summary of this Ordinance may be published and posted in lieu of publication and posting of the entire text.

INTRODUCED at a regular meeting of the Cupertino City Council the ____ day of _____ 2010 and **ENACTED** at a regular meeting of the Cupertino City Council on this ____ of _____ 2010 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chapter 14.15

LANDSCAPE ORDINANCE

Section

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14.15.010. Intent.

The intent of this chapter is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. This chapter implements the California Water Conservation in Landscaping Act of 2006.

14.15.020. Applicability.

A. The provisions of this chapter shall apply to:

1. Projects identified in Table 14.15.020.

Table 14.15.020

Type of Permit	Total Landscape Area	Requirement
Building Permits		
New home in R1, RHS or A1 zones	≤ 2,500 s.f.	Checklist (Appendix A) - Informational ONLY
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Development Permit or Grading Permit		
New home in R1, RHS, A1 or R2 Zones	≤ 2,500 s.f.	Checklist (Appendix A) - Informational ONLY
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Commercial, industrial, office, multi-family residential, public and institutional project	≤ 2,500 s.f.	Checklist - Appendix A - Applies
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Any landscape installation or rehabilitation project	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
New and rehabilitated cemeteries	> 0 s.f.	Water Budget Calculations - Sec. 14.15.060 Landscape Installation Report - Sec. 14.15.080 Landscape and Irrigation Maintenance - Sec. 14.15.090
Existing and established landscapes, including cemeteries	> 1 acre	Water Budget Calculations - Sec. 14.15.060 Audit of Established Landscapes - Sec. 14.15.100

2. Any project, regardless of total landscape area, that is determined to have an impact due to a unique geographical or environmentally sensitive location, including but not limited to, projects proposed on slopes greater than 30%, in geo-hazard areas near riparian corridors, creeks and or/waterways, the city may require a landscape project submittal.

B. The provisions of this chapter shall not apply to:
   1. Registered local, state or federal historical sites where landscaping establishes an historical landscape style, as determined by the City Council;
   2. Surface mine reclamation projects that do not require a permanent irrigation system;
   3. Ecological restoration projects that do not require a permanent irrigation system;
   4. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public; or
   5. Any commercial cultivation of agricultural products; including, but not limited to products of farms, orchards, production nurseries and forests.

14.15.030. Definitions.

For the purposes of this chapter, the following definitions apply, unless it is apparent from the context that a different meaning is intended.

Applied water: The portion of water supplied by the irrigation system to the landscape.

Automatic irrigation controller: An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

Backflow prevention device: A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

Certified irrigation designer: 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: 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.

C**ertified professional:** A certified irrigation designer, certified landscape irrigation auditor, licensed landscape architect, licensed landscape contractor, licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.

Conversion factor: The number (0.62) that converts acre-inches per acre per year to gallons per square foot per year.

Ecological restoration project: A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Effective precipitation (Eppt) or usable rainfall: The portion of total precipitation which becomes available for plant growth.

Established landscape. 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 plants: 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.

Estimated Total Water Use (ETWU): The total water used for the landscape as described in Section 14.15.060.

Evapotranspiration adjustment factor (ETAF): A factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency. ETAF for a **special landscape area** shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

Evapotranspiration rate: The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

Hardscape: Any constructed feature in a landscape built of concrete, stone, wood, or other such non-pervious or pervious durable material, including, but not limited to, patios, walkways, and retaining walls.

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Invasive plant species: Species of plants, listed in the invasive plant inventory of the California Invasive Plant Council (IPC), that have been identified as invasive to areas within the IPC-delineated Central West (CW) region.

Irrigation audit: 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.

Irrigation efficiency (IE): The measurement of the amount of water beneficially used divided by the amount of water applied. The minimum average irrigation efficiency for purposes of this Chapter is 70%.

Irrigation survey: 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.

Landscape architect: A person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code Section 5615.

Landscape area: All the planting areas, turf areas, and water features in a landscape installation. 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 wildland or native vegetation).

Landscape contractor: A person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

Landscape project: An undertaking of landscape design and installation on a particular area of land. A landscape project may be associated with an individual lot, a building project, or a

multi-phased development. It may also be a larger, comprehensive landscape scheme that is not coupled with an individual building project.

Lateral line: The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Species classified as "very low water use" and "low water use" by "Water Use Classification of Landscape Species" (WUCOLS), having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines and bubblers specifically designed to apply small volumes of water slowly at or near the root zone of plants. Certain rotary emitters designed to provide highly efficient water distribution may also be included in this definition, at the discretion of the Director of Community Development.

Maximum Applied Water Allowance (MAWA): The upper limit of annual applied water for the established landscaped area calculated using the formula specified in Section 14.15.090.

Mined-land reclamation projects: Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

Mulch: Any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this Chapter, the term refers to plants indigenous to the coastal ranges of central and northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community in the project's vicinity.

Noxious weed: Any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Operating pressure: The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

Overhead sprinkler irrigation system: A system that delivers water through the air (e.g., spray heads and rotors).

Overspray: Irrigation water that is delivered beyond the target area.

Plant factor: A number, which, when multiplied by reference evapotranspiration (ETo), estimates the amount of water needed by plants. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants. Plant factors are based on the "Water Use Classification of Landscape Species" (WUCOLS) publication.

Rain sensor or **rain sensing shutoff device:** A component that automatically suspends an irrigation event when it rains.

Recycled water: Treated wastewater, including reclaimed water or treated sewage effluent water of a quality suitable for non-potable uses including landscape irrigation and water

features**. Reference evapotranspiration** (ETo): A standard measurement of environmental parameters that affect the water use of plants.

Rehabilitated landscape: Any re-landscaping project that requires an architectural and site approval, design review, grading permit, use permit, or a discretionary permit of any sort, or requires a new or expanded water service application.

Runoff: Water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

Soil moisture sensor: A device that measures the amount of water in the soil. The device may also initiate or suspend irrigation.

Special landscape area (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Sprinkler head: A device that delivers water through a nozzle.

Station: An area served by one valve or by a set of valves that operate simultaneously.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, Kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Valve: A device used to control the flow of water in the irrigation system.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, lakes, waterfalls, artificial streams and any design elements where water is supplied artificially. Spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses also are considered water features.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

Wildland urban interface: A geographic area identified by Chapter 16.74 of this Code to be at a significant risk from wildfires.

WUCOLS: The publication "Water Use Classification of Landscape Species" published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

14.15.040. Landscape Project Submittal

Unless otherwise specified, the following items shall be submitted to the Director of Community Development when a landscape project is subject to the requirements of this chapter.

A. Water-Efficient Design Checklist (Appendix A) completed by a property owner or certified landscape professional.
B. Landscape and Irrigation Design Plans (Appendix B) completed by a certified professional.
C. Water Budget Calculations (Section 14.15.060), if necessary.
D. Soil Analysis Report (Section 14.15.070), if necessary.

E. Landscape and Irrigation Maintenance Schedule (Section 14.15.090).
F. Landscape Installation Report (Section 14.15.080), following installation of landscaping materials and irrigation hardware.

14.15.050. Water-Efficient Design Elements

Projects set forth in Section 14.15.020 requiring a landscape project submittal shall comply with all applicable criteria of this section.

A. **Plant Material:**

All plant material shall be chosen and arranged per requirements in Table 14.15.050(A).

Table 14.15.050(A)

1	**Options to demonstrate water efficiency**		
	a. i. Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area and ii. At least 80% of the plants within non-turf areas shall be native or low water-use	**OR**	b. Prepare a water budget calculation, per the provisions of Section 14.15.060.

AND

2	**Turf Restrictions**
	a. Turf shall not be planted on slopes greater than 25%. b. Turf areas shall not be less than eight feet wide.
3	**Non-turf Restrictions**
	a. Plants shall be arranged appropriately based upon the site's climate, slopes, sun exposure, soil characteristics, wildfire susceptibility and other site conditions appropriate for the selected plants. b. The horticultural attributes of plant species (e.g., mature plant size, invasive roots, and structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines). c. Fire-prone plant materials and highly flammable mulches are strongly discouraged. In areas designated wildland urban interface by Chapter 16.74 of this Code, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291. d. Invasive plant species/noxious weeds: i. Installation shall be prohibited. ii. Existing within or adjacent to the proposed landscape area shall be removed prior to installation of new landscaping.
4	The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supersede this chapter by either prohibiting low water use plants, or including conditions that have the effect of restricting the use of low water use plants.

B. **Hydrozones:**

1. Plant materials of similar water use shall be grouped in hydrozones.
2. Mixed plant materials & hydrozoning: If plant materials of differing water uses are mixed, for purposes of preparing a water budget use Table 14.15.050(B).

Table 14.15.050 (B)

Mixed plant materials	Requirements
Low and moderate water use plants	Allowed. All plants classified as moderate water use for MAWA calculations.
High water use plants with low and moderate water use plants	Not allowed in any hydrozone.

C. **Irrigation System:**

The irrigation system proposed for any project shall meet the requirements outlined in Table 14.15.050 (C)

Table 14.15.050 (C)

Category	Requirements
Irrigation System	Shall meet all requirements per manufacturer's specifications and this table.
Design	Irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance.
Dedicated Landscape Water Meter	Required for landscapes > 5,000 s.f., except single-family residential.
Automatic Irrigation Controllers	Required for irrigation scheduling, utilizing evapotranspiration or soil moisture sensor data.
Sensors	Integral or auxiliary, required to suspend or alter irrigation operation during unfavorable weather conditions.
Separate Valve	Required for each hydrozone. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers and turf.
Water Waste	Irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.
Type of Irrigation hardware	Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
Low-volume Irrigation	Required in mulched areas
	Required in areas with slope > 25%
	Required within 24 inches of a non-permeable surface
	Required in any narrow or irregularly shaped areas that are less than eight (8) feet in width in any direction.
Average Irrigation Efficiency	Systems shall be designed, maintained and managed to meet or exceed average landscape Irrigation efficiency of 70%.
Irrigation Times	Limited to between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or renders irrigation unnecesary.
	Irrigation outside the normal designated window is allowed for auditing and system maintenance only.

D. **Soil, conditioning, and mulching:**

Soil, conditioning, and mulching requirements for all landscape projects are outlined in Table 14.15.050(D).

Table 14.15.050(D)

Type of soil amendment	Requirements
Topsoil	Minimum eight (8) inches, non-compacted topsoil shall be available for water absorption and root growth in planted areas.
	Minimum may be waived where a landscaped professional determines that practical limitations (e.g., slope and other geotechnical factors), necessitate a lesser soil depth that is viable for the chosen plant materials
Other amendments	Compost, fertilizer or other materials, shall be added according to the soil conditions at the project site and based on what is appropriate for the chosen plant materials.
Mulch	Minimum two (2) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas.
	Not needed in areas of direct seeding application (e.g. hydro-seed)
Stabilizing mulching products	Required for use on slopes.

E. **Water Features:**

1. Recirculating water systems shall be used for all water features.
2. Water features are limited to 10% of the landscaped area unless a water budget is prepared.
3. All pools and spas shall have covers.
4. If water budget is prepared or required, use Table 14.15.050(E) for MAWA calculations.

Table 14.15.050(E): Water Features

% of landscape area	Water usage for MAWA calculation
Water features (including pools and spas) ≤ 10%	Medium
Water features (including pools and spas) > 10%	High

14.15.060. Water Budget Calculation

Project applicant may elect to submit a water budget calculation for the landscape project. A water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget. Water budget calculations shall adhere to the following requirements:

A. All special landscape areas shall be identified and their water use included in the water budget calculations.

B. All other factors are as defined in Sections 14.15.030 and 14.15.060.

C. Maximum applied water allowance shall be calculated for each project using the formulae outlined in Table 14.15.060: MAWA Calculation

Table 14.15.060: MAWA Calculation

1. For existing landscapes > 1 acre that have dedicated irrigation meters	MAWA= (ETo) (0.62) (LA) (0.8)
2. For all new and rehabilitated landscapes	MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
LA = Landscape Area (square feet)
0.7/0.8 = Reference Evapotranspiration Adjustment Factor (ETAF)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
All other factors as defined in Section 14.15.030 above.

D. Estimated total water use (ETWU) shall be calculated for each hydrozone using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA calculated using the formula above.

$$ETWU = (ETo)(0.62)\left(\frac{PF * HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
0.62 = Conversion Factor
PF = Plant Factor from WUCOLS
HA = Hydrozone Area (square feet)
IE = Irrigation Efficiency (minimum 0.70)
SLA = Special Landscape Area (square feet)

14.15.070. Soil Analysis.

The Director of Community Development or his/her designee shall have discretion to require soil analysis as a condition of approval for any development permits, grading permit, or any type of discretionary permit, where a landscape project submittal is required.

A soil analysis report shall document the various characteristics of the soil (e.g. texture, infiltration rate, pH, soluble salt content, percent organic matter, etc), and provide recommendations for amendments as appropriate to optimize the productivity and water-efficiency of the soil.

The soil analysis report shall be made available to the professionals preparing the landscape and irrigation design plans in a timely manner either before or during the design process. A copy of the soils analysis report shall be submitted to the Director of Community Development as part of the landscape documentation package.

14.15.080. Landscape Installation Report

Landscape installation audit for new or rehabilitated landscapes shall be conducted by a certified landscape professional after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into a landscape installation report.

A. The landscape installation report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system are installed as specified in the landscape and

irrigation design plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

B. The landscape installation report shall include the following statement: "The landscape and irrigation system have been installed as specified in the landscape and irrigation design plan and complies with the criteria of the ordinance and the permit."

C. Landscape Maintenance Agreement:
   1. Prior to final inspections and final occupancy, the owner(s) of the property shall enter into a formal written landscape maintenance agreement with the City. The City shall record this agreement, against the property or properties involved, with the County of Santa Clara Recorder's Office and it shall be binding on all subsequent owners of land served by the proposed landscape.
   2. The landscape maintenance agreement shall require that the installed landscape not be modified and that maintenance activities not alter the level of water efficiency of the landscape from its original design, unless approved by the City prior to the commencement of the proposed modification or maintenance activity.

14.15.090. Landscape and Irrigation Maintenance

Landscapes shall be maintained to ensure successful establishment following installation, and to ensure water use efficiency consistent with this chapter. A maintenance schedule shall be established and submitted to the Director of Community Development or his/her designee, either with the landscape application package, with the landscape installation report, or any time before the landscape installation report is submitted.

A. Schedules should take into account water requirements for the plant establishment period and water requirements for established landscapes.

B. Maintenance shall include, but not be limited to the following: routine inspection; pressure testing, adjustment and repair of the irrigation system; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; replanting of failed plants; weeding; pest control; and removing obstructions to emission devices.

C. Failed plants shall be replaced with the same or functionally equivalent plants that may be size-adjusted as appropriate for the stage of growth of the overall installation. Failing plants shall either be replaced, or be revived through appropriate adjustments in water, nutrients, pest control or other factors as recommended by a landscaping professional.

14.15.100. Audit of Existing Landscapes Larger Than One Acre

The Director of Public Works may require audits to evaluate water use on existing landscapes larger than one acre (installed prior to January 1, 2010). The City shall adopt reasonable rules and regulations on the process for determining what constitutes existing landscaping larger than one acre. Such audits may also be initiated as a coordinated effort between the City and, the Santa Clara Valley Water District or the City's water purveyors. This audit must be completed by a certified landscape irrigation auditor.

Following the findings and recommendations of the certified landscape irrigation auditor, the Director of Public Works may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use.

Landscape renovation or rehabilitation resulting from an audit shall be considered a landscape project, and shall be subject to applicable Section 14.15.040 and Table 14.15.060(C)(1).

14.15.110. Public Education

A. The City may provide information, with assistance from the Santa Clara Valley Water District and its water purveyors, to all applicants regarding the design, installation, management and maintenance of water-efficient landscapes and irrigation systems.
B. All model homes that are landscaped shall have signs installed that provide information on the principles of water-efficient landscaping.

14.15.120. Penalties

Non-compliance with any applicable provision of this chapter shall be subject to enforcement action, as provided in Chapter 1.10 and/or Chapter 1.12 of this Code

LANDSCAPE WATER-EFFICIENCY CHECKLIST

Community Development Department
10300 Torre Avenue
Cupertino, CA 95014

408.777.3308/Fax 408.777.3333
planning@cupertino.org
http://cupertino.org/planning

Applicant Name: _____ Email: _____

Project Site Address: _____ Phone: _____

Total Landscape Area (square feet):	**Landscape area:** All the planting areas, turf areas, and water features in a landscape installation. 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 wildland vegetation).
Turf Area:	**Turf:** A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.
Non-Turf Plant Area:	See reverse side for other definitions.
Special Landscape Area:	
Water Feature Wet Surface Area: If > 10% of landscaped area, water budget calculation required with landscape project submittal.	

NOTE: If landscape area exceeds 2,500 sq. ft., a landscape project submittal shall be required. If no landscaping is proposed, enter "0" above and proceed directly to the signature block at the bottom of this form.

Landscape Parameter	Requirements	Project Compliance
Turf	Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.	❑ Yes ❑ No [If no, Water budget calculation required with landscape project submittal]
	All portions of turf areas shall be wider than eight (8) feet.	❑ Yes
	Turf (if utilized) is limited to slopes not exceeding 15%.	❑ Yes
Non-Turf	At least 80% of non-turf area shall consist of native or low water use plants.	❑ Yes ❑ No [If no, Water budget calculation required with landscape project submittal]
Hydrozones	Plants with similar water needs shall be grouped within hydrozones. Each hydrozone shall be controlled by a separate valve.	❑ Yes ❑ No [Plants can be grouped per Table 14.15.050(C)]
Irrigation System	Systems shall be designed and maintained to minimize water waste (e.g., runoff, low head drainage, overspray). Low-volume irrigation shall be utilized in non-turf areas. Irrigation shall only occur between the hours of 8:00 pm and 10:00 am.	❑ Yes ❑ No [If no, Provide explanation on back]
Soil	A minimum of eight (8) inches of non-compacted topsoil shall be available in planted areas.	❑ Yes ❑ No [If no, Provide explanation on back]
	Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.	❑ Yes ❑ No [If no, Provide explanation on back]
Mulch	A minimum two (2)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).	❑ Yes ❑ No [If no, Provide explanation on back]

I am aware of available informational resources regarding native and low water use plants, irrigation efficiency, and other aspects of water-efficient landscaping. I certify that the information provided on this checklist is correct, and the installed landscape complies with the requirements of Chapter 14.15. I also understand that any changes to the project will necessitate a new checklist.

_____ _____
Signature of property owner or authorized representative Date

This checklist implements the requirements of Chapter 14.15, Landscape Ordinance, of the Cupertino Municipal Code. The responses provided will be evaluated to determine whether the proposed landscape is generally consistent with the ordinance's water-efficiency goals.

Applicant Comments

Use additional paper if necessary

Staff Evaluation

☐ Approved

☐ Not Approved

Staff Comments

Signature

Date

Select Definitions

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip and bubblers. Certain rotary emitters designed for highly efficient water distribution, and situated to irrigate low water use plants, may also be included in this definition at the discretion of the Planning Office.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Any species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be categorically deemed a low water use plant.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this division, the term will refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community of the project's vicinity.

Special landscape area: An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, waterfalls and artificial streams. Also includes spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

APPENDIX B – LANDSCAPE AND IRRIGATION PLANS

The landscape and irrigation design plan shall be prepared as follows:

A. The landscape and irrigation design plans shall incorporate all applicable elements of Section 14.15.050 of Chapter 14.15 of the Cupertino Municipal Code.

B. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.

C. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.

D. The landscape design portion of the landscape and irrigation design plan, at a minimum, shall:

1. Provide basic project information, such as applicant name, site address, total landscape area and turf area (square feet), irrigation water source (e.g. municipal, well, recycled), retail water purveyor (if applicable), and project contacts.
2. Identify, in tabular form, all plants to be installed as part of the project. The table shall include the following:
    i. Symbol (representing the plant on the plan).
    ii. Common name.
    iii. Botanical name.
    iv. Container size.
    v. Quantity.
    vi. Type (e.g. grass, forb, succulent, vine, shrub, tree).
    vii. Water-efficient species identification. All "native" and "low water use" plant species (defined in Section 14.15.030) shall be so labeled.
    viii. Unique physical specifications of plants (e.g., bare-root, field-potted, multi-trunk), if applicable.
3. Include the following:
    i. General notes, planting notes, plant layout based on size at maturity, species, and symbol legend.
    ii. Spacing of proposed plantings.
    iii. Topography
    iv. Trunk diameter of all existing trees whose trunk circumference is greater than 18.5 inches, measured 54 inches above grade.
    v. Existing features to remain, such as trees, fencing, hardscape, etc.
    vi. Existing features to be removed.
    vii. Identification of pertinent site factors such as sun exposure, microclimate, property lines, buildings, underground/above-ground utilities, existing drainage features, etc.
    viii. Proposed grading. See Section 16.08 of the Cupertino Municipal Code for the requirements of when a grading permit is required.
    ix. Seed mix, if applicable.
4. Delineate and label each hydrozone;

5. Identify each hydrozone as low water, moderate water, high water, or mixed (low/moderate) water use, as defined by WUCOLS;
6. Identify special landscape areas;
7. Identify type of mulch and application depth;
8. Identify type and wet surface area of water features;
9. Identify hardscapes (pervious and non-pervious); and
10. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the landscape design plan."

E. The irrigation design portion of the landscape and irrigation design plan, at a minimum, shall contain:
   1. 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;
   2. Static water pressure at the point of connection to the public water supply;
   3. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
   4. Irrigation schedule;
   5. Location and size of separate water meters for landscape (if applicable); and,
   6. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

F. **Grading.** If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of Chapter 16.08 of the Cupertino Municipal Code, including permitting requirements for grading in excess of established permit thresholds.

   A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 30%, or in any areas where slope stability may be compromised.

G. **Wildfire Management.** Plant list shall exclude plant types that increase wildfire susceptibility. In areas designated wildland urban interface, by Chapter 16.74 of the Cupertino Municipal Code, the plan shall demonstrate that plants have been selected and arranged to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

H. **Storm Water Management.** Storm water best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Installation shall be subject to the San Francisco Bay Region's National Pollutant Discharge Elimination System (NPDES) storm water discharge permit requirements and Chapter 9.18 of the Cupertino Municipal Code.

CUPERTINO

OFFICE OF COMMUNITY DEVELOPMENT

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CITY COUNCIL STAFF REPORT

Agenda Item No. 15 **Agenda Date:** April 20, 2010

APPLICATION SUMMARY

Consider a Municipal Code Amendment to repeal the existing Xeriscape Landscaping Ordinance (Chapter 14.15 of the Cupertino Municipal Code) and adopt a new Landscape Ordinance (Chapter 14.15), in order to comply with the California Water Conservation in Landscaping Act, Application No. MCA-2010-01, City of Cupertino, Citywide.

RECOMMENDATION

Staff recommends approval of the enclosed Model Ordinance (Attachment A).

BACKGROUND

Assembly Bill 1881, the California Water Conservation in Landscaping Act, which was signed into law in September 2006 requires that local jurisdictions revise their ordinances to include specific landscaping water conservation measures, by January 1, 2010. If local jurisdictions fail to do so, a model ordinance developed by the California Department of Water Resources (DWR) becomes adopted by default (see Attachment B for the DWR Model Ordinance). Due to the late release of the DWR model ordinance, the development of this draft ordinance has been delayed beyond the January 1, 2010 statutory deadline. This delay has been anticipated by both the City and DWR.

As part of the State's efforts to reduce water consumption throughout California, Governor Schwarzenegger has called for a 20% reduction in per capita water use by 2020. For details on the State's mandate, please see the Planning Commission Staff Report (Attachment C). For a brief summary of the recent legislation adopted by the California State Legislature targeting outdoor water use efficiency, see Attachment D.

The City's current Xeriscape Ordinance (Chapter 14.15) was a result of the State's water conservation mandate in 1992. The City is now updating the requirements to comply with the new State water conservation requirements.

On March 23, 2010, the Planning Commission reviewed the draft Landscape Ordinance. The Planning Commission recommended approval of the Model Ordinance on a 4-1 vote (with Commissioner Miller voting no - see Attachment E). During their discussion, the Planning Commissioners had concerns about the applicability thresholds and requirements, particularly for single-family homeowners. At the meeting, staff did not

have the ability to offer suggestions to reduce thresholds due to lack of technical information and availability of information about other cities' ordinances. Since then, staff has had additional time to review model ordinances being recommended by some other cities. Based on the review, staff is recommending revisions to address the Planning Commission's concerns. These have been included in the draft ordinance presented for Council's review and are discussed in detail later in the staff report.

DISCUSSION

Model Ordinances:

Water retailers that provide water to the cities in the Bay Area are serviced by two major water wholesalers – the Bay Area Water Supply and Conservation Agency (BAWSCA) and the Santa Clara Valley Water District (SCVWD). Both of these agencies have been involved in the preparation of model ordinances to help their member cities to be in compliance with the State's requirements.

BAWSCA's template was created over a period of six months involving multiple agencies, several meetings and many technical discussions between water conservation experts. The City participated in a Santa Clara County multi-agency workgroup, led by SCVWD in the development of the Local Regional Model Ordinance (Local Ordinance - see Attachment F). This was developed using the BAWSCA Ordinance as a template over a two-month period. Most BAWSCA member cities are adopting BAWSCA's template with minor adjustments to tailor the model ordinance for their own requirements while SCVWD cities are hoping to adopt a consistent ordinance across the South Bay region.

In both the BAWSCA and the SCVWD model ordinances, the goal was to create an ordinance that is easy to comply with and can achieve the water reduction goals of the DWR model ordinance. Therefore, the approach for these ordinances has been to reduce submittal requirements and lower thresholds for applicability (see Attachment G for a brief comparison of these three model ordinances and for other local cities).

For example, the DWR applies to single-family homes proposing landscaping of 5,000 square feet or more and all other projects with 2,500 square feet of landscaping or more, but every project is required to do stringent soil studies and water budget calculations by certified professionals. In the BAWSCA model ordinance, projects with landscaping between 1,000-2,500 square feet are required to complete a checklist that has strict limitations on turf, plant types and water features, provide landscape and irrigation design plans, maintenance schedules and perform a self audit to demonstrate compliance. Projects with landscaping greater than 2,500 square feet are required to provide the same information but need to be prepared by a certified professional. In the Local Ordinance, all projects with 0-2,500 square feet of landscaping (including single-family) are required to complete and adhere to a checklist with less stringent limitations on turf and water features but they are not required to provide plans. Projects with landscaping of 2,500 square feet or more are required to provide plans, maintenance schedule, audit report and

maintenance reports for 30 months prepared by certified professionals.

In comparing the three model ordinances, the DWR is the most stringent in terms of requirements (for e.g., every applicant, including single-family, has to provide a soil study, complicated water budget calculation, etc.). BAWSCA is next in terms of stringency since its goal for water reduction is 25%, which is higher than the 20% DWR water reduction goal. The Local Ordinance is the least stringent and its goal for water efficiency is 20%, the same as DWR.

Proposed Ordinance:

After having reviewed all three model ordinances, staff believes that the Local Ordinance achieves the best balance of simplifying the process while meeting DWR's goals. Modeling the City's Ordinance after the Local Ordinance also helps establish consistency in the region, further easing the implementation of new regulations for applicants. In addition, staff has made minor revisions to address the Planning Commission's concerns. Staff has prepared a chart (Attachment H) which compares the key requirements of the DWR ordinance to the Local Ordinance, and to the proposed City requirements.

The discussion below highlights how the proposed ordinance differs from the Local Ordinance and the reasons for revision.

Size Threshold:

The Model Ordinance reviewed by the Planning Commission was modeled after the Local Ordinance and required:

- Completion of a checklist of landscaping requirements for projects (including single-family homes) with 0-2,500 square feet of new and rehabilitated landscaping. This checklist is a simple menu of requirements including a 25% turf limitation and 80% drought tolerant planting as an alternative to the more expensive water budget option; and
- Checklist, plans, maintenance schedules and monitoring reports for projects (including single-family homes) with all new and rehabilitated landscaped areas of more than 2,500 square feet.

To address the Planning Commission's concerns regarding thresholds, staff has reviewed model ordinances proposed by neighboring cities (see Attachment G) and is recommending the following revision:

- For new homes in single-family and duplex zones with new or rehabilitated landscape areas from 0-2,500 square feet, require applicants/property owners to fill out the checklist as information only but not as a requirement.

  This is similar to the City's current policy on requiring a checklist to disclose any voluntary green building measures. The informational checklist is intended to educate and provide a template for residents on water conversation measures and how to

achieve them.

- Compliance with the checklist will continue to be mandatory for multi-family residential projects and non-residential projects that propose landscaping from 0-2,500 square feet. Refer to Section 14.15.020, Page 2 of 17 of Model Ordinance.

Maintenance Reports:

The Planning Commission had concerns about the maintenance report requirements in the Model Ordinance. Projects were required to provide three maintenance reports over a 30-month period after completion of the landscaping project. To address this issue, staff has revised the ordinance as follows:

- For all projects, a maintenance schedule will be required as part of the original submittal requirement for the project, but property owners will not have to provide follow-up maintenance reports to the City. Please refer to Section 14.15.090 page 11 of 17 of Model Ordinance. This is provision is consistent with the DWR's Ordinance and what is being proposed by the City of Sunnyvale.

IMPACT TO THE COMMUNITY

The City's existing Xeriscape Ordinance (Chapter 14.15 of the Cupertino Municipal Code) currently applies to all projects with 2,500 square feet of landscaping or more, but does not apply to single family projects. The adoption of the new Landscape Ordinance will not significantly affect the requirements or thresholds for multi-family residential and non-residential projects. However, it will apply to new single family homes with 2,500 square feet of landscaping or more.

Expected impacts to applicants/property owners proposing new single-family homes include requirements for drought-tolerant planting, and for larger projects, the additional costs associated with the preparation of landscaping plans/designs and the installation/maintenance of specialized irrigation systems. It should be noted that these costs are expected to be recouped by long term future cost savings from reduced water consumption and potential water rate increases.

Although landscape professionals are familiar with the water-efficient practices that are required by the DWR Ordinance (including the preparation of a water budget for landscape) many homeowners are not. To assist applicants in complying with the new regulations, the ordinance provides a simple checklist option so that expensive consultant help may not be necessary. The goal is to provide applicants a short list of defined action items (i.e., limiting the amount of planted turf and maximizing the use of low-water using plants) that will allow a landscape to achieve water efficiency targets prescribed by the DWR. Also, applicants will be provided with resources prepared by the SCVWD, BAWSCA and DWR and other agencies to assist them with selecting drought-tolerant plantings and other options for water-efficient landscape design (see Attachment I).

FISCAL IMPACT

Additional staff time may be required to educate applicants and to review applications to ensure compliance with the new regulations. Staff is not recommending any new fees for review of this ordinance. This can be reviewed again as applications increase.

The Public Works Department had requested a deposit of $1,000 to cover staff costs of reviewing the submitted Maintenance reports. However, since the requirement to submit maintenance reports has been eliminated from the draft ordinance, this deposit will no longer be required.

Prepared by: Piu Ghosh, Associate Planner

Reviewed by: Gary Chao, City Planner

Reviewed by:

Aarti Shrivastava
Community Development Director

Approved by:

David W. Knapp
City Manager

ATTACHMENTS

Attachment A	Model Ordinance
Attachment B	California DWR Model Water Efficient Landscaping Ordinance
Attachment C	Planning Commission Staff Report dated March 23, 2010
Attachment D	Summary of Legislation Affecting Outdoor Water Use
Attachment E	Planning Commission Resolution No. 6590
Attachment F	Santa Clara Valley Water District member agencies Water Conservation in Landscaping Regional Model Ordinance
Attachment G	Applicability thresholds comparison of CA DWR, BAWSCA, City of Palo Alto, Sunnyvale, Local regional model, County of Santa Clara and the proposed ordinance
Attachment H	Applicability and Submittal Requirements Comparison between CA DWR requirements, proposed ordinance and local regional model ordinance
Attachment I	Water Conservation programs and water-efficient landscape design resources

Attachment A

Ordinance No. 10.XXXX

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CUPERTINO REPEALING THE EXISTING CHAPTER 14.15 OF THE CUPERTINO MUNICIPAL CODE, XERISCAPE LANDSCAPING, AND ADOPTING A NEW CHAPTER 14.15, LANDSCAPE ORDINANCE, IN ORDER TO ESTABLISH NEW LANDSCAPING REGULATIONS PURSUANT TO THE CALIFORNIA WATER CONSERVATION IN LANDSCAPING ACT.

THE CITY OF CUPERTINO ORDAINS AS FOLLOWS:

Section 1. *Statement of Purpose.* This ordinance establishes new water-efficient landscaping and irrigation requirements as mandated by the California Water Conservation in Landscaping Act.

Section 2. *Code Amendment.* The following new Chapter 14.15 entitled "Landscape Ordinance" replaces the current Chapter 14.15 entitled "Xeriscape Landscaping" of the Cupertino Municipal Code, to read as shown in Attachment A.

Section 3. *Severability.* Should any provision of this Ordinance, or its application to any person or circumstance, be determined by a court of competent jurisdiction to be unlawful, unenforceable or otherwise void, that determination shall have no effect on any other provision of this Ordinance or the application of this Ordinance to any other person or circumstance and, to that end, the provisions hereof are severable.

Section 4. *Effective Date.* This Ordinance shall take effect thirty days after adoption as provided by Government Code Section 36937.

Section 5. *Certification.* The City Clerk shall certify to the passage and adoption of this Ordinance and shall give notice of its adoption as required by law. Pursuant to Government Code Section 36933, a summary of this Ordinance may be published and posted in lieu of publication and posting of the entire text.

INTRODUCED at a regular meeting of the Cupertino City Council the ____ day of _____ 2010 and **ENACTED** at a regular meeting of the Cupertino City Council on this ____ of _____ 2010 by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Chapter 14.15

LANDSCAPE ORDINANCE

Section

14.15.010. Intent.
14.15.020. Applicability.
14.15.030. Definitions.
14.15.040. Landscape Project Submittal
14.15.050. Water-Efficient Design Elements
14.15.060. Water Budget Calculation
14.15.070. Soil Analysis.
14.15.080. Landscape Installation Report
14.15.090. Landscape and Irrigation Maintenance
14.15.100. Audit of Existing Landscapes Larger Than One Acre
14.15.110. Public Education
14.15.120. Penalties

14.15.010. Intent.

The intent of this chapter is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. This chapter implements the California Water Conservation in Landscaping Act of 2006.

14.15.020. Applicability.

A. The provisions of this chapter shall apply to:

1. Projects identified in Table 14.15.020.

Table 14.15.020

Type of Permit	Total Landscape Area	Requirement
Building Permits		
New home in R1, RHS or A1 zones	≤ 2,500 s.f.	Checklist (Appendix A) - Informational ONLY
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Development Permit or Grading Permit		
New home in R1, RHS, A1 or R2 Zones	≤ 2,500 s.f.	Checklist (Appendix A) - Informational ONLY
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Commercial, industrial, office, multi-family residential, public and institutional project	≤ 2,500 s.f.	Checklist - Appendix A - Applies
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Any landscape installation or rehabilitation project	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
New and rehabilitated cemeteries	> 0 s.f.	Water Budget Calculations - Sec. 14.15.060 Landscape Installation Report - Sec. 14.15.080 Landscape and Irrigation Maintenance - Sec. 14.15.090
Existing and established landscapes, including cemeteries	> 1 acre	Water Budget Calculations - Sec. 14.15.060 Audit of Established Landscapes - Sec. 14.15.110

2. Any project, regardless of total landscape area, that is determined to have an impact due to a unique geographical or environmentally sensitive location, including but not limited to, projects proposed on slopes greater than 30%, in geo-hazard areas near riparian corridors, creeks and or/waterways, the city may require a landscape project submittal.

B. The provisions of this chapter shall not apply to:
   1. Registered local, state or federal historical sites where landscaping establishes an historical landscape style, as determined by the City Council;
   2. Surface mine reclamation projects that do not require a permanent irrigation system;
   3. Ecological restoration projects that do not require a permanent irrigation system;
   4. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public; or
   5. Any commercial cultivation of agricultural products; including, but not limited to products of farms, orchards, production nurseries and forests.

14.15.030. Definitions.

For the purposes of this chapter, the following definitions apply, unless it is apparent from the context that a different meaning is intended.

Applied water: The portion of water supplied by the irrigation system to the landscape.

Automatic irrigation controller: An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

Backflow prevention device: A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

Certified irrigation designer: 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: 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.

Certified professional: A certified irrigation designer, certified landscape irrigation auditor, licensed landscape architect, licensed landscape contractor, licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.

Conversion factor: The number (0.62) that converts acre-inches per acre per year to gallons per square foot per year.

Ecological restoration project: A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Effective precipitation (Eppt) or usable rainfall: The portion of total precipitation which becomes available for plant growth.

Established landscape. 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 plants: 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.

Estimated Total Water Use (ETWU): The total water used for the landscape as described in Section 14.15.060.

Evapotranspiration adjustment factor (ETAF): A factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency. ETAF for a **special landscape area** shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

Evapotranspiration rate: The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

Hardscape: Any constructed feature in a landscape built of concrete, stone, wood, or other such non-pervious or pervious durable material, including, but not limited to, patios, walkways, and retaining walls.

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Invasive plant species: Species of plants, listed in the invasive plant inventory of the California Invasive Plant Council (IPC), that have been identified as invasive to areas within the IPC-delineated Central West (CW) region.

Irrigation audit: 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.

Irrigation efficiency (IE): The measurement of the amount of water beneficially used divided by the amount of water applied. The minimum average irrigation efficiency for purposes of this Chapter is 70%.

Irrigation survey: 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.

Landscape architect: A person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code Section 5615.

Landscape area: All the planting areas, turf areas, and water features in a landscape installation. 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 wildland or native vegetation).

Landscape contractor: A person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

Landscape project: An undertaking of landscape design and installation on a particular area of land. A landscape project may be associated with an individual lot, a building project, or a

multi-phased development. It may also be a larger, comprehensive landscape scheme that is not coupled with an individual building project.

Lateral line: The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Species classified as "very low water use" and "low water use" by "Water Use Classification of Landscape Species" (WUCOLS), having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines and bubblers specifically designed to apply small volumes of water slowly at or near the root zone of plants. Certain rotary emitters designed to provide highly efficient water distribution may also be included in this definition, at the discretion of the Director of Community Development.

Maximum Applied Water Allowance (MAWA): The upper limit of annual applied water for the established landscaped area calculated using the formula specified in Section 14.15.090.

Mined-land reclamation projects: Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

Mulch: Any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this Chapter, the term refers to plants indigenous to the coastal ranges of central and northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community in the project's vicinity.

Noxious weed: Any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Operating pressure: The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

Overhead sprinkler irrigation system: A system that delivers water through the air (e.g., spray heads and rotors).

Overspray: Irrigation water that is delivered beyond the target area.

Plant factor: A number, which, when multiplied by reference evapotranspiration (ETo), estimates the amount of water needed by plants. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants. Plant factors are based on the "Water Use Classification of Landscape Species" (WUCOLS) publication.

Rain sensor or **rain sensing shutoff device:** A component that automatically suspends an irrigation event when it rains.

Recycled water: Treated wastewater, including reclaimed water or treated sewage effluent water of a quality suitable for non-potable uses including landscape irrigation and water

features. **Reference evapotranspiration** (ETo): A standard measurement of environmental parameters that affect the water use of plants.

Rehabilitated landscape: Any re-landscaping project that requires an architectural and site approval, design review, grading permit, use permit, or a discretionary permit of any sort, or requires a new or expanded water service application.

Runoff: Water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

Soil moisture sensor: A device that measures the amount of water in the soil. The device may also initiate or suspend irrigation.

Special landscape area (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Sprinkler head: A device that delivers water through a nozzle.

Station: An area served by one valve or by a set of valves that operate simultaneously.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, Kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Valve: A device used to control the flow of water in the irrigation system.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, lakes, waterfalls, artificial streams and any design elements where water is supplied artificially. Spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses also are considered water features.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

Wildland urban interface: A geographic area identified by Chapter 16.74 of this Code to be at a significant risk from wildfires.

WUCOLS: The publication "Water Use Classification of Landscape Species" published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

14.15.040. Landscape Project Submittal

Unless otherwise specified, the following items shall be submitted to the Director of Community Development when a landscape project is subject to the requirements of this chapter.

A. Water-Efficient Design Checklist (Appendix A) completed by a property owner or certified landscape professional.
B. Landscape and Irrigation Design Plans (Appendix B) completed by a certified professional.
C. Water Budget Calculations (Section 14.15.090), if necessary.
D. Soil Analysis Report (Section 14.15.100), if necessary.

E. Landscape and Irrigation Maintenance Schedule (Section 14.15.120).
F. Landscape Installation Report (Section 14.15.110), following installation of landscaping materials and irrigation hardware.

14.15.050. Water-Efficient Design Elements

Projects set forth in Section 14.15.020 requiring a landscape project submittal shall comply with all applicable criteria of this section.

A. **Plant Material:**

All plant material shall be chosen and arranged per requirements in Table 14.15.050(A).

Table 14.15.050(A)

1	**Options to demonstrate water efficiency**		
	a. i. Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area and ii. At least 80% of the plants within non-turf areas shall be native or low water-use	**OR**	b. Prepare a water budget calculation, per the provisions of Section 14.15.060.

AND

2	**Turf Restrictions**
	a. Turf shall not be planted on slopes greater than 25%. b. Turf areas shall not be less than eight feet wide.
3	**Non-turf Restrictions**
	a. Plants shall be arranged appropriately based upon the site's climate, slopes, sun exposure, soil characteristics, wildfire susceptibility and other site conditions appropriate for the selected plants. b. The horticultural attributes of plant species (e.g., mature plant size, invasive roots, and structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines). c. Fire-prone plant materials and highly flammable mulches are strongly discouraged. In areas designated wildland urban interface by Chapter 16.74 of this Code, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291. d. Invasive plant species/noxious weeds: i. Installation shall be prohibited. ii. Existing within or adjacent to the proposed landscape area shall be removed prior to installation of new landscaping.
4	The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supersede this chapter by either prohibiting low water use plants, or including conditions that have the effect of restricting the use of low water use plants.

B. **Hydrozones:**

1. Plant materials of similar water use shall be grouped in hydrozones.
2. Mixed plant materials & hydrozoning: If plant materials of differing water uses are mixed, for purposes of preparing a water budget use Table 14.15.050(B).

Table 14.15.050 (B)

Mixed plant materials	Requirements
Low and moderate water use plants	Allowed. All plants classified as moderate water use for MAWA calculations.
High water use plants with low and moderate water use plants	Not allowed in any hydrozone.

C. **Irrigation System:**

The irrigation system proposed for any project shall meet the requirements outlined in Table 14.15.050 (C)

Table 14.15.050 (C)

Category	Requirements
Irrigation System	Shall meet all requirements per manufacturer's specifications and this table.
Design	Irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance.
Dedicated Landscape Water Meter	Required for landscapes > 5,000 s.f., except single-family residential.
Automatic Irrigation Controllers	Required for irrigation scheduling, utilizing evapotranspiration or soil moisture sensor data.
Sensors	Integral or auxiliary, required to suspend or alter irrigation operation during unfavorable weather conditions.
Separate Valve	Required for each hydrozone. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers and turf.
Water Waste	Irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.
Type of Irrigation hardware	Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
Low-volume Irrigation	Required in mulched areas
	Required in areas with slope > 25%
	Required within 24 inches of a non-permeable surface
	Required in any narrow or irregularly shaped areas that are less than eight (8) feet in width in any direction.
Average Irrigation Efficiency	Systems shall be designed, maintained and managed to meet or exceed average landscape Irrigation efficiency of 70%.
Irrigation Times	Limited to between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or renders irrigation unnecesary.
	Irrigation outside the normal designated window is allowed for auditing and system maintenance only.

D. **Soil, conditioning, and mulching:**

Soil, conditioning, and mulching requirements for all landscape projects are outlined in Table 14.15.050(D).

Table 14.15.050(D)

Type of soil amendment	Requirements
Topsoil	Minimum eight (8) inches, non-compacted topsoil shall be available for water absorption and root growth in planted areas.
	Minimum may be waived where a landscaped professional determines that practical limitations (e.g., slope and other geotechnical factors), necessitate a lesser soil depth that is viable for the chosen plant materials
Other amendments	Compost, fertilizer or other materials, shall be added according to the soil conditions at the project site and based on what is appropriate for the chosen plant materials.
Mulch	Minimum two (2) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas.
	Not needed in areas of direct seeding application (e.g. hydro-seed)
Stabilizing mulching products	Required for use on slopes.

E. **Water Features:**

1. Recirculating water systems shall be used for all water features.
2. Water features are limited to 10% of the landscaped area unless a water budget is prepared.
3. All pools and spas shall have covers.
4. If water budget is prepared or required, use Table 14.15.050(E) for MAWA calculations.

Table 14.15.050(E): Water Features

% of landscape area	Water usage for MAWA calculation
Water features (including pools and spas) ≤ 10%	Medium
Water features (including pools and spas) > 10%	High

14.15.060. Water Budget Calculation

Project applicant may elect to submit a water budget calculation for the landscape project. A water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget. Water budget calculations shall adhere to the following requirements:

A. All special landscape areas shall be identified and their water use included in the water budget calculations.

B. All other factors are as defined in Sections 14.15.030 and 14.15.060.

C. Maximum applied water allowance shall be calculated for each project using the formulae outlined in Table 14.15.060: MAWA Calculation

Table 14.15.060: MAWA Calculation

1. For existing landscapes > 1 acre that have dedicated irrigation meters	MAWA= (ETo) (0.62) (LA) (0.8)
2. For all new and rehabilitated landscapes	MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
LA = Landscape Area (square feet)
0.8 = Reference Evapotranspiration Adjustment Factor (ETAF)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
All other factors as defined in Section 14.15.090 (H) above.

D. Estimated total water use (ETWU) shall be calculated for each hydrozone using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA calculated using the formula above.

$$ETWU = (ETo)(0.62)\left(\frac{PF * HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
0.62 = Conversion Factor
PF = Plant Factor from WUCOLS ~~(B32-2(nn))~~
HA = Hydrozone Area (square feet)
IE = Irrigation Efficiency (minimum 0.70)
SLA = Special Landscape Area (square feet)

14.15.070. Soil Analysis.

The Director of Community Development or his/her designee shall have discretion to require soil analysis as a condition of approval for any development permits, grading permit, or any type of discretionary permit, where a landscape project submittal is required.

A soil analysis report shall document the various characteristics of the soil (e.g. texture, infiltration rate, pH, soluble salt content, percent organic matter, etc), and provide recommendations for amendments as appropriate to optimize the productivity and water-efficiency of the soil.

The soil analysis report shall be made available to the professionals preparing the landscape and irrigation design plans in a timely manner either before or during the design process. A copy of the soils analysis report shall be submitted to the Director of Community Development as part of the landscape documentation package.

14.15.080. Landscape Installation Report

Landscape installation ~~assessment~~ audit for new or rehabilitated landscapes shall be conducted by a certified landscape professional after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into a landscape installation report.

A. The landscape installation report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system are installed as specified in the landscape and

irrigation design plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

B. The landscape installation report shall include the following statement: "The landscape and irrigation system have been installed as specified in the landscape and irrigation design plan and complies with the criteria of the ordinance and the permit."

C. Landscape Maintenance Agreement:
   1. Prior to final inspections and final occupancy, the owner(s) of the property shall enter into a formal written landscape maintenance agreement with the City. The City shall record this agreement, against the property or properties involved, with the County of Santa Clara Recorder's Office and it shall be binding on all subsequent owners of land served by the proposed landscape.
   2. The landscape maintenance agreement shall require that the installed landscape not be modified and that maintenance activities not alter the level of water efficiency of the landscape from its original design, unless approved by the City prior to the commencement of the proposed modification or maintenance activity.

14.15.090. Landscape and Irrigation Maintenance

Landscapes shall be maintained to ensure successful establishment following installation, and to ensure water use efficiency consistent with this chapter. A maintenance schedule shall be established and submitted to the Director of Community Development or his/her designee, either with the landscape application package, with the landscape installation report, or any time before the landscape installation report is submitted. ~~A maintenance contract documentation shall be provided to the Director of Community Development or his/her designee when requested.~~

A. ~~The timing of the maintenance schedule shall extend 24 months from the date of the landscape installation report, unless a different time period is established by the Director of Community Development under a condition of permit approval.~~ Schedules should take into account water requirements for the plant establishment period and water requirements for established landscapes. ~~The landscape professional providing maintenance activities shall provide to the Director of Public Works or his/her designee a minimum of three summary reports at appropriate spaced intervals over the 24 month period. The reports shall evaluate the condition of the installation and describe maintenance needs and work action taken.~~

B. Maintenance shall include, but not be limited to the following: routine inspection; pressure testing, adjustment and repair of the irrigation system; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; replanting of failed plants; weeding; pest control; and removing obstructions to emission devices.

C. Failed plants shall be replaced with the same or functionally equivalent plants that may be size-adjusted as appropriate for the stage of growth of the overall installation. Failing plants shall either be replaced, or be revived through appropriate adjustments in water, nutrients, pest control or other factors as recommended by a landscaping professional.

14.15.100. Audit of Existing Landscapes Larger Than One Acre

The Director of Public Works may require audits to evaluate water use on existing landscapes larger than one acre (installed prior to January 1, 2010). Such audits may also be initiated as a

coordinated effort between the City and, the Santa Clara Valley Water District or the City's water purveyors. This audit must be completed by a certified landscape irrigation auditor.

Following the findings and recommendations of the certified landscape irrigation auditor, the Director of Public Works may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use.

Landscape renovation or rehabilitation resulting from an audit shall be considered a landscape project, and shall be subject to applicable Section 14.15.040 and Table 14.15.060(C)(1).

14.15.110. Public Education

A. The City may provide information, with assistance from the Santa Clara Valley Water District and its water purveyors, to all applicants regarding the design, installation, management and maintenance of water-efficient landscapes and irrigation systems.
B. All model homes that are landscaped shall have signs installed that provide information on the principles of water-efficient landscaping.

14.15.120. Penalties

Non-compliance with any applicable provision of this chapter shall be subject to enforcement action, as provided in Chapter 1.10 and/or Chapter 1.12of this Code.

LANDSCAPE WATER-EFFICIENCY CHECKLIST

CUPERTINO

Community Development Department
10300 Torre Avenue
Cupertino, CA 95014

408.777.3308/Fax 408.777.3333
planning@cupertino.org
http://cupertino.org/planning

Applicant Name: _____ Email: _____

Project Site Address: _____ Phone: _____

Total Landscape Area (square feet):	**Landscape area:** All the planting areas, turf areas, and water features in a landscape installation. 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 wildland vegetation).
Turf Area:	**Turf:** A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.
Non-Turf Plant Area:	
Special Landscape Area:	
Water Feature Wet Surface Area: If > 10% of landscaped area, water budget calculation required with landscape project submittal.	See reverse side for other definitions.

NOTE: If landscape area exceeds 2,500 sq. ft., a landscape project submittal shall be required. If no landscaping is proposed, enter "0" above and proceed directly to the signature block at the bottom of this form.

Landscape Parameter	Requirements	Project Compliance
Turf	Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.	☐ Yes ☐ No [If no, Water budget calculation required with landscape project submittal]
	All portions of turf areas shall be wider than eight (8) feet.	☐ Yes
	Turf (if utilized) is limited to slopes not exceeding 15%.	☐ Yes
Non-Turf	At least 80% of non-turf area shall consist of native or low water use plants.	☐ Yes ☐ No [If no, Water budget calculation required with landscape project submittal]
Hydrozones	Plants with similar water needs shall be grouped within hydrozones. Each hydrozone shall be controlled by a separate valve.	☐ Yes ☐ No [If no, Provide explanation on back]
Irrigation System	Systems shall be designed and maintained to minimize water waste (e.g., runoff, low head drainage, overspray). Low-volume irrigation shall be utilized in non-turf areas. Irrigation shall only occur between the hours of 8:00 pm and 10:00 am.	☐ Yes ☐ No [If no, Provide explanation on back]
Soil	A minimum of eight (8) inches of non-compacted topsoil shall be available in planted areas.	☐ Yes ☐ No [If no, Provide explanation on back]
	Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.	☐ Yes ☐ No [If no, Provide explanation on back]
Mulch	A minimum two (2)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).	☐ Yes ☐ No [If no, Provide explanation on back]

I am aware of available informational resources regarding native and low water use plants, irrigation efficiency, and other aspects of water-efficient landscaping. I certify that the information provided on this checklist is correct, and the installed landscape complies with the requirements of Chapter 14.15. I also understand that any changes to the project will necessitate a new checklist.

_____ _____
Signature of property owner or authorized representative Date

This checklist implements the requirements of Chapter 14.15, Landscape Ordinance, of the Cupertino Municipal Code. The responses provided will be evaluated to determine whether the proposed landscape is generally consistent with the ordinance's water-efficiency goals.

Applicant Comments

Use additional paper if necessary

Staff Evaluation	Staff Comments
☐ Approved	
☐ Not Approved	
	Signature _____ Date _____

Select Definitions

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip and bubblers. Certain rotary emitters designed for highly efficient water distribution, and situated to irrigate low water use plants, may also be included in this definition at the discretion of the Planning Office.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Any species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be categorically deemed a low water use plant.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this division, the term will refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community of the project's vicinity.

Special landscape area: An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, waterfalls and artificial streams. Also includes spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

The landscape and irrigation design plan shall be prepared as follows:

A. The landscape and irrigation design plans shall incorporate all applicable elements of Section 14.15.050 of Chapter 14.15 of the Cupertino Municipal Code.

B. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.

C. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.

D. The landscape design portion of the landscape and irrigation design plan, at a minimum, shall:

1. Provide basic project information, such as applicant name, site address, total landscape area and turf area (square feet), irrigation water source (e.g. municipal, well, recycled), retail water purveyor (if applicable), and project contacts.
2. Identify, in tabular form, all plants to be installed as part of the project. The table shall include the following:
   i. Symbol (representing the plant on the plan).
   ii. Common name.
   iii. Botanical name.
   iv. Container size.
   v. Quantity.
   vi. Type (e.g. grass, forb, succulent, vine, shrub, tree).
   vii. Water-efficient species identification. All "native" and "low water use" plant species (defined in Section 14.15.030) shall be so labeled.
   viii. Unique physical specifications of plants (e.g., bare-root, field-potted, multi-trunk), if applicable.
3. Include the following:
   i. General notes, planting notes, plant layout based on size at maturity, species, and symbol legend.
   ii. Spacing of proposed plantings.
   iii. Topography
   iv. Trunk diameter of all existing trees whose trunk circumference is greater than 18.5 inches, measured 54 inches above grade.
   v. Existing features to remain, such as trees, fencing, hardscape, etc.
   vi. Existing features to be removed.
   vii. Identification of pertinent site factors such as sun exposure, microclimate, property lines, buildings, underground/above-ground utilities, existing drainage features, etc.
   viii. Proposed grading. See Section 16.08 of the Cupertino Municipal Code for the requirements of when a grading permit is required.
   ix. Seed mix, if applicable.
4. Delineate and label each hydrozone;

5. Identify each hydrozone as low water, moderate water, high water, or mixed (low/moderate) water use, as defined by WUCOLS;
6. Identify special landscape areas;
7. Identify type of mulch and application depth;
8. Identify type and wet surface area of water features;
9. Identify hardscapes (pervious and non-pervious); and
10. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the landscape design plan."

E. The irrigation design portion of the landscape and irrigation design plan, at a minimum, shall contain:
   1. 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;
   2. Static water pressure at the point of connection to the public water supply;
   3. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
   4. Irrigation schedule;
   5. Location and size of separate water meters for landscape (if applicable); and,
   6. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

F. **Grading.** If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of Chapter 16.08 of the Cupertino Municipal Code, including permitting requirements for grading in excess of established permit thresholds.

   A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 30%, or in any areas where slope stability may be compromised.

G. **Wildfire Management.** Plant list shall exclude plant types that increase wildfire susceptibility. In areas designated wildland urban interface, by Chapter 16.74 of the Cupertino Municipal Code, the plan shall demonstrate that plants have been selected and arranged to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

H. **Storm Water Management.** Storm water best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Installation shall be subject to the San Francisco Bay Region's National Pollutant Discharge Elimination System (NPDES) storm water discharge permit requirements and Chapter 9.18 of the Cupertino Municipal Code.

Attachment B

Model Water Efficient Landscape Ordinance
September 10, 2009

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California Code of Regulations
Title 23. Waters
Division 2. Department of Water Resources
Chapter 2.7. Model Water Efficient Landscape Ordinance

§ 490. Purpose.

(a) The State Legislature has found:

(1) that the waters of the state are of limited supply and are subject to ever increasing demands;

(2) that the continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses;

(3) that it is the policy of the State to promote the conservation and efficient use of water and to prevent the waste of this valuable resource;

(4) that landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; and

(5) that landscape design, installation, maintenance and management can and should be water efficient; and

(6) that Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.

(b) Consistent with these legislative findings, the purpose of this model ordinance is to:

(1) promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;

(2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects;

(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 as an upper limit for water use and reduce water use to the lowest practical amount;

(5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;

(6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and

(7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

Note: Authority cited: Section 65593, Government Code. Reference: Sections 65591, 65593, 65596, Government Code.

§ 490.1 Applicability

(a) After January 1, 2010, this ordinance shall apply to all of the following landscape projects:

(1) new construction and rehabilitated landscapes for public agency projects and private development projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review;

(2) new construction and rehabilitated landscapes which are developer-installed in single-family and multi-family projects with a landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;

(3) new construction landscapes which are homeowner-provided and/or homeowner-hired in single-family and multi-family residential projects with a total project landscape area equal to or greater than 5,000 square feet requiring a building or landscape permit, plan check or design review;
(4) existing landscapes limited to Sections 493, 493.1 and 493.2; and
(5) cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 492.4, 492.11 and 492.12; and existing cemeteries are limited to Sections 493, 493.1 and 493.2.
(b) This ordinance 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; or
(4) plant collections, as part of botanical gardens and arboretums open to the public.

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

§ 491. Definitions.
The terms used in this ordinance have the meaning set forth below:
(a) "applied water" means the portion of water supplied by the irrigation system to the landscape.
(b) "automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.
(c) "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.
(d) "Certificate of Completion" means the document required under Section 492.9.
(e) "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.
(f) "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.
(g) "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.
(h) "common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.
(i) "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year
(j) "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.
(k) "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
(l)"effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.
(m) "emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.
(n) "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.

(o) "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.
(p) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 492.4.
(q) "ET adjustment factor" (ETAF) means a factor of 0.7, 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.
A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. For purposes of the ETAF, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor is (0.7)=(0.5/0.71). ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.
(r) "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.
(s) "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.
(t) "hardscapes" means any durable material (pervious and non-pervious).
(u) "homeowner-provided landscaping" means any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner. A homeowner, for purposes of this ordinance, is a person who occupies the dwelling he or she owns. This excludes speculative homes, which are not owner-occupied dwellings.
(v) "hydrozone" means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.
(w) "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).
(x)"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. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
(y) "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.
(z) "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 minimum average irrigation efficiency for purposes of this ordinance is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.
(aa) "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.
(bb) "irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.
(cc) "landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.
(dd) "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).
(ee) "landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
(ff) "Landscape Documentation Package" means the documents required under Section 492.3.
(gg) "landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 490.1.
(hh) "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
(ii) "local agency" means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.
(jj) "local water purveyor" means any entity, including a public agency, city, county, or private water company that provides retail water service.
(kk) "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.
(ll) "main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.
(mm) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 492.4. 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.
(nn) "microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.
(oo) "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.
(pp) "mulch" means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.
(qq) "new construction" means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.
(rr) "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
(ss) "overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).
(tt) "overspray" means the irrigation water which is delivered beyond the target area.
(uu) "permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.
(vv) "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
(ww) "plant factor" or "plant water use factor" is a factor , when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for low water

use plants is 0 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 ordinance are derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species".
(xx) "precipitation rate" means the rate of application of water measured in inches per hour.
(yy) "project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 492.3, to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.
(zz) "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
(aaa) "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.
(bbb) "recreational area" means areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.
(ccc) "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.
(ddd) "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Section 495.1, 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 Allowance so that regional differences in climate can be accommodated.
(eee) "rehabilitated landscape" means any re-landscaping project that requires a permit , plan check, or design review, meets the requirements of Section 490.1, and the modified landscape area is equal to or greater than 2,500 square feet, is 50% of the total landscape area, and the modifications are completed within one year.
(fff) "runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
(ggg) "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.
(hhh) "soil texture" means the classification of soil based on its percentage of sand, silt, and clay.
(iii)"Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.
(jjj) "sprinkler head" means a device which delivers water through a nozzle.
(kkk) "static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.
(lll) "station" means an area served by one valve or by a set of valves that operate simultaneously.
(mmm) "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.
(nnn) "turf" means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.
(ooo) "valve" means a device used to control the flow of water in the irrigation system.
(ppp) "water conserving plant species" means a plant species identified as having a low plant factor.
(qqq) "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.
(rrr) "watering window" means the time of day irrigation is allowed.
(sss) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

Note: Authority Cited: Section 65595, Government Code. Reference: Sections 65592, 65596, Government Code.

§ 492. Provisions for New Construction or Rehabilitated Landscapes.
(a) A local agency may designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

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

§ 492.1 Compliance with Landscape Documentation Package.
(a) Prior to construction, the local agency shall:
(1) provide the project applicant with the ordinance and procedures for permits, plan checks, or design reviews;
(2) review the Landscape Documentation Package submitted by the project applicant;
(3) approve or deny the Landscape Documentation Package;
(4) issue a permit or approve the plan check or design review for the project applicant; and
(5) upon approval of the Landscape Documentation Package, submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.
(b) Prior to construction, the project applicant shall:
(1) submit a Landscape Documentation Package to the local agency.
(c) Upon approval of the Landscape Documentation Package by the local agency, the project applicant shall:
(1) receive a permit or approval of the plan check or design review and record the date of the permit in the Certificate of Completion;
(2) submit a copy of the approved Landscape Documentation Package along with the record drawings, and any other information to the property owner or his/her designee; and
(3) submit a copy of the Water Efficient Landscape Worksheet to the local water purveyor.

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

§ 492.2 Penalties.
(a) A local agency may establish and administer penalties to the project applicant for non-compliance with the ordinance to the extent permitted by law.

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

§ 492.3 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, parcel and/or lot number(s))
(D) total landscape area (square feet)
(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)
(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well
(G) checklist of all documents in Landscape Documentation Package
(H) project contacts to include contact information for the project applicant and property owner
(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) Water Efficient Landscape Worksheet;
(A) hydrozone information table
(B) water budget calculations
1. Maximum Applied Water Allowance (MAWA)
2. Estimated Total Water Use (ETWU)
(3) soil management report;
(4) landscape design plan;
(5) irrigation design plan; and
(6) grading design plan.

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

§ 492.4 Water Efficient Landscape Worksheet.
(a) A project applicant shall complete the Water Efficient Landscape Worksheet which contains two sections (see sample worksheet in Appendix B):
(1) a hydrozone information table (see Appendix B, Section A) for the landscape project; and
(2) a water budget calculation (see Appendix B, Section B) for the landscape project. For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.
(b) Water budget calculations shall adhere to the following requirements:
(1) The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.
(2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
(3) All Special Landscape Areas shall be identified and their water use calculated as described below.
(4) ETAF for Special Landscape Areas shall not exceed 1.0.
(c) Maximum Applied Water Allowance
The Maximum Applied Water Allowance shall be calculated using the equation:

$$MAWA = (ETo)\ (0.62)\ [(0.7 \times LA) + (0.3 \times SLA)]$$

The example calculations below are hypothetical to demonstrate proper use of the equations and do not represent an existing and/or planned landscape project. The ETo values used in these calculations are from the Reference Evapotranspiration Table in Appendix A, for planning purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and shall use current reference evapotranspiration data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

(1) Example MAWA calculation: a hypothetical landscape project in Fresno, CA with an irrigated landscape area of 50,000 square feet without any Special Landscape Area (SLA= 0, no edible plants, recreational areas, or use of recycled water). To calculate MAWA, the annual reference evapotranspiration value for Fresno is 51.1 inches as listed in the Reference Evapotranspiration Table in Appendix A.

MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (to gallons)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 0)]
= 1,108,870 gallons per year
To convert from gallons per year to hundred-cubic-feet per year:
= 1,108,870/748 = 1,482 hundred-cubic-feet per year
(100 cubic feet = 748 gallons)

(2) In this next hypothetical example, the landscape project in Fresno, CA has the same ETo value of 51.1 inches and a total landscape area of 50,000 square feet. Within the 50,000 square foot project, there is now a 2,000 square foot area planted with edible plants. This 2,000 square foot area is considered to be a Special Landscape Area.

MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]
MAWA = (51.1 inches) (0.62) [(0.7 x 50,000 square feet) + (0.3 x 2,000 square feet)]
= 31.68 x [35,000 + 600] gallons per year
= 31.68 x 35,600 gallons per year
=1,127,808 gallons per year or 1,508 hundred-cubic-feet per year

(d) Estimated Total Water Use.

The Estimated Total Water Use shall be calculated using the equation below. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed MAWA.

$$ETWU = (ETo)(0.62)\left(\frac{PF \, x \, HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS (see Section 491)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor
IE = Irrigation Efficiency (minimum 0.71)

(1) Example ETWU calculation: landscape area is 50,000 square feet; plant water use type, plant factor, and hydrozone area are shown in the table below. The ETo value is 51.1 inches per year. There are no Special Landscape Areas (recreational area, area permanently and solely dedicated to edible plants, and area irrigated with recycled water) in this example.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	10,000	7,000
3	Medium	0.5	16,000	8,000
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	24,700

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{24{,}700}{0.71} + 0\right)$$

= 1,102,116 gallons per year

Compare ETWU with MAWA: For this example MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 0)] = 1,108,870 gallons per year. The ETWU (1,102,116 gallons per year) is less than MAWA (1,108,870 gallons per year). In this example, the water budget complies with the MAWA.

(2) Example ETWU calculation: total landscape area is 50,000 square feet, 2,000 square feet of which is planted with edible plants. The edible plant area is considered a Special Landscape Area (SLA). The reference evapotranspiration value is 51.1 inches per year. The plant type, plant factor, and hydrozone area are shown in the table below.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)*	Hydrozone Area (HA) (square feet)	PF x HA (square feet)
1	High	0.8	7,000	5,600
2	High	0.7	9,000	6,300
3	Medium	0.5	15,000	7,500
4	Low	0.3	7,000	2,100
5	Low	0.2	10,000	2,000
			Sum	23,500
6	SLA	1.0	2,000	2,000

*Plant Factor from WUCOLS

$$ETWU = (51.1)(0.62)\left(\frac{23{,}500}{0.71} + 2{,}000\right)$$

= (31.68) (33,099 + 2,000)

= 1,111,936 gallons per year

Compare ETWU with MAWA. For this example:
MAWA = (51.1) (0.62) [(0.7 x 50,000) + (0.3 x 2,000)]
= 31.68 x [35,000 + 600]
= 31.68 x 35,600
=1,127,808 gallons per year

The ETWU (1,111,936 gallons per year) is less than MAWA (1,127,808 gallons per year). For this example, the water budget complies with the MAWA.

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

§ 492.5 Soil Management Report.
(a) In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:
(1) Submit soil samples to a laboratory for analysis and recommendations.
(A) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
(B) The soil analysis may include:
1. soil texture;
2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
3. pH;
4. total soluble salts;
5. sodium;
6. percent organic matter; and
7. recommendations.
(2) The project applicant, or his/her designee, shall comply with one of the following:
(A) If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation Package; or
(B) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.
(3) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.
(4) The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.

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

§ 492.6 Landscape Design 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 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 in the landscape area does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:
1. protection and preservation of native species and natural vegetation;
2. selection of water-conserving plant and turf species;

3. selection of plants based on disease and pest resistance;
4. selection of trees based on applicable local tree ordinances or tree shading guidelines; and
5. selection of plants from local and regional landscape program plant lists.
(B) Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 492.7(a)(2)(D).
(C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:
1. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
2. 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, power lines]; and
3. consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
(D) 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).
(E) A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
(F) The use of invasive and/or noxious plant species is strongly discouraged.
(G) The architectural guidelines of a common interest development, which include community apartment projects, 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.
(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 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.
(3) Mulch and Amendments
(A) A minimum two inch (2") 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.
(B) Stabilizing mulching products shall be used on slopes.
(C) The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
(D) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 492.5).
(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 and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
(A) infiltration beds, swales, and basins that allow water to collect and soak into the ground;
(B) constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
(C) pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.
(11) identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
(12) contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan"; and
(13) bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code and Section 1351, Civil Code.

§ 492.7 Irrigation Design 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 meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.
(1) System
(A) Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.
(B) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for irrigation scheduling in all irrigation systems.
(C) The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
2. Static water pressure, dynamic or operating pressure. and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.
(D) 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. Irrigation should be avoided during windy or freezing weather or during rain.
(E) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.

(F) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
(G) High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.
(H) 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.
(I) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
(J) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
(K) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 regarding the Maximum Applied Water Allowance.
(L) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
(M) In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
(N) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
(O) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
(P) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.
(Q) Check valves or anti-drain valves are required for all irrigation systems.
(R) Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low volume irrigation system.
(S) 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:
1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
3. 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 492.7 (a)(1)(H). Prevention of overspray and runoff must be confirmed during the irrigation audit.
(T) Slopes greater than 25% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. 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) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
(C) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
(D) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:

1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
2. the plant factor of the higher water using plant is used for calculations.
(E) Individual hydrozones that mix high and low water use plants shall not be permitted.
(F) On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix B Section A). This table can also assist with the irrigation audit and programming the controller.
(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 as specified in Section 492.14;
(6) 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) the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

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

§ 492.8 Grading Design 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 other local agency permits satisfies this requirement.
(1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
(A) height of graded slopes;
(B) drainage patterns;
(C) pad elevations;
(D) finish grade; and
(E) stormwater retention improvements, if applicable.
(2) To prevent excessive erosion and runoff, it is highly recommended that project applicants:
(A) grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
(B) avoid disruption of natural drainage patterns and undisturbed soil; and
(C) avoid soil compaction in landscape areas.
(3) 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 a licensed professional as authorized by law.

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

§ 492.9 Certificate of Completion.

(a) The Certificate of Completion (see Appendix C for a sample certificate) shall include the following six (6) elements:

(1) project information sheet that contains:

(A) date;

(B) project name;

(C) project applicant name, telephone, and mailing address;

(D) project address and location; and

(E) property owner name, telephone, and mailing address;

(2) certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;

(A) where there have been significant changes made in the field during construction, these "as-built" or record drawings shall be included with the certification;

(3) irrigation scheduling parameters used to set the controller (see Section 492.10);

(4) landscape and irrigation maintenance schedule (see Section 492.11);

(5) irrigation audit report (see Section 492.12); and

(6) soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 492.5).

(b) The project applicant shall:

(1) submit the signed Certificate of Completion to the local agency for review;

(2) ensure that copies of the approved Certificate of Completion are submitted to the local water purveyor and property owner or his or her designee.

(c) The local agency shall:

(1) receive the signed Certificate of Completion from the project applicant;

(2) approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the local agency shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

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

§ 492.10 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 meet the following criteria:

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

(2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from the local water purveyor, the stricter of the two shall apply. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

(3) 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.

(4) Parameters used to set the automatic controller shall be developed and submitted for each of the following:

(A) the plant establishment period;

(B) the established landscape; and
(C) temporarily irrigated areas.
(5) Each irrigation schedule shall consider for each station all of the following that apply:
(A) irrigation interval (days between irrigation);
(B) irrigation run times (hours or minutes per irrigation event to avoid runoff);
(C) number of cycle starts required for each irrigation event to avoid runoff;
(D) amount of applied water scheduled to be applied on a monthly basis;
(E) application rate setting;
(F) root depth setting;
(G) plant type setting;
(H) soil type;
(I) slope factor setting;
(J) shade factor setting; and
(K) irrigation uniformity or efficiency setting.

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

§ 492.11 Landscape and Irrigation Maintenance Schedule.
(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; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing and obstruction to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
(c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.
(d) A project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

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

§ 492.12 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.
(a) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.
(b) For new construction and rehabilitated landscape projects installed after January 1, 2010, as described in Section 490.1:
(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule;
(2) the local agency shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

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

§ 492.13 Irrigation Efficiency.
(a) For the purpose of determining Maximum Applied Water Allowance, average irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 0.71.

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

§ 492.14 Recycled Water.
(a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water, unless a written exemption has been granted as described in Section 492.14(b).
(b) Irrigation systems and decorative water features shall use recycled water unless a written exemption has been granted by the local water purveyor stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.
(c) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.
(d) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for Special Landscape Areas shall not exceed 1.0.

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

§ 492.15 Stormwater Management.
(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 retention and infiltration are encouraged.
(b) Project applicants shall refer to the local agency or Regional Water Quality Control Board for information on any applicable stormwater ordinances and stormwater management plans.
(c) Rain gardens, cisterns, and other landscapes features and practices that increase rainwater capture and create opportunities for infiltration and/or onsite storage are recommended.

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

§ 492.16 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.
(1) A local agency shall provide information to owners of new, single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes.
(b) Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.
(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.
(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.

§ 492.17 Environmental Review.
(a) The local agency must comply with the California Environmental Quality Act (CEQA), as appropriate.

Note: Authority cited: Section 21082, Public Resources Code. Reference: Sections 21080, 21082, Public Resources Code.

§ 493. Provisions for Existing Landscapes.
(a) A local agency may designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

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

§ 493.1 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.
(a) This section, 493.1, shall apply to all existing landscapes that were installed before January 1, 2010 and are over one acre in size.
(1) For all landscapes in 493.1(a) that have a water meter, the local agency shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The Maximum Applied Water Allowance for existing landscapes shall be calculated as: MAWA = (0.8) (ETo)(LA)(0.62).
(2) For all landscapes in 493.1(a), that do not have a meter, the local agency shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.
(b) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

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

§ 493.2 Water Waste Prevention.
(a) Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Penalties for violation of these prohibitions shall be established locally.
(b) Restrictions regarding overspray and runoff may be modified if:
(1) the landscape area is adjacent to permeable surfacing and no runoff occurs; or
(2) the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

Note: Authority cited: Section 65594, Government Code. Reference: Section 65596, Government Code.

§ 494. Effective Precipitation.
(a) A local agency may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance:
MAWA= (ETo - Eppt) (0.62) [(0.7 x LA) + (0.3 x SLA)].

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

Appendices.

Appendix A. Reference Evapotranspiration (ETo) Table.

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2
ALPINE													
Markleeville	0.7	0.9	2.0	3.5	5.0	6.1	7.3	6.4	4.4	2.6	1.2	0.5	40.6
AMADOR													
Jackson	1.2	1.5	2.8	4.4	6.0	7.2	7.9	7.2	5.3	3.2	1.4	0.9	48.9
Shanandoah Valley	1.0	1.7	2.9	4.4	5.6	6.8	7.9	7.1	5.2	3.6	1.7	1.0	48.8
BUTTE													
Chico	1.2	1.8	2.9	4.7	6.1	7.4	8.5	7.3	5.4	3.7	1.7	1.0	51.7
Durham	1.1	1.8	3.2	5.0	6.5	7.4	7.8	6.9	5.3	3.6	1.7	1.0	51.1
Gridley	1.2	1.8	3.0	4.7	6.1	7.7	8.5	7.1	5.4	3.7	1.7	1.0	51.9
Oroville	1.2	1.7	2.8	4.7	6.1	7.6	8.5	7.3	5.3	3.7	1.7	1.0	51.5
CALAVERAS													
San Andreas	1.2	1.5	2.8	4.4	6.0	7.3	7.9	7.0	5.3	3.2	1.4	0.7	48.8
COLUSA													
Colusa	1.0	1.7	3.4	5.0	6.4	7.6	8.3	7.2	5.4	3.8	1.8	1.1	52.8
Williams	1.2	1.7	2.9	4.5	6.1	7.2	8.5	7.3	5.3	3.4	1.6	1.0	50.8
CONTRA COSTA													
Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.3
Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	43.4
Courtland	0.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.0
Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	41.8
Moraga	1.2	1.5	3.4	4.2	5.5	6.1	6.7	5.9	4.6	3.2	1.6	1.0	44.9
Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	45.4
Walnut Creek	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
DEL NORTE													
Crescent City	0.5	0.9	2.0	3.0	3.7	3.5	4.3	3.7	3.0	2.0	0.9	0.5	27.7
EL DORADO													
Camino	0.9	1.7	2.5	3.9	5.9	7.2	7.8	6.8	5.1	3.1	1.5	0.9	47.3
FRESNO													
Clovis	1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Coalinga	1.2	1.7	3.1	4.6	6.2	7.2	8.5	7.3	5.3	3.4	1.6	0.7	50.9
Firebaugh	1.0	1.8	3.7	5.7	7.3	8.1	8.2	7.2	5.5	3.9	2.0	1.1	55.4
FivePoints	1.3	2.0	4.0	6.1	7.7	8.5	8.7	8.0	6.2	4.5	2.4	1.2	60.4
Fresno	0.9	1.7	3.3	4.8	6.7	7.8	8.4	7.1	5.2	3.2	1.4	0.6	51.1
Fresno State	0.9	1.6	3.2	5.2	7.0	8.0	8.7	7.6	5.4	3.6	1.7	0.9	53.7
Friant	1.2	1.5	3.1	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Kerman	0.9	1.5	3.2	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.2
Kingsburg	1.0	1.5	3.4	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.6
Mendota	1.5	2.5	4.6	6.2	7.9	8.6	8.8	7.5	5.9	4.5	2.4	1.5	61.7
Orange Cove	1.2	1.9	3.5	4.7	7.4	8.5	8.9	7.9	5.9	3.7	1.8	1.2	56.7
Panoche	1.1	2.0	4.0	5.6	7.8	8.5	8.3	7.3	5.6	3.9	1.8	1.2	57.2
Parlier	1.0	1.9	3.6	5.2	6.8	7.6	8.1	7.0	5.1	3.4	1.7	0.9	52.0
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
GLENN													
Orland	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
HUMBOLDT													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopa	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
IMPERIAL													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
INYO													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
KERN													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5
Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9
KINGS													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7
Corcoran	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Hanford	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.2	5.4	3.4	1.4	0.7	51.5
Kettleman	1.1	2.0	4.0	6.0	7.5	8.5	9.1	8.2	6.1	4.5	2.2	1.1	60.2
Lemoore	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.4	0.7	51.7
Stratford	0.9	1.9	3.9	6.1	7.8	8.6	8.8	7.7	5.9	4.1	2.1	1.0	58.7

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
LAKE													
Lakeport	1.1	1.3	2.6	3.5	5.1	6.0	7.3	6.1	4.7	2.9	1.2	0.9	42.8
Lower Lake	1.2	1.4	2.7	4.5	5.3	6.3	7.4	6.4	5.0	3.1	1.3	0.9	45.4
LASSEN													
Buntingville	1.0	1.7	3.5	4.9	6.2	7.3	8.4	7.5	5.4	3.4	1.5	0.9	51.8
Ravendale	0.6	1.1	2.3	4.1	5.6	6.7	7.9	7.3	4.7	2.8	1.2	0.5	44.9
Susanville	0.7	1.0	2.2	4.1	5.6	6.5	7.8	7.0	4.6	2.8	1.2	0.5	44.0
LOS ANGELES													
Burbank	2.1	2.8	3.7	4.7	5.1	6.0	6.6	6.7	5.4	4.0	2.6	2.0	51.7
Claremont	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
El Dorado	1.7	2.2	3.6	4.8	5.1	5.7	5.9	5.9	4.4	3.2	2.2	1.7	46.3
Glendale	2.0	2.2	3.3	3.8	4.7	4.8	5.7	5.6	4.3	3.3	2.2	1.8	43.7
Glendora	2.0	2.5	3.6	4.9	5.4	6.1	7.3	6.8	5.7	4.2	2.6	2.0	53.1
Gorman	1.6	2.2	3.4	4.6	5.5	7.4	7.7	7.1	5.9	3.6	2.4	1.1	52.4
Hollywood Hills	2.1	2.2	3.8	5.4	6.0	6.5	6.7	6.4	5.2	3.7	2.8	2.1	52.8
Lancaster	2.1	3.0	4.6	5.9	8.5	9.7	11.0	9.8	7.3	4.6	2.8	1.7	71.1
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7
Los Angeles	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	3.9	2.6	1.9	50.1
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
Palmdale	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Pearblossom	1.7	2.4	3.7	4.7	7.3	7.7	9.9	7.9	6.4	4.0	2.6	1.6	59.9
Pomona	1.7	2.0	3.4	4.5	5.0	5.8	6.5	6.4	4.7	3.5	2.3	1.7	47.5
Redondo Beach	2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.6
San Fernando	2.0	2.7	3.5	4.6	5.5	5.9	7.3	6.7	5.3	3.9	2.6	2.0	52.0
Santa Clarita	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Santa Monica	1.8	2.1	3.3	4.5	4.7	5.0	5.4	5.4	3.9	3.4	2.4	2.2	44.2
MADERA													
Chowchilla	1.0	1.4	3.2	4.7	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Madera	0.9	1.4	3.2	4.8	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.5
Raymond	1.2	1.5	3.0	4.6	6.1	7.6	8.4	7.3	5.2	3.4	1.4	0.7	50.5
MARIN													
Black Point	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.8
Point San Pedro	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
MARIPOSA													
Coulterville	1.1	1.5	2.8	4.4	5.9	7.3	8.1	7.0	5.3	3.4	1.4	0.7	48.8
Mariposa	1.1	1.5	2.8	4.4	5.9	7.4	8.2	7.1	5.0	3.4	1.4	0.7	49.0
Yosemite Village	0.7	1.0	2.3	3.7	5.1	6.5	7.1	6.1	4.4	2.9	1.1	0.6	41.4
MENDOCINO													
Fort Bragg	0.9	1.3	2.2	3.0	3.7	3.5	3.7	3.7	3.0	2.3	1.2	0.7	29.0
Hopland	1.1	1.3	2.6	3.4	5.0	5.9	6.5	5.7	4.5	2.8	1.3	0.7	40.9
Point Arena	1.0	1.3	2.3	3.0	3.7	3.9	3.7	3.7	3.0	2.3	1.2	0.7	29.6
Sanel Valley	1.0	1.6	3.0	4.6	6.0	7.0	8.0	7.0	5.2	3.4	1.4	0.9	49.1
Ukiah	1.0	1.3	2.6	3.3	5.0	5.8	6.7	5.9	4.5	2.8	1.3	0.7	40.9
MERCED													
Kesterson	0.9	1.7	3.4	5.5	7.3	8.2	8.6	7.4	5.5	3.8	1.8	0.9	55.1
Los Banos	1.0	1.5	3.2	4.7	6.1	7.4	8.2	7.0	5.3	3.4	1.4	0.7	50.0
Merced	1.0	1.5	3.2	4.7	6.6	7.9	8.5	7.2	5.3	3.4	1.4	0.7	51.5

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
MODOC													
Modoc/Alturas	0.9	1.4	2.8	3.7	5.1	6.2	7.5	6.6	4.6	2.8	1.2	0.7	43.2
MONO													
Bridgeport	0.7	0.9	2.2	3.8	5.5	6.6	7.4	6.7	4.7	2.7	1.2	0.5	43.0
MONTEREY													
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7
NAPA													
Angwin	1.8	1.9	3.2	4.7	5.8	7.3	8.1	7.1	5.5	4.5	2.9	2.1	54.9
Carneros	0.8	1.5	3.1	4.6	5.5	6.6	6.9	6.2	4.7	3.5	1.4	1.0	45.8
Oakville	1.0	1.5	2.9	4.7	5.8	6.9	7.2	6.4	4.9	3.5	1.6	1.2	47.7
St Helena	1.2	1.5	2.8	3.9	5.1	6.1	7.0	6.2	4.8	3.1	1.4	0.9	44.1
Yountville	1.3	1.7	2.8	3.9	5.1	6.0	7.1	6.1	4.8	3.1	1.5	0.9	44.3
NEVADA													
Grass Valley	1.1	1.5	2.6	4.0	5.7	7.1	7.9	7.1	5.3	3.2	1.5	0.9	48.0
Nevada City	1.1	1.5	2.6	3.9	5.8	6.9	7.9	7.0	5.3	3.2	1.4	0.9	47.4
ORANGE													
Irvine	2.2	2.5	3.7	4.7	5.2	5.9	6.3	6.2	4.6	3.7	2.6	2.3	49.6
Laguna Beach	2.2	2.7	3.4	3.8	4.6	4.6	4.9	4.9	4.4	3.4	2.4	2.0	43.2
Santa Ana	2.2	2.7	3.7	4.5	4.6	5.4	6.2	6.1	4.7	3.7	2.5	2.0	48.2
PLACER													
Auburn	1.2	1.7	2.8	4.4	6.1	7.4	8.3	7.3	5.4	3.4	1.6	1.0	50.6
Blue Canyon	0.7	1.1	2.1	3.4	4.8	6.0	7.2	6.1	4.6	2.9	0.9	0.6	40.5
Colfax	1.1	1.5	2.6	4.0	5.8	7.1	7.9	7.0	5.3	3.2	1.4	0.9	47.9
Roseville	1.1	1.7	3.1	4.7	6.2	7.7	8.5	7.3	5.6	3.7	1.7	1.0	52.2
Soda Springs	0.7	0.7	1.8	3.0	4.3	5.3	6.2	5.5	4.1	2.5	0.7	0.7	35.4
Tahoe City	0.7	0.7	1.7	3.0	4.3	5.4	6.1	5.6	4.1	2.4	0.8	0.6	35.5
Truckee	0.7	0.7	1.7	3.2	4.4	5.4	6.4	5.7	4.1	2.4	0.8	0.6	36.2
PLUMAS													
Portola	0.7	0.9	1.9	3.5	4.9	5.9	7.3	5.9	4.3	2.7	0.9	0.5	39.4
Quincy	0.7	0.9	2.2	3.5	4.9	5.9	7.3	5.9	4.4	2.8	1.2	0.5	40.2
RIVERSIDE													
Beaumont	2.0	2.3	3.4	4.4	6.1	7.1	7.6	7.9	6.0	3.9	2.6	1.7	55.0
Blythe	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Cathedral City	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Coachella	2.9	4.4	6.2	8.4	10.5	11.9	12.3	10.1	8.9	6.2	3.8	2.4	88.1
Desert Center	2.9	4.1	6.4	8.5	11.0	12.1	12.2	11.1	9.0	6.4	3.9	2.6	90.0
Elsinore	2.1	2.8	3.9	4.4	5.9	7.1	7.6	7.0	5.8	3.9	2.6	1.9	55.0
Indio	3.1	3.6	6.5	8.3	10.5	11.0	10.8	9.7	8.3	5.9	3.7	2.7	83.9

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
RIVERSIDE													
La Quinta	2.4	2.8	5.2	6.5	8.3	8.7	8.5	7.9	6.5	4.5	2.7	2.2	66.2
Mecca	2.6	3.3	5.7	7.2	8.6	9.0	8.8	8.2	6.8	5.0	3.2	2.4	70.8
Oasis	2.9	3.3	5.3	6.1	8.5	8.9	8.7	7.9	6.9	4.8	2.9	2.3	68.4
Palm Deser	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
Palm Springs	2.0	2.9	4.9	7.2	8.3	8.5	11.6	8.3	7.2	5.9	2.7	1.7	71.1
Rancho California	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
Rancho Mirage	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Ripley	2.7	3.3	5.6	7.2	8.7	8.7	8.4	7.6	6.2	4.6	2.8	2.2	67.8
Salton Sea North	2.5	3.3	5.5	7.2	8.8	9.3	9.2	8.5	6.8	5.2	3.1	2.3	71.7
Temecula East II	2.3	2.4	4.1	4.9	6.4	7.0	7.8	7.4	5.7	4.1	2.6	2.2	56.7
Thermal	2.4	3.3	5.5	7.6	9.1	9.6	9.3	8.6	7.1	5.2	3.1	2.1	72.8
Riverside UC	2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6	56.4
Winchester	2.3	2.4	4.1	4.9	6.4	6.9	7.7	7.5	6.0	3.9	2.6	2.1	56.8
SACRAMENTO													
Fair Oaks	1.0	1.6	3.4	4.1	6.5	7.5	8.1	7.1	5.2	3.4	1.5	1.0	50.5
Sacramento	1.0	1.8	3.2	4.7	6.4	7.7	8.4	7.2	5.4	3.7	1.7	0.9	51.9
Twitchell Island	1.2	1.8	3.9	5.3	7.4	8.8	9.1	7.8	5.9	3.8	1.7	1.2	57.9
SAN BENITO													
Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Benito	1.2	1.6	3.1	4.6	5.6	6.4	6.9	6.5	4.8	3.7	1.7	1.2	47.2
San Juan Valley	1.4	1.8	3.4	4.5	6.0	6.7	7.1	6.4	5.0	3.5	1.8	1.4	49.1
SAN BERNARDINO													
Baker	2.7	3.9	6.1	8.3	10.4	11.8	12.2	11.0	8.9	6.1	3.3	2.1	86.6
Barstow NE	2.2	2.9	5.3	6.9	9.0	10.1	9.9	8.9	6.8	4.8	2.7	2.1	71.7
Big Bear Lake	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Chino	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
Crestline	1.5	1.9	3.3	4.4	5.5	6.6	7.8	7.1	5.4	3.5	2.2	1.6	50.8
Lake Arrowhead	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Lucerne Valley	2.2	2.9	5.1	6.5	9.1	11.0	11.4	9.9	7.4	5.0	3.0	1.8	75.3
Needles	3.2	4.2	6.6	8.9	11.0	12.4	12.8	11.0	8.9	6.6	4.0	2.7	92.1
Newberry Springs	2.1	2.9	5.3	8.4	9.8	10.9	11.1	9.9	7.6	5.2	3.1	2.0	78.2
San Bernardino	2.0	2.7	3.8	4.6	5.7	6.9	7.9	7.4	5.9	4.2	2.6	2.0	55.6
Twentynine Palms	2.6	3.6	5.9	7.9	10.1	11.2	11.2	10.3	8.6	5.9	3.4	2.2	82.9
Victorville	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1
Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0
SAN FRANCISCO													
San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
SAN JOAQUIN													
Farmington	1.5	1.5	2.9	4.7	6.2	7.6	8.1	6.8	5.3	3.3	1.4	0.7	50.0

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
SAN JOAQUIN													
Lodi West	1.0	1.6	3.3	4.3	6.3	6.9	7.3	6.4	4.5	3.0	1.4	0.8	46.7
Manteca	0.9	1.7	3.4	5.0	6.5	7.5	8.0	7.1	5.2	3.3	1.6	0.9	51.2
Stockton	0.8	1.5	2.9	4.7	6.2	7.4	8.1	6.8	5.3	3.2	1.4	0.6	49.1
Tracy	1.0	1.5	2.9	4.5	6.1	7.3	7.9	6.7	5.3	3.2	1.3	0.7	48.5
SAN LUIS OBISPO													
Arroyo Grande	2.0	2.2	3.2	3.8	4.3	4.7	4.3	4.6	3.8	3.2	2.4	1.7	40.0
Atascadero	1.2	1.5	2.8	3.9	4.5	6.0	6.7	6.2	5.0	3.2	1.7	1.0	43.7
Morro Bay	2.0	2.2	3.1	3.5	4.3	4.5	4.6	4.6	3.8	3.5	2.1	1.7	39.9
Nipomo	2.2	2.5	3.8	5.1	5.7	6.2	6.4	6.1	4.9	4.1	2.9	2.3	52.1
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0
San Luis Obispo	2.0	2.2	3.2	4.1	4.9	5.3	4.6	5.5	4.4	3.5	2.4	1.7	43.8
San Miguel	1.6	2.0	3.2	4.3	5.0	6.4	7.4	6.8	5.1	3.7	2.1	1.4	49.0
San Simeon	2.0	2.0	2.9	3.5	4.2	4.4	4.6	4.3	3.5	3.1	2.0	1.7	38.1
SAN MATEO													
Hal Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.7
Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8
Woodside	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
SANTA BARBARA													
Betteravia	2.1	2.6	4.0	5.2	6.0	5.9	5.8	5.4	4.1	3.3	2.7	2.1	49.1
Carpenteria	2.0	2.4	3.2	3.9	4.8	5.2	5.5	5.7	4.5	3.4	2.4	2.0	44.9
Cuyama	2.1	2.4	3.8	5.4	6.9	7.9	8.5	7.7	5.9	4.5	2.6	2.0	59.7
Goleta	2.1	2.5	3.9	5.1	5.7	5.7	5.4	5.4	4.2	3.2	2.8	2.2	48.1
Goleta Foothills	2.3	2.6	3.7	5.4	5.3	5.6	5.5	5.7	4.5	3.9	2.8	2.3	49.6
Guadalupe	2.0	2.2	3.2	3.7	4.9	4.6	4.5	4.6	4.1	3.3	2.4	1.7	41.1
Lompoc	2.0	2.2	3.2	3.7	4.8	4.6	4.9	4.8	3.9	3.2	2.4	1.7	41.1
Los Alamos	1.8	2.0	3.2	4.1	4.9	5.3	5.7	5.5	4.4	3.7	2.4	1.6	44.6
Santa Barbara	2.0	2.5	3.2	3.8	4.6	5.1	5.5	4.5	3.4	2.4	1.8	1.8	40.6
Santa Maria	1.8	2.3	3.7	5.1	5.7	5.8	5.6	5.3	4.2	3.5	2.4	1.9	47.4
Santa Ynez	1.7	2.2	3.5	5.0	5.8	6.2	6.4	6.0	4.5	3.6	2.2	1.7	48.7
Sisquoc	2.1	2.5	3.8	4.1	6.1	6.3	6.4	5.8	4.7	3.4	2.3	1.8	49.2
Solvang	2.0	2.0	3.3	4.3	5.0	5.6	6.1	5.6	4.4	3.7	2.2	1.6	45.6
SANTA CLARA													
Gilroy	1.3	1.8	3.1	4.1	5.3	5.6	6.1	5.5	4.7	3.4	1.7	1.1	43.6
Los Gatos	1.5	1.8	2.8	3.9	5.0	5.6	6.2	5.5	4.7	3.2	1.7	1.1	42.9
Morgan Hill	1.5	1.8	3.4	4.2	6.3	7.0	7.1	6.0	5.1	3.7	1.9	1.4	49.5
Palo Alto	1.5	1.8	2.8	3.8	5.2	5.3	6.2	5.6	5.0	3.2	1.7	1.0	43.0
San Jose	1.5	1.8	3.1	4.1	5.5	5.8	6.5	5.9	5.2	3.3	1.8	1.0	45.3
SANTA CRUZ													
De Laveaga	1.4	1.9	3.3	4.7	4.9	5.3	5.0	4.8	3.6	3.0	1.6	1.3	40.8
Green Valley Rd	1.2	1.8	3.2	4.5	4.6	5.4	5.2	5.0	3.7	3.1	1.6	1.3	40.6
Santa Cruz	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.6
Watsonville	1.5	1.8	2.7	3.7	4.6	4.5	4.9	4.2	4.0	2.9	1.8	1.2	37.7
Webb	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.2
SHASTA													
Burney	0.7	1.0	2.1	3.5	4.9	5.9	7.4	6.4	4.4	2.9	0.9	0.6	40.9
Fall River Mills	0.6	1.0	2.1	3.7	5.0	6.1	7.8	6.7	4.6	2.8	0.9	0.5	41.8
Glenburn	0.6	1.0	2.1	3.7	5.0	6.3	7.8	6.7	4.7	2.8	0.9	0.6	42.1
McArthur	0.7	1.4	2.9	4.2	5.6	6.9	8.2	7.2	5.0	3.0	1.1	0.6	46.8
Redding	1.2	1.4	2.6	4.1	5.6	7.1	8.5	7.3	5.3	3.2	1.4	0.9	48.8

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
SIERRA													
Downieville	0.7	1.0	2.3	3.5	5.0	6.0	7.4	6.2	4.7	2.8	0.9	0.6	41.3
Sierraville	0.7	1.1	2.2	3.2	4.5	5.9	7.3	6.4	4.3	2.6	0.9	0.5	39.6
SISKIYOU													
Happy Camp	0.5	0.9	2.0	3.0	4.3	5.2	6.1	5.3	4.1	2.4	0.9	0.5	35.1
MacDoel	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
Mt Shasta	0.5	0.9	2.0	3.0	4.5	5.3	6.7	5.7	4.0	2.2	0.7	0.5	36.0
Tule lake FS	0.7	1.3	2.7	4.0	5.4	6.3	7.1	6.4	4.7	2.8	1.0	0.6	42.9
Weed	0.5	0.9	2.0	2.5	4.5	5.3	6.7	5.5	3.7	2.0	0.9	0.5	34.9
Yreka	0.6	0.9	2.1	3.0	4.9	5.8	7.3	6.5	4.3	2.5	0.9	0.5	39.2
SOLANO													
Dixon	0.7	1.4	3.2	5.2	6.3	7.6	8.2	7.2	5.5	4.3	1.6	1.1	52.1
Fairfield	1.1	1.7	2.8	4.0	5.5	6.1	7.8	6.0	4.8	3.1	1.4	0.9	45.2
Hastings Tract	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Putah Creek	1.0	1.6	3.2	4.9	6.1	7.3	7.9	7.0	5.3	3.8	1.8	1.2	51.0
Rio Vista	0.9	1.7	2.8	4.4	5.9	6.7	7.9	6.5	5.1	3.2	1.3	0.7	47.0
Suisun Valley	0.6	1.3	3.0	4.7	5.8	7.0	7.7	6.8	5.3	3.8	1.4	0.9	48.3
Winters	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
SONOMA													
Bennett Valley	1.1	1.7	3.2	4.1	5.5	6.5	6.6	5.7	4.5	3.1	1.5	0.9	44.4
Cloverdale	1.1	1.4	2.6	3.4	5.0	5.9	6.2	5.6	4.5	2.8	1.4	0.7	40.7
Fort Ross	1.2	1.4	2.2	3.0	3.7	4.5	4.2	4.3	3.4	2.4	1.2	0.5	31.9
Healdsburg	1.2	1.5	2.4	3.5	5.0	5.9	6.1	5.6	4.5	2.8	1.4	0.7	40.8
Lincoln	1.2	1.7	2.8	4.7	6.1	7.4	8.4	7.3	5.4	3.7	1.9	1.2	51.9
Petaluma	1.2	1.5	2.8	3.7	4.6	5.6	4.6	5.7	4.5	2.9	1.4	0.9	39.6
Santa Rosa	1.2	1.7	2.8	3.7	5.0	6.0	6.1	5.9	4.5	2.9	1.5	0.7	42.0
Valley of the Moon	1.0	1.6	3.0	4.5	5.6	6.6	7.1	6.3	4.7	3.3	1.5	1.0	46.1
Windsor	0.9	1.6	3.0	4.5	5.5	6.5	6.5	5.9	4.4	3.2	1.4	1.0	44.2
STANISLAUS													
Denair	1.0	1.9	3.6	4.7	7.0	7.9	8.0	6.1	5.3	3.4	1.5	1.0	51.4
La Grange	1.2	1.5	3.1	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Modesto	0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7
Newman	1.0	1.5	3.2	4.6	6.2	7.4	8.1	6.7	5.0	3.4	1.4	0.7	49.3
Oakdale	1.2	1.5	3.2	4.7	6.2	7.7	8.1	7.1	5.1	3.4	1.4	0.7	50.3
Patterson	1.3	2.1	4.2	5.4	7.9	8.6	8.2	6.6	5.8	4.0	1.9	1.3	57.3
Turlock	0.9	1.5	3.2	4.7	6.5	7.7	8.2	7.0	5.1	3.4	1.4	0.7	50.2
SUTTER													
Nicolaus	0.9	1.6	3.2	4.9	6.3	7.5	8.0	6.9	5.2	3.4	1.5	0.9	50.2
Yuba City	1.3	2.1	2.8	4.4	5.7	7.2	7.1	6.1	4.7	3.2	1.2	0.9	46.7
TEHAMA													
Corning	1.2	1.8	2.9	4.5	6.1	7.3	8.1	7.2	5.3	3.7	1.7	1.1	50.7
Gerber	1.0	1.8	3.5	5.0	6.6	7.9	8.7	7.4	5.8	4.1	1.8	1.1	54.7
Gerber Dryland	0.9	1.6	3.2	4.7	6.7	8.4	9.0	7.9	6.0	4.2	2.0	1.0	55.5
Red Bluff	1.2	1.8	2.9	4.4	5.9	7.4	8.5	7.3	5.4	3.5	1.7	1.0	51.1
TRINITY													
Hay Fork	0.5	1.1	2.3	3.5	4.9	5.9	7.0	6.0	4.5	2.8	0.9	0.7	40.1
Weaverville	0.6	1.1	2.2	3.3	4.9	5.9	7.3	6.0	4.4	2.7	0.9	0.7	40.0
TULARE													
Alpaugh	0.9	1.7	3.4	4.8	6.6	7.7	8.2	7.3	5.4	3.4	1.4	0.7	51.6
Badger	1.0	1.3	2.7	4.1	6.0	7.3	7.7	7.0	4.8	3.3	1.4	0.7	47.3
Delano	1.1	1.9	4.0	4.9	7.2	7.9	8.1	7.3	5.4	3.2	1.5	1.2	53.6

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
TULARE													
Dinuba	1.1	1.5	3.2	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Lindcove	0.9	1.6	3.0	4.8	6.5	7.6	8.1	7.2	5.2	3.4	1.6	0.9	50.6
Porterville	1.2	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.3	3.4	1.4	0.7	52.1
Visalia	0.9	1.7	3.3	5.1	6.8	7.7	7.9	6.9	4.9	3.2	1.5	0.8	50.7
TUOLUMNE													
Groveland	1.1	1.5	2.8	4.1	5.7	7.2	7.9	6.6	5.1	3.3	1.4	0.7	47.5
Sonora	1.1	1.5	2.8	4.1	5.8	7.2	7.9	6.7	5.1	3.2	1.4	0.7	47.6
VENTURA													
Camarillo	2.2	2.5	3.7	4.3	5.0	5.2	5.9	5.4	4.2	3.0	2.5	2.1	46.1
Oxnard	2.2	2.5	3.2	3.7	4.4	4.6	5.4	4.8	4.0	3.3	2.4	2.0	42.3
Piru	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Port Hueneme	2.0	2.3	3.3	4.6	4.9	4.9	4.9	5.0	3.7	3.2	2.5	2.2	43.5
Thousand Oaks	2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0
Ventura	2.2	2.6	3.2	3.8	4.6	4.7	5.5	4.9	4.1	3.4	2.5	2.0	43.5
YOLO													
Bryte	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
Davis	1.0	1.9	3.3	5.0	6.4	7.6	8.2	7.1	5.4	4.0	1.8	1.0	52.5
Esparto	1.0	1.7	3.4	5.5	6.9	8.1	8.5	7.5	5.8	4.2	2.0	1.2	55.8
Winters	1.7	1.7	2.9	4.4	5.8	7.1	7.9	6.7	5.3	3.3	1.6	1.0	49.4
Woodland	1.0	1.8	3.2	4.7	6.1	7.7	8.2	7.2	5.4	3.7	1.7	1.0	51.6
Zamora	1.1	1.9	3.5	5.2	6.4	7.4	7.8	7.0	5.5	4.0	1.9	1.2	52.8
YUBA													
Browns Valley	1.0	1.7	3.1	4.7	6.1	7.5	8.5	7.6	5.7	4.1	2.0	1.1	52.9
Brownsville	1.1	1.4	2.6	4.0	5.7	6.8	7.9	6.8	5.3	3.4	1.5	0.9	47.4

* The values in this table were derived from:
1) California Irrigation Management Information System (CIMIS);
2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and
3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources
(1987) Bulletin 1922, 4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

Appendix B – Sample Water Efficient Landscape Worksheet.

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.
Please complete all sections (A and B) of the worksheet.

SECTION A. HYDROZONE INFORMATION TABLE

Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone*	Zone or Valve	Irrigation Method**	Area (Sq. Ft.)	% of Landscape Area
	Total			100%

** Hydrozone*
HW = High Water Use Plants
MW = Moderate Water Use Plants
LW = Low Water Use Plants

***Irrigation Method*
MS = Micro-spray
S = Spray
R = Rotor
B= Bubbler
D= Drip
O = Other

SECTION B. WATER BUDGET CALCULATIONS

Section B1. Maximum Applied Water Allowance (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using this equation:

MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]

where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration from Appendix A (inches per year)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscaped Area includes Special Landscape Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = _____gallons per year

Show calculations.

Effective Precipitation (Eppt)

If considering Effective Precipitation, use 25% of annual precipitation. Use the following equation to calculate Maximum Applied Water Allowance:

MAWA= (ETo – Eppt) (0.62) [(0.7 x LA) + (0.3 x SLA)]

Maximum Applied Water Allowance = _____gallons per year

Show calculations.

Section B2. Estimated Total Water Use (ETWU)

The project's Estimated Total Water Use is calculated using the following formula:

$$ETWU = (ETo)(0.62)\left(\frac{PF\,x\,HA}{IE} + SLA\right)$$

where:

ETWU = Estimated total water use per year (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
PF = Plant Factor from WUCOLS (see Definitions)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor (to gallons per square foot)
IE = Irrigation Efficiency (minimum 0.71)

Hydrozone Table for Calculating ETWU

Please complete the hydrozone table(s). Use as many tables as necessary.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (HA) (square feet)	PF x HA (square feet)
			Sum	
	SLA			

Estimated Total Water Use = _____gallons

Show calculations.

Appendix C – Sample Certificate of Completion.

CERTIFICATE OF COMPLETION

This certificate is filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

Date		
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Project Address and Location:

Street Address		Parcel, tract or lot number, if available.
City		Latitude/Longitude (optional)
State	Zip Code	

Property Owner or his/her designee:

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Property Owner

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

_____

Property Owner Signature Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency_____
2. Date the Landscape Documentation Package was approved by the local agency_____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor_____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

Signature*	Date	
Name (print)	Telephone No.	
	Fax No.	
Title	Email Address	
License No. or Certification No.		
Company	Street Address	
City	State	Zip Code

*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.

PART 3. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per ordinance Section 492.10.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 492.11.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.5.

Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.5.

Assembly Bill No. 1881

CHAPTER 559

An act to add Section 1353.8 to the Civil Code, to repeal and add Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code, to add Section 25401.9 to the Public Resources Code, and to add Article 4.5 (commencing with Section 535) to Chapter 8 of Division 1 of the Water Code, relating to water conservation.

[Approved by Governor September 28, 2006. Filed with Secretary of State September 28, 2006.]

LEGISLATIVE COUNSEL'S DIGEST

AB 1881, Laird. Water conservation.

(1) Existing law, the Davis-Sterling Common Interest Development Act, defines and regulates common interest developments, which include community apartment projects, condominium projects, planned developments, and stock cooperatives.

This bill would provide that the architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low water-using plants as a group.

(2) The Water Conservation in Landscaping Act requires the Department of Water Resources to appoint an advisory task force to work with the department to draft a model local water efficient landscape ordinance that local agencies may adopt, requires the task force to submit the ordinance to the department on or before May 1, 1991, and requires the task force to cease to exist on the date the department adopts the model ordinance or January 1, 1992, whichever occurs first. The act requires the department, not later than January 1, 1992, to adopt a model local water efficient landscape ordinance which each local agency may adopt. The act makes the model local water efficient landscape ordinance adopted by the department applicable within the jurisdiction of a local agency if that local agency, by January 1, 1993, has not adopted a water efficient landscape ordinance or has not adopted certain findings that the adoption of the ordinance is unnecessary.

This bill would specify that the provision making the model ordinance applicable to a local agency on and after January 1, 1993, does not apply to chartered cities. The bill would require the department, to the extent funds are appropriated, not later than January 1, 2009, by regulation, to update the model ordinance in accordance with specified requirements. The bill would require the department to prepare and submit to the Legislature a prescribed report before the adoption of the updated model ordinance. The bill would require a local agency, not later than January 1, 2010, to adopt the updated model ordinance or other water efficient

landscape ordinance that is at least as effective in conserving water as the updated model ordinance. The bill would make the updated model ordinance applicable within the jurisdiction of a local agency, including a chartered city, if, by January 1, 2010, the local agency has not adopted its own water efficient landscape ordinance or the updated model ordinance. The bill would require each local agency, not later than January 31, 2010, to notify the department as to whether the local agency is subject to the department's updated model ordinance and, if not, to submit to the department a copy of the water efficient landscape ordinance adopted by the local agency, among other documents. The bill would require the department, to the extent funds are appropriated, not later than January 31, 2011, to prepare and submit a report to the Legislature relating to the status of water efficient landscape ordinances adopted by local agencies.

By imposing requirements on local agencies in connection with the adoption of water efficient landscape ordinances, the bill would impose a state-mandated local program.

(3) Existing law requires the State Energy Resources Conservation and Development Commission (Energy Commission), after one or more public hearings, to take specified action to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy. Existing law requires the Energy Commission, by January 1, 2004, to amend specified regulations to require that residential clothes washers manufactured on or after January 1, 2007, be at least as water efficient as commercial clothes washers, and to take certain other related action.

This bill would require the Energy Commission, in consultation with the department, to adopt, to the extent funds are available, by regulation performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water. The bill would require the Energy Commission to adopt those requirements for landscape irrigation controllers and moisture sensors by January 1, 2010, and, on and after January 1, 2012, would prohibit the sale or installation of an irrigation controller or moisture sensor for landscape use unless the controller or sensor meets those adopted requirements. The bill would require the Energy Commission, on or before January 1, 2010, to prepare and submit to the Legislature a report that sets forth a proposed schedule for adopting performance standards and labeling requirements for emission devices and valves.

(4) Existing law generally requires an urban water supplier to install water meters on all municipal and industrial service connections located within its service area on or before January 1, 2025.

This bill would require a water purveyor as defined, to require as a condition of new retail water service on and after January 1, 2008, the installation of separate water meters to measure the volume of water used exclusively for landscape purposes. The bill would make this requirement applicable to specified service connections.

(5) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that, if the Commission on State Mandates determines that the bill contains costs mandated by the state, reimbursement for those costs shall be made pursuant to these statutory provisions.

The people of the State of California do enact as follows:

SECTION 1. Section 1353.8 is added to the Civil Code, to read:

1353.8. The architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low water-using plants as a group.

SEC. 2. Article 10.8 (commencing with Section 65591) of Chapter 3 of Division 1 of Title 7 of the Government Code is repealed.

SEC. 3. Article 10.8 (commencing with Section 65591) is added to Chapter 3 of Division 1 of Title 7 of the Government Code, to read:

Article 10.8. Water Conservation in Landscaping

65591. This article shall be known and may be cited as the Water Conservation in Landscaping Act.

65592. Unless the context requires otherwise, the following definitions govern the construction of this article:

(a) "Department" means the Department of Water Resources.

(b) "Local agency" means any city, county, or city and county, including a charter city or charter county.

(c) "Water efficient landscape ordinance" means an ordinance or resolution adopted by a local agency, or prepared by the department, to address the efficient use of water in landscaping.

65593. The Legislature finds and declares all of the following:

(a) The waters of the state are of limited supply and are subject to ever increasing demands.

(b) The continuation of California's economic prosperity is dependent on adequate supplies of water being available for future uses.

(c) It is the policy of the state to promote the conservation and efficient use of water and to prevent the waste of this valuable resource.

(d) Landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development.

(e) Landscape design, installation, maintenance, and management can and should be water efficient.

(f) Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the

beneficial use to be served and the right does not and shall not extend to waste or unreasonable use or unreasonable method of use.

(g) (1) The Legislature, pursuant to Chapter 682 of the Statutes of 2004, requested the California Urban Water Conservation Council to convene a stakeholders work group to develop recommendations for improving the efficiency of water use in urban irrigated landscapes.

(2) The work group report includes a recommendation to update the model water efficient landscape ordinance adopted by the department pursuant to Chapter 1145 of the Statutes of 1990.

(3) It is the intent of the Legislature that the department promote the use of this updated model ordinance.

(h) Notwithstanding Article 13 (commencing with Section 65700), this article addresses a matter that is of statewide concern and is not a municipal affair as that term is used in Section 5 of Article XI of the California Constitution. Accordingly, it is the intent of the Legislature that this article, except as provided in Section 65594, apply to all cities and counties, including charter cities and charter counties.

65594. (a) Except as provided in Section 65595, if by January 1, 1993, a local agency did not adopt a water efficient landscape ordinance and did not adopt findings based on climatic, geological, or topographical conditions, or water availability that state that a water efficient landscape ordinance is unnecessary, the model water efficient landscape ordinance adopted by the department pursuant to Chapter 1145 of the Statutes of 1990 shall apply within the jurisdiction of the local agency as of that date, shall be enforced by the local agency, and shall have the same force and effect as if adopted by the local agency.

(b) Notwithstanding subdivision (b) of Section 65592, subdivision (a) does not apply to chartered cities.

(c) This section shall apply only until the department updates the model ordinance.

65595. (a) (1) To the extent funds are appropriated, not later than January 1, 2009, by regulation, the department shall update the model water efficient landscape ordinance adopted pursuant to Chapter 1145 of the Statutes of 1990, after holding one or more public hearings. The updated model ordinance shall be based on the recommendations set forth in the report prepared pursuant to Chapter 682 of the Statutes of 2004 and shall meet the requirements of Section 65596.

(2) Before the adoption of the updated model ordinance pursuant to paragraph (1), the department shall prepare and submit to the Legislature a report relating to both of the following:

(A) The extent to which local agencies have complied with the model water efficient landscape ordinance adopted pursuant to Chapter 1145 of the Statutes of 1990.

(B) The department's recommendations regarding the landscape water budget component of the updated model ordinance described in subdivision (b) of Section 65596.

(b) Not later than January 31, 2009, the department shall distribute the updated model ordinance adopted pursuant to subdivision (a) to all local agencies and other interested parties.

(c) On or before January 1, 2010, a local agency shall adopt one of the following:

(1) A water efficient landscape ordinance that is, based on evidence in the record, at least as effective in conserving water as the updated model ordinance adopted by the department pursuant to subdivision (a).

(2) The updated model ordinance described in paragraph (1).

(d) If the local agency has not adopted, on or before January 1, 2010, a water efficient landscape ordinance pursuant to subdivision (c), the updated model ordinance adopted by the department pursuant to subdivision (a) shall apply within the jurisdiction of the local agency as of that date, shall be enforced by the local agency, and shall have the same force and effect as if adopted by the local agency.

(e) Nothing in this article shall be construed to require the local agency's water efficient landscape ordinance to duplicate, or to conflict with, a water efficiency program or measure implemented by a public water system, as defined in Section 116275 of the Health and Safety Code, within the jurisdictional boundaries of the local agency.

65596. The updated model ordinance adopted pursuant to Section 65595 shall do all the following in order to reduce water use:

(a) Include provisions for water conservation and the appropriate use and groupings of plants that are well-adapted to particular sites and to particular climatic, soil, or topographic conditions. The model ordinance shall not prohibit or require specific plant species, but it may include conditions for the use of plant species or encourage water conserving plants. However, the model ordinance shall not include conditions that have the effect of prohibiting or requiring specific plant species.

(b) Include a landscape water budget component that establishes the maximum amount of water to be applied through the irrigation system, based on climate, landscape size, irrigation efficiency, and plant needs.

(c) Promote the benefits of consistent local ordinances in neighboring areas.

(d) Encourage the capture and retention of stormwater onsite to improve water use efficiency or water quality.

(e) Include provisions for the use of automatic irrigation systems and irrigation schedules based on climatic conditions, specific terrains and soil types, and other environmental conditions. The model ordinance shall include references to local, state, and federal laws and regulations regarding standards for water-conserving irrigation equipment. The model ordinance may include climate information for irrigation scheduling based on the California Irrigation Management Information System.

(f) Include provisions for onsite soil assessment and soil management plans that include grading and drainage to promote healthy plant growth and to prevent excessive erosion and runoff, and the use of mulches in shrub areas, garden beds, and landscaped areas where appropriate.

(g) Promote the use of recycled water consistent with Article 4 (commencing with Section 13520) of Chapter 7 of Division 7 of the Water Code.

(h) Seek to educate water users on the efficient use of water and the benefits of doing so.

(i) Address regional differences, including fire prevention needs.

(j) Exempt landscaping that is part of a registered historical site.

(k) Encourage the use of economic incentives to promote the efficient use of water.

(*l*) Include provisions for landscape maintenance practices that foster long-term landscape water conservation. Landscape maintenance practices may include, but are not limited to, performing routine irrigation system repair and adjustments, conducting water audits, and prescribing the amount of water applied per landscaped acre.

(m) Include provisions to minimize landscape irrigation overspray and runoff.

65597. Not later than January 31, 2010, each local agency shall notify the department as to whether the local agency is subject to the department's updated model ordinance adopted pursuant to Section 65595, and if not, shall submit to the department a copy of the water efficient landscape ordinance adopted by the local agency, and a copy of the local agency's findings and evidence in the record that its water efficient landscape ordinance is at least as effective in conserving water as the department's updated model ordinance. Not later than January 31, 2011, the department shall, to the extent funds are appropriated, prepare and submit a report to the Legislature summarizing the status of water efficient landscape ordinances adopted by local agencies.

65598. Any model ordinance adopted pursuant to this article shall exempt cemeteries from all provisions of the ordinance except those set forth in subdivisions (h), (k), and (*l*) of Section 65596. In adopting language specific to cemeteries, the department shall recognize the special landscape management needs of cemeteries.

65599. Any actions or proceedings to attach, review, set aside, void, or annul the act, decision, or findings of a local agency on the ground of noncompliance with this article shall be brought pursuant to Section 1085 of the Code of Civil Procedure.

SEC. 4. Section 25401.9 is added to the Public Resources Code, to read:

25401.9. (a) To the extent that funds are available, the commission, in consultation with the Department of Water Resources, shall adopt by regulation, after holding one or more public hearings, performance standards and labeling requirements for landscape irrigation equipment, including, but not limited to, irrigation controllers, moisture sensors, emission devices, and valves, for the purpose of reducing the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

(b) For the purposes of complying with subdivision (a), the commission shall do all of the following:

(1) Adopt performance standards and labeling requirements for landscape irrigation controllers and moisture sensors on or before January 1, 2010.

(2) Consider the Irrigation Association's Smart Water Application Technology Program testing protocols when adopting performance standards for landscape irrigation equipment, including, but not limited to, irrigation controllers, moisture sensors, emission devices, and valves.

(3) Prepare and submit a report to the Legislature, on or before January 1, 2010, that sets forth on a proposed schedule for adopting performance standards and labeling requirements for emission devices and valves.

(c) On and after January 1, 2012, an irrigation controller or moisture sensor for landscape irrigation uses may not be sold or installed in the state unless the controller or sensor meets the performance standards and labeling requirements established pursuant to this section.

SEC. 5. Article 4.5 (commencing with Section 535) is added to Chapter 8 of Division 1 of the Water Code, to read:

Article 4.5. Irrigated Landscape

535. (a) A water purveyor shall require as a condition of new retail water service on and after January 1, 2008, the installation of separate water meters to measure the volume of water used exclusively for landscape purposes.

(b) Subdivision (a) does not apply to either of the following:

(1) Single-family residential connections.

(2) Connections used to supply water for the commercial production of agricultural crops or livestock.

(c) Subdivision (a) applies only to a service connection for which both of the following apply:

(1) The connection serves property with more than 5,000 square feet of irrigated landscape.

(2) The connection is supplied by a water purveyor that serves 15 or more service connections.

(d) For the purposes of this section, "new retail water service" means the installation of a new water meter where water service has not been previously provided, and does not include applications for new water service submitted before January 1, 2007.

SEC. 6. If the Commission on State Mandates determines that this act contains costs mandated by the state, reimbursement to local agencies and school districts for those costs shall be made pursuant to Part 7 (commencing with Section 17500) of Division 4 of Title 2 of the Government Code.

O

CUPERTINO

OFFICE OF COMMUNITY DEVELOPMENT

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PLANNING COMMISSION STAFF REPORT

Agenda Item No. 5 **Agenda Date:** March 23, 2010

Application: MCA-2010-01
Applicant: City of Cupertino
Application Summary: Municipal Code Amendment to review and amend Chapter 14.15 of the Cupertino Municipal Code relating to the Xeriscape Landscaping and Water Efficiency Regulations

RECOMMENDATION:
Staff recommends that the Planning Commission recommend that the City Council adopt the proposed Landscape Ordinance.

BACKGROUND:
As part of the State's efforts to reduce water consumption throughout California, Governor Schwarzenegger has called for a 20% reduction in per capita water use by 2020. For a brief summary of the recent legislation adopted by the California State Legislature targeting outdoor water use efficiency, see attachment 1.

Assembly Bill 1881, the California Water Conservation in Landscaping Act, which was signed into law in September 2006 requires that local jurisdictions revise their ordinances to include specific landscaping water conservation measures, by January 1, 2010. If local jurisdictions fail to do so, a model ordinance developed by the California Department of Water Resources (DWR) becomes adopted by default. Please see attachment 2 for the DWR Model Ordinance. Due to the late release of the DWR model ordinance, the development of this draft ordinance has been delayed beyond the January 1, 2010 statutory deadline. This delay has been anticipated by both the City and DWR.

The City's current Xeriscape Ordinance (Chapter 14.15) was a result of the State's water conservation mandate in 1992. The City is now updating the requirements to comply with the new State water conservation requirements.

State Mandate
AB 1881 updated water-efficient landscaping statutes to require greater water savings and broader applicability (including all residential development) than what had previously been required. It directed the DWR to update the State Model Water Efficient Landscape Ordinance,

and local jurisdictions to begin enforcing the state model or a comparable ordinance that is "at least as effective".
AB 1881 consists of the following measures:

- Low water using plant choices
- Grouping of compatible plants into "hydrozones"
- Irrigation water budget component
- Demonstrably efficient irrigation systems, including sensors and automatic controllers
- Soil assessment and soil management
- Post-installation inspection and maintenance
- Landscape documentation package
- Limited exemptions
- Require irrigation audit of existing (pre-2010) landscapes larger than one acre.

City Participation in the Santa Clara County Working Group

In developing the new Landscape Ordinance, the City participated in a Santa Clara County multi-agency working group, led by the Santa Clara Valley Water District, with participants from local agencies (such as City of San Jose, City and County of Santa Clara, City of Palo Alto, Stanford University, and Town of Los Gatos). Local water purveyors (such as San Jose Water and California Water) were also invited to participate.

The working group had the following objectives:

- Review the State's model ordinance and other model Ordinances developed by other regions in the State
- Adjust water conversation goals to accommodate local water supply and demands
- Tailor requirements to regional climate, topography, and development patterns
- Simplify and streamline the model ordinance for ease of understanding and implementation
- Promote a regional approach by standardizing the Ordinance framework for local jurisdictions to adopt
- Ensure that the model ordinance complies with the State's requirements

The working group's model Ordinance (see attachment 3) includes the following options to demonstrate water efficiency:

- Turf area limitation and low water use plant types (versus water budget calculation for all projects)
- Water efficiency checklist to allow a simpler way of confirming compliance for smaller projects.

However, in order to be at least as effective as the DWR Ordinance, the model Ordinance reduces the minimum threshold to projects with 2,500 square feet of landscaping instead of projects with 5,000 square feet of landscaping stipulated in the DWR Ordinance. It also requires a water-efficiency checklist to be filled out for all projects with less than 2,500 square feet of landscaping. The specifics of the Ordinance are discussed later in the report.

Other Regional Model Ordinance

There is another model landscape Ordinance that has been developed under the jurisdiction of the Bay Area Water Supply and Conservation Agency (BAWSCA). BAWSCA represents cities, water districts and private utilities generally located in San Mateo and Alameda County with a few in Santa Clara County that purchases water from the San Francisco regional water system.

The City of Cupertino is not a BAWSCA member. The Santa Clara County working group has reviewed and considered the BAWSCA's model ordinance. In general, the BAWSCA's model ordinance is more complex and more restrictive than both the State's requirement and the model ordinance recommended by the Santa Clara working group.

DISCUSSION:

City Proposed Landscape Ordinance

The draft Cupertino Landscape Ordinance (see Model Resolution) is based on the Ordinance framework developed by the Santa Clara County working group. Key components of the ordinances are summarized as follows:

Applicability:

The full extent of the proposed Ordinance would apply to new or rehabilitated landscape installations larger than 2,500 sq. ft. when associated with any of the following:

- New residential or non-residential projects where a discretionary approval (planning application), grading permit or building permit is required

All projects, regardless of landscape area, are required to fill out a water-efficient checklist (Appendix A to Draft Landscaping Ordinance) intended to educate/promote water efficiency measures and ensure that some basic water conversation principles are followed. Please refer to the Section 14.15.020 of the proposed Ordinance for the additional details on applicability.

One significant difference between the City's current Xeriscape Ordinance and the new State requirements is that single family developments are no longer exempt from water conservation requirements. The applicability of the new Ordinance to all other types of developments remains the same as City's current Xeriscape Ordinance. However, the new Ordinance is set up to reduce the regulations and requirements for single-family projects by providing property owners an option to not prepare a water budget as is required by the DWR's model Ordinance.

Submittal Requirements:

For projects where landscape installation exceeds 2,500 sq. ft. in conjunction with a discretionary approval, a grading permit or a building permit, the proposed Ordinance requires the submittal of the following:

- Water-Efficient Design Checklist
- Landscape and Irrigation Design Plans
- Water Budget Calculations, if necessary
- Soil Analysis Report, if necessary
- Landscape and Irrigation Maintenance Schedule
- Landscape Installation Report

For projects where landscape installation is 2,500 sq. ft. or less, applicants are only required to submit the water-efficient checklist. They do have the option to select the water budget alternative which would trigger the full submittal requirements.

Alternative Method of Demonstrating Water Efficiency

The proposed Ordinance differs from the DWR model Ordinance in that it allows all project applicants the alternative to demonstrate landscape water efficiency by:

- Restricting turf and/or high-water using plants;

or

- Preparing a water budget

Maintenance and Monitoring
Water efficient landscapes are required to be maintained for the life of the project. Monitoring for projects with landscape area larger than 2,500 sq. ft. is required for 30 months or for a longer duration as specified as part of a condition of approval. Please see Section 14.15.090 of the proposed Ordinance for more details.

Property owners are also required to enter into a maintenance agreement with the City, similar to ones required by the Storm water C.3. requirements. This agreement informs current and future property owners of their obligation to maintain the landscape and to ensure that the landscape performs with the same level of water efficiency as demonstrated on the plans.

Changes between DWR Ordinance, SCVWD Model Ordinance and Proposed City Ordinance

Changes or differences to promote a more streamlined process and/or ease of implementation compared to the DWR Ordinance

There are several differences between the DWR Ordinance and the City's proposed Ordinance. Most of the changes proposed are to streamline the approval process and to minimize the burden upon applicants.

These include additional alternatives such as:
- Preparation of a checklist to show compliance
- An option to prepare water budget or restrict plant-type
- Allowing applicants for small projects to self-certify compliance and installation of landscaping as opposed to requiring certified professionals to certify every project
- Allow the installation of pools without requiring the preparation of a water budget
- Flexible submittal requirements to be tailored to the project site as necessary eliminating cost and time for applicant (See Attachment 4, Table 1)

Another area where the proposed Ordinance differs from the DWR Ordinance is in the applicability of the requirements. The DWR Ordinance is applicable to a smaller set of projects with extensive submittal requirements, while the proposed Ordinance is applicable to a larger set of projects with less burdensome requirements. Please see Attachment 4 Table 2 for a comparison of applicability of requirements between the DWR Ordinance and the proposed City Ordinance.

The proposed Ordinance also uses the more flexible of the two alternatives to calculate how much water is allowed to be used for purposes of a water budget. The DWR allows agencies to adopt a more stringent formula for calculating the maximum allowable water allowance. Staff feels that the proposed Ordinance will be as stringent as the DWR Ordinance even if the more lenient formula is used.

Changes or difference that may be more stringent than the DWR or SCVWD Working Group's Ordinance either for greater water efficiency or for consistency with current City rules and policies

Staff is proposing some changes to the Regional Model Ordinance to ensure that the proposed Ordinance is as effective as the DWR Model Ordinance. These changes include requiring:

- All pools and spas must have a cover - This is to offset the flexibility being allowed in the

installation of pools and spas of up to 10% of the landscaped area without having to prepare a water budget.
- Maintenance agreement/covenant to ensure that current and future property owners are informed of the special landscaping and maintenance requirements.

Staff additionally proposes that the threshold for requiring a geo-technical review as part of a proposed project be 30% to be consistent with the Residential Hillside (RHS) Ordinance. Please refer to attachment 4, Table 3 for details.

Changes to improve layout and readability
Other changes to the regional Ordinance include the addition of two clarifying definitions, elimination of repetitive language and restructuring of the ordinance to allow better readability.

Fiscal Impacts

The new Ordinance will require additional staff time to inform applicants, review projects and ensure the projects are monitored adequately. However, in order to address concerns from the public and to encourage "green practices," staff is not proposing new fees for planning applications. However, Public Works staff is considering new fees to recover staff time related to monitoring after projects are built.

Community Outreach Efforts

City wide notification for the public hearings on the Landscape Ordinance was provided in a newspaper advertisement in the Cupertino Courier. Announcements have been made on the City's website, the City Channel, the Cupertino Radio station (1670 AM) and in the Cupertino Scene. Additional outreach efforts included a mailing to stakeholders in the development community, including local architects and landscape architects, and notice to the Cupertino Chamber of Commerce's Legislative Action Committee.

On March 10, 2010, a community workshop was held by City staff to provide information and the community an opportunity to discuss any concerns or comments related to the ordinance. Approximately six people were in attendance of the meeting including a representative from Apple Computer, two local architects, a landscape architect, a local resident, and a representative from the Santa Clara Valley Water District. Comments from the community meeting and staff comments on each are summarized as follows:

- *Ensure that requirements are not changing much for commercial/non-residential development* - the new rules allow more flexibility and options to achieve water-efficiency that our current Xeriscape Ordinance
- *Possibly exempt single-family development* - while this is not possible under the new DWR rules, staff is recommending providing easy ways for single-family homes to achieve conformance through a simple checklist and
- *Concerns with the added process and fees associated with the new water conversation rules* - staff is not proposing new planning fees to review the landscape requirements. However, the Public Works Department may be looking to add fees to ensure compliance with Section 14.15.090.
- *Concerns with losing signature landscape features such as lawns and/or large trees along major streets due to their water consumption level* - water-efficient landscaping does not restrict planting of large street trees and offers many options to introduce signature landscape features.

Environmental Consideration

CEQA Exempt (Section 15308)

Conclusion

The proposed Ordinance is determined to be as effective as the DWR Ordinance due to increased water savings for the following reasons:

1. Applies to more projects than the DWR Ordinance. Therefore, more landscapes will be designed to be water efficient than under the DWR Ordinance.
2. Limits the use of high water using turf area to 25% of the irrigated area, unless a water budget is prepared.
3. Requires that at least 80% of the plants in non-turf landscape areas, by default, be native plants, low-water using plants, or no-water using plants, unless a water budget is prepared.
4. Includes the same parameters and values as the DWR Ordinance for the development of water budgets.
5. Includes landscape parameters, such as, establishing slope and width restrictions for turf, limiting irrigation times, and establishing minimum mulch requirements, consistent with the DWR Ordinance.
6. Is simpler and more streamlined compared to the DWR Ordinance making it easier for applicants to comply and easier for the city to implement and enforce.

The intent of the proposed City Ordinance is to promote water conservation by ensuring that the new landscape provisions are relatively easy and cost effective to implement by applicants. The requirements have been designed to be such that they do not discourage or deter people from incorporating water conservation measures on their projects.

Prepared by: Piu Ghosh, Associate Planner

Reviewed by:

Gary Chao
City Planner

Approved by:

Aarti Shrivastava
Community Development Director

ATTACHMENTS:

Model Resolution(s)
Attachment 1 - Summary of Legislation Affecting Outdoor Water Use
Attachment 2 - California DWR Model Water Efficiency in Landscaping Ordinance
Attachment 3 - Santa Clara Valley Water District member agencies Water Conservation in Landscaping Regional Model Ordinance
Attachment 4 - Applicability and Submittal Requirements Comparison

SUMMARY OF LEGISLATION AFFECTING OUTDOOR WATER USE

AB 1881 (State Model Water Efficient Landscape Ordinance): AB 1881 requires cities and counties, no later than January 1, 2010, to adopt the updated DWR Ordinance or an equivalent ordinance which is "at least as effective" as the DWR Ordinance in conserving water. In the event cities and counties do not take such action, the DWR Ordinance will be deemed to be automatically adopted by statute. By adopting this Ordinance, the city will more specifically address the needs of the local community, while being at least as effective as the DWR Ordinance in conserving water.

California Green Building Standards Code: The Green Building Standards Code came into effect in August 2009, with the requirements for water savings becoming mandatory in 2011. The California Green Building Standards Code requires that, at a minimum, a water budget be developed for landscape irrigation at new development in accordance with methodology outlined in either the DWR Ordinance or pursuant to a locally adopted Ordinance. The Ordinance is consistent with this requirement of the Green Building Standards Code.

Senate Bill 7 (Steinberg; 7th Extraordinary Session): Pursuant to SB 7, the state will have to reduce urban per capita water use by 20 percent no later than December 31, 2020, and by at least 10 percent no later than December 31, 2015. These water use reductions will be compared against a 10-to 15-year baseline period that ends between 2004 and 2010. By requiring new development to have water efficient landscaping, the Ordinance will assist Cupertino to comply with the water savings requirements of SB 7.

CITY OF CUPERTINO
10300 Torre Avenue
Cupertino, California 95014

Attachment E

RESOLUTION NO. 6590

OF THE PLANNING COMMISSION OF THE CITY OF CUPERTINO RECOMMENDING THAT THE CITY COUNCIL APPROVE THE ADOPTION OF THE NEW CHAPTER 14.15, LANDSCAPE ORDINANCE, TO REPLACE THE EXISTING CHAPTER 14.15, XERISCAPE LANDSCAPING

The Planning Commission recommends approval of the proposed amendments to the City of Cupertino Municipal Code as shown in Exhibit A.

PASSED AND APPROVED this 23rd day of March 2010, at a Regular Meeting of the Planning Commission of the City of Cupertino by the following roll call vote:

AYES:	COMMISSIONERS: Chair Brophy, Vice Chair Lee, Kaneda, Giefer
NOES:	COMMISSIONERS: Miller
ABSTAIN:	COMMISSIONERS: none
ABSENT:	COMMISSIONERS: none

ATTEST:

/s/Aarti Shrivastava
Aarti Shrivastava
Director of Community Development

APPROVED:

/s/Paul Brophy
Paul Brophy, Chair
Planning Commission

EXHIBIT A

Ordinance No. 10.XXXX

AN ORDINANCE OF THE CITY OF CUPERTINO ESTABLISHING NEW LANDSCAPING REGULATIONS PURSUANT TO THE CALIFORNIA WATER CONSERVATION IN LANDSCAPING ACT

THE CITY OF CUPERTINO ORDAINS AS FOLLOWS:

Section 1. *Statement of Purpose.* This ordinance establishes new water-efficient landscaping and irrigation requirements as mandated by the California Water Conservation in Landscaping Act.

Section 2. *Code Amendment.* The following new Chapter 14.15 entitled "Landscape Ordinance" replaces the current Chapter 14.15 entitled "Xeriscape Landscaping" of the Cupertino Municipal Code, to read as shown in Attachment A.

Section 3. *Severability.* Should any provision of this Ordinance, or its application to any person or circumstance, be determined by a court of competent jurisdiction to be unlawful, unenforceable or otherwise void, that determination shall have no effect on any other provision of this Ordinance or the application of this Ordinance to any other person or circumstance and, to that end, the provisions hereof are severable.

Section 4. *Effective Date.* This Ordinance shall take effect thirty days after adoption as provided by Government Code Section 36937.

Section 5. *Certification.* The City Clerk shall certify to the passage and adoption of this Ordinance and shall give notice of its adoption as required by law. Pursuant to Government Code Section 36933, a summary of this Ordinance may be published and posted in lieu of publication and posting of the entire text.

INTRODUCED at a regular meeting of the Cupertino City Council the ____ day of _____ 2010 and **ENACTED** at a regular meeting of the Cupertino City Council on this ____ of _____ 2010 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Chapter 14.15

LANDSCAPE ORDINANCE

Section

14.15.010. Intent.
14.15.020. Applicability.
14.15.030. Definitions.
14.15.040. Landscape Project Submittal
14.15.050. Water-Efficient Design Elements
14.15.060. Water Budget Calculation
14.15.070. Soil Analysis.
14.15.080. Landscape Installation Report
14.15.090. Landscape and Irrigation Maintenance
14.15.100. Audit of Existing Landscapes Larger Than One Acre
14.15.110. Public Education
14.15.120. Penalties

14.15.010. Intent.

The intent of this chapter is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. This chapter implements the California Water Conservation in Landscaping Act of 2006.

14.15.020. Applicability.

A. The provisions of this chapter shall apply to:

1. Projects identified in Table 14.15.020.

Table 14.15.020

Type of Permit	Total Landscape Area	Requirement
Building Permits		
New home in R1, RHS or A1 zones	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Development Permit or Grading Permit		
New home in R1, RHS, A1 or R2 Zones	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Commercial, industrial, office, multi-family residential, public and institutional project	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
Any landscape installation or rehabilitation project	≤ 2,500 s.f.	Checklist - Appendix A
	> 2,500 s.f.	Landscape Project Submittal - Sec. 14.15.040
New and rehabilitated cemeteries	> 0 s.f.	Water Budget Calculations - Sec. 14.15.060 Landscape Installation Report - Sec. 14.15.080 Landscape and Irrigation Maintenance - Sec. 14.15.090
Existing and established landscapes, including cemeteries	> 1 acre	Water Budget Calculations - Sec. 14.15.060 Audit of Established Landscapes - Sec. 14.15.110

2. Any project, regardless of total landscape area, that is determined to have an impact due to a unique geographical or environmentally sensitive location, including but not limited to, projects proposed on slopes greater than 30%, in geo-hazard areas near riparian corridors, creeks and or/waterways, the city may require a landscape project submittal.

B. The provisions of this chapter shall not apply to:
   1. Registered local, state or federal historical sites where landscaping establishes an historical landscape style, as determined by the City Council;
   2. Surface mine reclamation projects that do not require a permanent irrigation system;
   3. Ecological restoration projects that do not require a permanent irrigation system;
   4. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public; or
   5. Any commercial cultivation of agricultural products; including, but not limited to products of farms, orchards, production nurseries and forests.

14.15.030. Definitions.

For the purposes of this chapter, the following definitions apply, unless it is apparent from the context that a different meaning is intended.

Applied water: The portion of water supplied by the irrigation system to the landscape.

Automatic irrigation controller: An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

Backflow prevention device: A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

Certified irrigation designer: 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: 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.

Certified professional: A certified irrigation designer, certified landscape irrigation auditor, licensed landscape architect, licensed landscape contractor, licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.

Conversion factor: The number (0.62) that converts acre-inches per acre per year to gallons per square foot per year.

Ecological restoration project: A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Effective precipitation (Eppt) or usable rainfall: The portion of total precipitation which becomes available for plant growth.

Established landscape. 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 plants: 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.

Estimated Total Water Use (ETWU): The total water used for the landscape as described in Section 14.15.060.

Evapotranspiration adjustment factor (ETAF): A factor of 0.7, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency. ETAF for a **special landscape area** shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

Evapotranspiration rate: The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

Hardscape: Any constructed feature in a landscape built of concrete, stone, wood, or other such non-pervious or pervious durable material, including, but not limited to, patios, walkways, and retaining walls.

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Invasive plant species: Species of plants, listed in the invasive plant inventory of the California Invasive Plant Council (IPC), that have been identified as invasive to areas within the IPC-delineated Central West (CW) region.

Irrigation audit: 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.

Irrigation efficiency (IE): The measurement of the amount of water beneficially used divided by the amount of water applied. The minimum average irrigation efficiency for purposes of this Chapter is 70%.

Irrigation survey: 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.

Landscape architect: A person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code Section 5615.

Landscape area: All the planting areas, turf areas, and water features in a landscape installation. 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 wildland or native vegetation).

Landscape contractor: A person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

Landscape project: An undertaking of landscape design and installation on a particular area of land. A landscape project may be associated with an individual lot, a building project, or a

multi-phased development. It may also be a larger, comprehensive landscape scheme that is not coupled with an individual building project.

Lateral line: The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Species classified as "very low water use" and "low water use" by "Water Use Classification of Landscape Species" (WUCOLS), having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines and bubblers specifically designed to apply small volumes of water slowly at or near the root zone of plants. Certain rotary emitters designed to provide highly efficient water distribution may also be included in this definition, at the discretion of the Director of Community Development.

Maximum Applied Water Allowance (MAWA): The upper limit of annual applied water for the established landscaped area calculated using the formula specified in Section 14.15.090.

Mined-land reclamation projects: Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

Mulch: Any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this Chapter, the term refers to plants indigenous to the coastal ranges of central and northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community in the project's vicinity.

Noxious weed: Any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

Operating pressure: The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

Overhead sprinkler irrigation system: A system that delivers water through the air (e.g., spray heads and rotors).

Overspray: Irrigation water that is delivered beyond the target area.

Plant factor: A number, which, when multiplied by reference evapotranspiration (ETo), estimates the amount of water needed by plants. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants. Plant factors are based on the "Water Use Classification of Landscape Species" (WUCOLS) publication.

Rain sensor or **rain sensing shutoff device:** A component that automatically suspends an irrigation event when it rains.

Recycled water: Treated wastewater, including reclaimed water or treated sewage effluent water of a quality suitable for non-potable uses including landscape irrigation and water

features. **Reference evapotranspiration** (ETo): A standard measurement of environmental parameters that affect the water use of plants.

Rehabilitated landscape: Any re-landscaping project that requires an architectural and site approval, design review, grading permit, use permit, or a discretionary permit of any sort, or requires a new or expanded water service application.

Runoff: Water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

Soil moisture sensor: A device that measures the amount of water in the soil. The device may also initiate or suspend irrigation.

Special landscape area (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Sprinkler head: A device that delivers water through a nozzle.

Station: An area served by one valve or by a set of valves that operate simultaneously.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, Kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Valve: A device used to control the flow of water in the irrigation system.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, lakes, waterfalls, artificial streams and any design elements where water is supplied artificially. Spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses also are considered water features.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

Wildland urban interface: A geographic area identified by Chapter 16.74 of this Code to be at a significant risk from wildfires.

WUCOLS: The publication "Water Use Classification of Landscape Species" published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

14.15.040. Landscape Project Submittal

Unless otherwise specified, the following items shall be submitted to the Director of Community Development when a landscape project is subject to the requirements of this chapter.

A. Water-Efficient Design Checklist (Appendix A) completed by a property owner or certified landscape professional.
B. Landscape and Irrigation Design Plans (Appendix B) completed by a certified professional.
C. Water Budget Calculations (Section 14.15.090), if necessary.
D. Soil Analysis Report (Section 14.15.100), if necessary.

E. Landscape and Irrigation Maintenance Schedule (Section 14.15.120).
F. Landscape Installation Report (Section 14.15.110), following installation of landscaping materials and irrigation hardware.

14.15.050. Water-Efficient Design Elements

Projects set forth in Section 14.15.020 requiring a landscape project submittal shall comply with all applicable criteria of this section.

A. **Plant Material:**

All plant material shall be chosen and arranged per requirements in Table 14.15.050(A).

Table 14.15.050(A)

1	**Options to demonstrate water efficiency**		
	a. i. Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area and ii. At least 80% of the plants within non-turf areas shall be native or low water-use	OR	b. Prepare a water budget calculation, per the provisions of Section 14.15.060.

AND

2	**Turf Restrictions**
	a. Turf shall not be planted on slopes greater than 25%. b. Turf areas shall not be less than eight feet wide.
3	**Non-turf Restrictions**
	a. Plants shall be arranged appropriately based upon the site's climate, slopes, sun exposure, soil characteristics, wildfire susceptibility and other site conditions appropriate for the selected plants. b. The horticultural attributes of plant species (e.g., mature plant size, invasive roots, and structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines). c. Fire-prone plant materials and highly flammable mulches are strongly discouraged. In areas designated wildland urban interface by Chapter 16.74 of this Code, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291. d. Invasive plant species/noxious weeds: i. Installation shall be prohibited. ii. Existing within or adjacent to the proposed landscape area shall be removed prior to installation of new landscaping.
4	The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supersede this chapter by either prohibiting low water use plants, or including conditions that have the effect of restricting the use of low water use plants.

B. **Hydrozones:**

1. Plant materials of similar water use shall be grouped in hydrozones.
2. Mixed plant materials & hydrozoning: If plant materials of differing water uses are mixed, for purposes of preparing a water budget use Table 14.15.050(B).

Table 14.15.050 (B)

Mixed plant materials	Requirements
Low and moderate water use plants	Allowed. All plants classified as moderate water use for MAWA calculations.
High water use plants with low and moderate water use plants	Not allowed in any hydrozone.

C. **Irrigation System:**

The irrigation system proposed for any project shall meet the requirements outlined in Table 14.15.050 (C)

Table 14.15.050 (C)

Category	Requirements
Irrigation System	Shall meet all requirements per manufacturer's specifications and this table.
Design	Irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance.
Dedicated Landscape Water Meter	Required for landscapes > 5,000 s.f., except single-family residential.
Automatic Irrigation Controllers	Required for irrigation scheduling, utilizing evapotranspiration or soil moisture sensor data.
Sensors	Integral or auxiliary, required to suspend or alter irrigation operation during unfavorable weather conditions.
Separate Valve	Required for each hydrozone. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers and turf.
Water Waste	Irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.
Type of Irrigation hardware	Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
Low-volume Irrigation	Required in mulched areas
	Required in areas with slope > 25%
	Required within 24 inches of a non-permeable surface
	Required in any narrow or irregularly shaped areas that are less than eight (8) feet in width in any direction.
Average Irrigation Efficiency	Systems shall be designed, maintained and managed to meet or exceed average landscape Irrigation efficiency of 70%.
Irrigation Times	Limited to between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or renders irrigation unnecesary.
	Irrigation outside the normal designated window is allowed for auditing and system maintenance only.

D. **Soil, conditioning, and mulching:**

Soil, conditioning, and mulching requirements for all landscape projects are outlined in Table 14.15.050(D).

Table 14.15.050(D)

Type of soil amendment	Requirements
Topsoil	Minimum eight (8) inches, non-compacted topsoil shall be available for water absorption and root growth in planted areas.
	Minimum may be waived where a landscaped professional determines that practical limitations (e.g., slope and other geotechnical factors), necessitate a lesser soil depth that is viable for the chosen plant materials
Other amendments	Compost, fertilizer or other materials, shall be added according to the soil conditions at the project site and based on what is appropriate for the chosen plant materials.
Mulch	Minimum two (2) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas.
	Not needed in areas of direct seeding application (e.g. hydro-seed)
Stabilizing mulching products	Required for use on slopes.

E. **Water Features:**

1. Recirculating water systems shall be used for all water features.
2. Water features are limited to 10% of the landscaped area unless a water budget is prepared.
3. All pools and spas shall have covers.
4. If water budget is prepared or required, use Table 14.15.050(E) for MAWA calculations.

Table 14.15.050(E): Water Features

% of landscape area	Water usage for MAWA calculation
Water features (including pools and spas) ≤ 10%	Medium
Water features (including pools and spas) > 10%	High

14.15.060. Water Budget Calculation

Project applicant may elect to submit a water budget calculation for the landscape project. A water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget. Water budget calculations shall adhere to the following requirements:

A. All special landscape areas shall be identified and their water use included in the water budget calculations.

B. All other factors are as defined in Sections 14.15.030 and 14.15.060.

C. Maximum applied water allowance shall be calculated for each project using the formulae outlined in Table 14.15.060: MAWA Calculation

Table 14.15.060: MAWA Calculation

1. For existing landscapes > 1 acre that have dedicated irrigation meters	MAWA= (ETo) (0.62) (LA) (0.8)
2. For all new and rehabilitated landscapes	MAWA = (ETo) (0.62) [(0.7 x LA) + (0.3 x SLA)]

Where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
LA = Landscape Area (square feet)
0.8 = Reference Evapotranspiration Adjustment Factor (ETAF)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)
All other factors as defined in Section 14.15.090 (H) above.

D. Estimated total water use (ETWU) shall be calculated for each hydrozone using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA calculated using the formula above.

$$ETWU = (ETo)(0.62)\left(\frac{PF * HA}{IE} + SLA\right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
0.62 = Conversion Factor
PF = Plant Factor from WUCOLS (B32-2(nn))
HA = Hydrozone Area (square feet)
IE = Irrigation Efficiency (minimum 0.70)
SLA = Special Landscape Area (square feet)

14.15.070. Soil Analysis.

The Director of Community Development or his/her designee shall have discretion to require soil analysis as a condition of approval for any development permits, grading permit, or any type of discretionary permit, where a landscape project submittal is required.

A soil analysis report shall document the various characteristics of the soil (e.g. texture, infiltration rate, pH, soluble salt content, percent organic matter, etc), and provide recommendations for amendments as appropriate to optimize the productivity and water-efficiency of the soil.

The soil analysis report shall be made available to the professionals preparing the landscape and irrigation design plans in a timely manner either before or during the design process. A copy of the soils analysis report shall be submitted to the Director of Community Development as part of the landscape documentation package.

14.15.080. Landscape Installation Report

Landscape installation assessment for new or rehabilitated landscapes shall be conducted by a certified landscape professional after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into a landscape installation report.

A. The landscape installation report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system are installed as specified in the landscape and

irrigation design plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

B. The landscape installation report shall include the following statement: "The landscape and irrigation system have been installed as specified in the landscape and irrigation design plan and complies with the criteria of the ordinance and the permit."

C. Landscape Maintenance Agreement:
   1. Prior to final inspections and final occupancy, the owner(s) of the property shall enter into a formal written landscape maintenance agreement with the City. The City shall record this agreement, against the property or properties involved, with the County of Santa Clara Recorder's Office and it shall be binding on all subsequent owners of land served by the proposed landscape.
   2. The landscape maintenance agreement shall require that the installed landscape not be modified and that maintenance activities not alter the level of water efficiency of the landscape from its original design, unless approved by the City prior to the commencement of the proposed modification or maintenance activity.

14.15.090. Landscape and Irrigation Maintenance

Landscapes shall be maintained to ensure successful establishment following installation, and to ensure water use efficiency consistent with this chapter. A maintenance schedule shall be established and submitted to the Director of Community Development or his/her designee, either with the landscape application package, with the landscape installation report, or any time before the landscape installation report is submitted. Maintenance contract documentation shall be provided to the Director of Community Development or his/her designee, if so requested.

A. The timing of the maintenance schedule shall extend 30 months from the date of the landscape installation report, unless a different time period is established by the Director of Community Development under a condition of permit approval. Schedules should take into account water requirements for the plant establishment period and water requirements for established landscapes. The landscape professional(s) overseeing maintenance activities shall provide to the Director of Public Works, or his/her designee, a minimum of three summary reports at appropriately spaced intervals over the 30-month period. The reports shall evaluate the condition of the installation, and describe maintenance needs and any actions taken.

B. Maintenance shall include, but not be limited to the following: routine inspection; pressure testing, adjustment and repair of the irrigation system; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; replanting of failed plants; weeding; pest control; and removing obstructions to emission devices.

C. Failed plants shall be replaced with the same or functionally equivalent plants that may be size-adjusted as appropriate for the stage of growth of the overall installation. Failing plants shall either be replaced, or be revived through appropriate adjustments in water, nutrients, pest control or other factors as recommended by a landscaping professional.

14.15.100. Audit of Existing Landscapes Larger Than One Acre

The Director of Public Works may require audits to evaluate water use on existing landscapes larger than one acre (installed prior to January 1, 2010). Such audits may also be initiated as a

coordinated effort between the City and, the Santa Clara Valley Water District or the City's water purveyors. This audit must be completed by a certified landscape irrigation auditor.

Following the findings and recommendations of the certified landscape irrigation auditor, the Director of Public Works may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use.

Landscape renovation or rehabilitation resulting from an audit shall be considered a landscape project, and shall be subject to applicable Section 14.15.040 and Table 14.15.060(C)(1).

14.15.110. Public Education

A. The City may provide information, with assistance from the Santa Clara Valley Water District and its water purveyors, to all applicants regarding the design, installation, management and maintenance of water-efficient landscapes and irrigation systems.
B. All model homes that are landscaped shall have signs installed that provide information on the principles of water-efficient landscaping.

14.15.120. Penalties

Non-compliance with any applicable provision of this chapter shall be subject to enforcement action, as provided in Chapter 1.10 and/or Chapter 1.12of this Code.

LANDSCAPE WATER-EFFICIENCY CHECKLIST

CUPERTINO

Community Development Department
10300 Torre Avenue
Cupertino, CA 95014

408.777.3308/Fax 408.777.3333
planning@cupertino.org
http://cupertino.org/planning

Applicant Name: _____ Email: _____

Project Site Address: _____ Phone: _____

Total Landscape Area (square feet):	**Landscape area:** All the planting areas, turf areas, and water features in a landscape installation. 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 wildland vegetation).
Turf Area:	**Turf:** A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.
Non-Turf Plant Area:	
Special Landscape Area:	
Water Feature Wet Surface Area: If > 10% of landscaped area, water budget calculation required with landscape project submittal.	See reverse side for other definitions.

NOTE: If landscape area exceeds 2,500 sq. ft., a landscape project submittal shall be required. If no landscaping is proposed, enter "0" above and proceed directly to the signature block at the bottom of this form.

Landscape Parameter	Requirements	Project Compliance
Turf	Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.	☐ Yes ☐ No [If no, Water budget calculation required with landscape project submittal]
	All portions of turf areas shall be wider than eight (8) feet.	☐ Yes
	Turf (if utilized) is limited to slopes not exceeding 15%.	☐ Yes
Non-Turf	At least 80% of non-turf area shall consist of native or low water use plants.	☐ Yes ☐ No [If no, Water budget calculation required with landscape project submittal]
Hydrozones	Plants with similar water needs shall be grouped within hydrozones. Each hydrozone shall be controlled by a separate valve.	☐ Yes ☐ No [If no, Provide explanation on back]
Irrigation System	Systems shall be designed and maintained to minimize water waste (e.g., runoff, low head drainage, overspray). Low-volume irrigation shall be utilized in non-turf areas. Irrigation shall only occur between the hours of 8:00 pm and 10:00 am.	☐ Yes ☐ No [If no, Provide explanation on back]
Soil	A minimum of eight (8) inches of non-compacted topsoil shall be available in planted areas.	☐ Yes ☐ No [If no, Provide explanation on back]
	Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.	☐ Yes ☐ No [If no, Provide explanation on back]
Mulch	A minimum two (2)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).	☐ Yes ☐ No [If no, Provide explanation on back]

I am aware of available informational resources regarding native and low water use plants, irrigation efficiency, and other aspects of water-efficient landscaping. I certify that the information provided on this checklist is correct, and the installed landscape complies with the requirements of Chapter 14.15. I also understand that any changes to the project will necessitate a new checklist.

_____ _____
Signature of property owner or authorized representative Date

This checklist implements the requirements of Chapter 14.15, Landscape Ordinance, of the Cupertino Municipal Code. The responses provided will be evaluated to determine whether the proposed landscape is generally consistent with the ordinance's water-efficiency goals.

Applicant Comments

Use additional paper if necessary

Staff Evaluation	Staff Comments
☐ Approved	
☐ Not Approved	
	Signature _____ Date _____

Select Definitions

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Low-volume irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip and bubblers. Certain rotary emitters designed for highly efficient water distribution, and situated to irrigate low water use plants, may also be included in this definition at the discretion of the Planning Office.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Any species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be categorically deemed a low water use plant.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this division, the term will refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community of the project's vicinity.

Special landscape area: An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Turf: A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, waterfalls and artificial streams. Also includes spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

APPENDIX B – LANDSCAPE AND IRRIGATION PLANS

The landscape and irrigation design plan shall be prepared as follows:

A. The landscape and irrigation design plans shall incorporate all applicable elements of Section 14.15.050 of Chapter 14.15 of the Cupertino Municipal Code.

B. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.

C. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.

D. The landscape design portion of the landscape and irrigation design plan, at a minimum, shall:

1. Provide basic project information, such as applicant name, site address, total landscape area and turf area (square feet), irrigation water source (e.g. municipal, well, recycled), retail water purveyor (if applicable), and project contacts.
2. Identify, in tabular form, all plants to be installed as part of the project. The table shall include the following:
   i. Symbol (representing the plant on the plan).
   ii. Common name.
   iii. Botanical name.
   iv. Container size.
   v. Quantity.
   vi. Type (e.g. grass, forb, succulent, vine, shrub, tree).
   vii. Water-efficient species identification. All "native" and "low water use" plant species (defined in Section 14.15.030) shall be so labeled.
   viii. Unique physical specifications of plants (e.g., bare-root, field-potted, multi-trunk), if applicable.
3. Include the following:
   i. General notes, planting notes, plant layout based on size at maturity, species, and symbol legend.
   ii. Spacing of proposed plantings.
   iii. Topography
   iv. Trunk diameter of all existing trees whose trunk circumference is greater than 18.5 inches, measured 54 inches above grade.
   v. Existing features to remain, such as trees, fencing, hardscape, etc.
   vi. Existing features to be removed.
   vii. Identification of pertinent site factors such as sun exposure, microclimate, property lines, buildings, underground/above-ground utilities, existing drainage features, etc.
   viii. Proposed grading. See Section 16.08 of the Cupertino Municipal Code for the requirements of when a grading permit is required.
   ix. Seed mix, if applicable.
4. Delineate and label each hydrozone;

5. Identify each hydrozone as low water, moderate water, high water, or mixed (low/moderate) water use, as defined by WUCOLS;
6. Identify special landscape areas;
7. Identify type of mulch and application depth;
8. Identify type and wet surface area of water features;
9. Identify hardscapes (pervious and non-pervious); and
10. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the landscape design plan."

E. The irrigation design portion of the landscape and irrigation design plan, at a minimum, shall contain:
   1. 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;
   2. Static water pressure at the point of connection to the public water supply;
   3. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
   4. Irrigation schedule;
   5. Location and size of separate water meters for landscape (if applicable); and,
   6. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

F. **Grading.** If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of Chapter 16.08 of the Cupertino Municipal Code, including permitting requirements for grading in excess of established permit thresholds.

   A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 30%, or in any areas where slope stability may be compromised.

G. **Wildfire Management.** Plant list shall exclude plant types that increase wildfire susceptibility. In areas designated wildland urban interface, by Chapter 16.74 of the Cupertino Municipal Code, the plan shall demonstrate that plants have been selected and arranged to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

H. **Storm Water Management.** Storm water best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Installation shall be subject to the San Francisco Bay Region's National Pollutant Discharge Elimination System (NPDES) storm water discharge permit requirements and Chapter 9.18 of the Cupertino Municipal Code.

WATER CONSERVATION IN LANDSCAPING REGIONAL MODEL ORDINANCE

Prepared by a working group of planning and conservation representatives for jurisdictions within the Santa Clara Valley Water District service area.

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Ordinance No. ###.###

AN ORDINANCE OF THE [legislative body] OF THE [jurisdiction] ESTABLISHING NEW LANDSCAPING REGULATIONS PURSUANT TO THE CALIFORNIA WATER CONSERVATION IN LANDSCAPING ACT

SUMMARY

This ordinance establishes new water-efficient landscaping and irrigation requirements as mandated by the California Water Conservation in Landscaping Act. This ordinance has been adapted for the [jurisdiction] from a regional model ordinance developed by a working group of local planning and conservation representatives and the Santa Clara Valley Water District.

THE [legislative body] OF THE [jurisdiction] ORDAINS AS FOLLOWS:

The following new [Chapter 00], of the [jurisdiction] [code], is added as follows:

Chapter 00

WATER CONSERVATION IN LANDSCAPING

§ 00.010 Intent

The intent of this [chapter] is to reduce water waste in landscaping by promoting the use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. This [chapter] implements the California Water Conservation in Landscaping Act.

§ 00.020 Applicability.

A. The provisions of this [chapter] shall apply to the following:

1. Construction of new single-family and two-family dwellings, where cumulative landscape area exceeds 2,500 square feet;
2. Commercial, industrial, office, multi-family residential, and institutional construction where cumulative landscape area exceeds 2,500 square feet;
3. Landscape installation or rehabilitation associated with any project requiring [major project permit types, e.g., design review, grading permit, or use permit], where landscape area exceeds 2,500 square feet;

4. Any project with landscape area 2,500 square feet or smaller that has been determined by the [administering office, e.g. Planning Office] to require landscape and irrigation design plans. Such determination may be the result of project information provided on checklist (§ 00.060), installation inconsistent with information provided on checklist, or other compliance matter.

5. Existing landscapes larger than one acre, including cemeteries, shall be subject to the provisions of Section 00.150: Audit of Existing Landscapes; and,

6. New and rehabilitated cemeteries shall only be subject to the provisions of Section 00.090: Water Budget Calculation, 00.110: Landscape Installation Report, and 00.120: Landscape and Irrigation Maintenance.

B. The provisions of Section 00.060: Water-Efficient Design Checklist, shall apply to:

1. Any project requiring [major project permit types, e.g., design review, grading permit, or use permit], regardless of the extent (square feet) of landscape area; and,

2. Any project that includes a new dwelling, regardless of the extent (square feet) of landscape area.

C. The provisions of this [chapter] shall not apply to:

1. Construction projects other than new single-family or two-family houses that include irrigated landscape but do not require [major project permit types, e.g., design review, grading permit, or use permit], and do not require new or expanded water service;

2. Registered local, state or federal historical sites where landscaping establishes an historical landscape style, as determined by the [jurisdiction: historic resources body], or by any applicable public board or commission responsible for architectural review or historic preservation;

3. Surface mine reclamation projects that do not require a permanent irrigation system;

4. Ecological restoration projects that do not require a permanent irrigation system;

5. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public; or

6. Any commercial cultivation of agricultural products; including, but not limited to products of farms, orchards, production nurseries and forests.

§ 00.030 Definitions.

The definitions of terms in this section shall apply wherever these terms appear within this [chapter], unless it is apparent from the context that a different meaning is intended.

A. **Applied water:** The portion of water supplied by the irrigation system to the landscape.

B. **Automatic irrigation controller:** An automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

C. **Backflow prevention device:** A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

D. **Certified irrigation designer:** 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.

E. **Certified landscape irrigation auditor:** 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.

F. **Certified professional:** A certified irrigation designer, certified landscape irrigation auditor, licensed landscape architect, licensed landscape contractor, licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.

G. **Conversion factor:** The number (0.62) that converts acre-inches per acre to gallons per square foot.

H. **Ecological restoration project:** A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

I. **Effective precipitation** (Eppt): The portion of total precipitation which becomes available for plant growth.

J. **Estimated Total Water Use** (ETWU): The total water used for the landscape as described in Section VIII "Water Budget Calculations."

K. **Evapotranspiration adjustment factor** (ETAF): A factor of 0.7, 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. ETAF for a *special landscape area* shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes is 0.8.

L. **Evapotranspiration rate:** The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

M. **Hardscape:** Any constructed feature in a landscape built of concrete, stone, wood, or other such pervious or non-pervious durable material. Includes, but is not limited to, patios, walkways, and retaining walls.

N. **Hydrozone:** A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

O. **Invasive plant species:** Species of plants listed in the invasive plant inventory of the California Invasive Plant Council (IPC) that have been identified as invasive to areas within the IPC-delineated Central West (CW) region.

P. **Irrigation audit:** An in-depth evaluation of the performance of an irrigation system performed 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.

Q. **Irrigation efficiency** (IE): 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 minimum average irrigation efficiency for purposes of this Ordinance is 70%. Greater irrigation efficiency can be expected from well-designed and maintained systems.

R. **Irrigation survey:** 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.

S. **Landscape architect:** A person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code, Section 5615.

T. **Landscape area:** All the planting areas, turf areas, and water features in a landscape installation. 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 wildland vegetation).

U. **Landscape contractor:** A person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

V. **Landscape project:** An undertaking of landscape design and installation on a particular area of land. A landscape project may be associated with an individual lot, a building project, or a multi-phased development. It may also be a larger, comprehensive landscape scheme that is not coupled with an individual building project.

W. **Lateral line:** The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

X. **Low water use plant:** A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

Y. **Low-volume irrigation:** The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip and bubblers. Certain rotary emitters designed to provide highly efficient water distribution may also be included in this definition, at the discretion of the [Planning Office].

Z. **Maximum Applied Water Allowance** (MAWA): The upper limit of annual applied water for the established landscaped area as specified in Section VIII "Water Budget Calculations."

AA. **Mined-land reclamation projects:** Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

BB. **Mulch:** Any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.

CC. **Native plant:** A plant indigenous to a specific area of consideration. For the purpose of this [chapter], the term will refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community of the project's vicinity.

DD. **Noxious weed:** Any weed designated by the weed control regulations in the Weed Control Act and identified on a regional district noxious weed control list.

EE. **Operating pressure:** The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

FF. **Overhead sprinkler irrigation system:** A system that delivers water through the air (e.g., spray heads and rotors).

GG. **Overspray:** Irrigation water that is delivered beyond the target area.

HH. **Plant factor:** A numerical factor, when multiplied by reference evapotranspiration (ETo), estimates the amount of water needed by plants. Plant factors are based on the publication "Water Use Classification of Landscape Species" (WUCOLS).

II. **Rain sensor** or **rain sensing shutoff device:** A component that automatically suspends an irrigation event when it rains.

JJ. **Recycled water:** Treated wastewater of a quality suitable for non-potable uses including landscape irrigation and water features.

KK. **Reference evapotranspiration** (ETo): A standard measurement of environmental parameters that affect the water use of plants.

LL. **Rehabilitated landscape:** Any re-landscaping project that requires a [major project permit types, e.g., design review, grading permit, or use permit], or requires a new or expanded water service application.

MM. **Runoff:** Water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

NN. **Soil moisture sensor:** A device that measures the amount of water in the soil. The device may also initiate or suspend irrigation.

OO. **Special landscape area** (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

PP. **Sprinkler head:** A device that delivers water through a nozzle.

QQ. **Station:** An area served by one valve or by a set of valves that operate simultaneously.

RR. **Turf:** A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.

SS. **Valve:** A device used to control the flow of water in the irrigation system.

TT. **Water feature:** A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, waterfalls and artificial streams. Also includes spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses.

UU. **Wet surface area:** The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

VV. **Wildland urban interface:** A geographic area identified by the State of California as a "Fire Hazard Severity Zone," or any area designated by the enforcing agency to be at a significant risk from wildfires.

WW. **WUCOLS:** The "Water Use Classification of Landscape Species" published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

§ 00.040 Demonstration of Landscape Water Efficiency

Applicants of projects subject to this ordinance may choose one the following two options to demonstrate that a landscape proposal meets the ordinance's water-efficiency goals.

A. **Plant-type restriction option:** The plan, checklist and any accompanying documentation must demonstrate all of the following as a means of achieving water efficiency.

1. The total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.

2. Within non-turf areas, at least 80% of the plants shall be native or low water-use.

3 All other applicable design criteria of Section 00.050 shall be met.

B. **Water budget option:** Project applicants may elect to prepare a water budget calculation, per the provisions of Section 00.060, as a means of demonstrating water efficiency.

§ 00.050 Water-Efficient Design Elements

The elements of a landscape shall be designed to achieve water efficiency consistent with the intent of this [chapter]. Projects with landscape area of 2,500 square feet or lesser shall demonstrate water efficiency by providing appropriate responses to specific checklist items pursuant to Section 00.060. Projects requiring a complete landscape project submittal shall comply with all applicable criteria of this section.

A. **Plant Material:**

1. Plants shall be chosen and arranged appropriately based upon the site's climate, soil characteristics, sun exposure, wildfire susceptibility and other factors. Plants with similar water needs shall be grouped within hydrozones.

2. The turf area shall not be more than 25% of the landscape area, or 1,250 square feet, whichever is lesser in area, unless the project applicant develops a water budget and the ETWU of the landscape area does not exceed the MAWA.

3. Turf shall not be planted on slopes greater than 25%.

4. Turf areas shall not be less than eight feet wide.

5. At least 80% of the plants in non-turf landscape areas shall be native plants, or low water using plants, unless the project applicant develops a water budget and the ETWU of the landscaped area does not exceed the MAWA.

6. The horticultural attributes of plant species (e.g., mature plant size, invasive roots, structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines).

7. Fire-prone plant materials and highly flammable mulches are strongly discouraged. In areas designated wildland urban interface, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

8. Installation of invasive plant species shall be prohibited.

9. Existing invasive plants and noxious weeds within or adjacent to the proposed landscape area shall be removed prior to installation.

10. The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supercede this [chapter] by either prohibiting low water use plants, or including conditions that have the effect of restricting the use of low water use plants.

B. **Irrigation System:** 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. In addition:

1. Dedicated landscape water meters shall be required for landscape areas greater than 5,000 square feet, except for those installations where irrigation water is provided by an individual onsite well.

2. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data for irrigation scheduling are required.

3. 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.

4. The irrigation hardware for each hydrozone shall include a separate valve. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

5. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.

6. Low-volume irrigation shall be required in mulched areas, in areas with slope greater than 25%, within 24 inches of a non-permeable surface, or in any narrow or irregularly shaped areas that are less than eight (8) feet in width in any direction.

7. Average irrigation efficiency is assumed to be 70%. Irrigation systems shall be designed, maintained and managed to meet or exceed an average landscape irrigation efficiency of 70%.

8. Irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or otherwise renders irrigation unnecessary. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

C. **Soil, conditioning, and mulching:**

1. At the time of installation, a minimum of eight (8) inches of non-compacted topsoil shall be available for water absorption and root growth in planted areas. This requirement may be waived where a landscape professional has determined that practical limitations (e.g., slope, other geotechnical factors), necessitate a lesser soil depth that is viable for the chosen plant materials.

2. Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.

3. A minimum two (2)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).

4. Stabilizing mulching products shall be used on slopes.

D. **Hydrozones:**

1. Hydrozones shall group plant materials of similar water use, and shall generally demarcate areas of similar slope, sun exposure, soil, and other site conditions appropriate for the selected plants.

2. The flow of water to each hydrozone shall be controlled by a separate valve.

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

4. Within a hydrozone, low and moderate water use plants may be mixed, but all plants within that hydrozone shall be classified as moderate water use for MAWA calculations. High water use plants shall not be mixed with low or moderate water use plants.

E. **Water Features:**

1. Recirculating water systems shall be used for water features.

2. The wet surface area of a water feature shall be counted as an area of high water using plants for purposes of a water budget calculation, except as provided in subsection 3, below.

3. The surface area of a pool or spa with a cover shall be counted as an area of medium water using plants for purposes of a water budget calculation.

§ 00.060 Water-Efficient Design Checklist

A water-efficient design checklist shall be developed by the [jurisdiction]. The checklist shall serve as a preliminary summation of select landscape components to determine

whether a proposed landscape is generally consistent with the water-efficiency goals of this [chapter].

A. All applications for [major project permit types, e.g., design review, grading permit, or use permit], shall include a completed water-efficient design checklist. Building permits for new dwellings shall also include a completed water-efficient design checklist.

B. The checklist shall be completed by a property owner or certified landscape professional, and shall be submitted to the [Planning Office] along with the associated project application.

§ 00.070 Components of a Landscape Project Submittal

Unless otherwise specified, the following items shall be submitted to the [Planning Office] when a landscape project is subject to the requirements of this [chapter].

A. **Water-Efficient Design Checklist** (§ 00.060).

B. **Landscape and Irrigation Design Plans** (§ 00.080).

C. **Landscape and Irrigation Maintenance Schedule** (§ 00.120).

D. **Landscape Installation Report** (§ 00.110). Shall be submitted following installation of landscaping materials and irrigation hardware.

E. **Water Budget Calculations** (§ 00.090). Not required if turf limitation option (§ 00.040) is utilized.

F. **Soil Analysis Report** (§ 00.100). Not required unless requested by [jurisdiction] as a condition of permit approval.

G. **Landscape Plan-Check Fee** (§ 00.130).

§ 00.080 Landscape and Irrigation Design Plans

Landscape and irrigation design plans are required of landscape projects larger than 2,500 square feet when associated with applications for [major project permit types, e.g., design review, grading permit, or use permit], and building permits for new dwellings. Landscape and irrigation design plans may be required of landscape projects 2,500 square feet or smaller if so determined by the [Planning Office] (see subsection 00.020(A)(4)).

The landscape and irrigation design plan shall be prepared as follows:

A. The landscape and irrigation design plans shall incorporate all applicable elements of Section 00.050. Water-Efficient Design Elements.

B. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.

C. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.

D. The landscape design portion of the landscape and irrigation design plan, at a minimum, shall:

1. Provide basic project information, such as applicant name, site address, total landscape area and turf area (square feet), irrigation water source (e.g. municipal, well, recycled), retail water purveyor (if applicable), and project contacts.

2. Identify, in tabular form, all plants to be installed as part of the project. The table shall include the following:

   i. Symbol (representing the plant on the plan).

   ii. Common name.

   iii. Botanical name.

   iv. Container size.

   v. Quantity.

   vi. Type (e.g. grass, forb, succulent, vine, shrub, tree).

   vii. Water-efficient species identification. All "native" and "low water use" plant species (defined in § 00.020) shall be so labeled.

   viii. Unique physical specifications of plants (e.g., bare-root, field-potted, multi-trunk), if applicable.

3. Include the following:

   i. General notes, planting notes, plant layout based on size at maturity, species, and symbol legend.

   ii. Spacing of proposed plantings.

iii. Topography

iv. Trunk diameter of all existing trees whose trunk circumference is greater than 18.5 inches, measured 54 inches above grade.

v. Existing features to remain, such as trees, fencing, hardscape, etc.

vi. Existing features to be removed.

vii. Identification of pertinent site factors such as sun exposure, microclimate, property lines, buildings, underground/above-ground utilities, existing drainage features, etc.

viii. Proposed grading. For earthwork exceeding 150 cubic yards, or for cuts or fills exceeding five vertical feet, a grading permit will be required.

ix. Seed mix, if applicable.

4. Delineate and label each hydrozone;

5. Identify each hydrozone as low water, moderate water, high water, or mixed (low/moderate) water use, as defined by WUCOLS;

6. Identify special landscape areas;

7. Identify type of mulch and application depth;

8. Identify type and wet surface area of water features;

9. Identify hardscapes (pervious and non-pervious); and

10. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the landscape design plan."

E. The irrigation design portion of the landscape and irrigation design plan, at a minimum, shall contain:

1. 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;

2. Static water pressure at the point of connection to the public water supply;

3. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

4. Irrigation schedule;

5. Location and size of separate water meters for landscape (if applicable); and,

6. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

F. **Grading.** If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of the [jurisdiction] grading ordinance ([refer to code section]), including permitting requirements for grading in excess of established permit thresholds.

A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 50%, or in any areas where slope stability may be compromised.

G. **Wildfire Management.** Plant list shall exclude plant types that increase wildfire susceptibility. In areas designated wildland urban interface, the plan shall demonstrate that plants have been selected and arranged to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

H. **Storm Water Management.** Storm water best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Installation shall be subject to the [jurisdiction]'s National Pollutant Discharge Elimination System (NPDES) storm water discharge permit requirements and [refer to code section].

§ 00.090 Water Budget Calculation

Project applicant may elect to complete a water budget calculation for the landscape project. A water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget. Water budget calculations shall adhere to the following requirements:

A. The plant factor used shall be from WUCOLS. The plant factor ranges from 0.0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

B. The wet surface area of a water feature shall be counted as an area of high water using plants for purposes of a water budget calculation, except as provided in subsection C, below.

C. The wet surface area of a pool or spa with a cover shall be counted as an area of medium water using plants for purposes of a water budget calculation.

D. Where low and moderate water use plants are be mixed within a single hydrozone, the entire hydrozone area shall be classified as moderate water use for purposes of a water budget calculation. High water use plants shall not be mixed with low or moderate water use plants.

E. All special landscape areas shall be identified and their water use included in the water budget calculations.

F. The reference evapotranspiration adjustment factor (ETAF) for special landscape areas shall not exceed 1.0. The ETAF for the remaining landscaped area shall not exceed 0.7.

G. Irrigation system efficiency shall be greater than or equal to 70%.

H. Maximum applied water allowance (MAWA) shall be calculated using the equation below:

$$MAWA = (ETo)\ (0.62)\ [(0.7 \times LA) + (0.3 \times SLA)]$$

Where:
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
0.7 = Reference Evapotranspiration Adjustment Factor (ETAF)
LA = Landscape Area including SLA (square feet)
0.3 = Additional Water Allowance for SLA
SLA = Special Landscape Area (square feet)

I. A project applicant may consider effective precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate the MAWA:

$$MAWA = (ETo - Eppt)\ (0.62)\ [(0.7 \times LA) + (0.3 \times SLA)]$$

J. Estimated total water use (ETWU) shall be calculated for each hydrozone using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA.

$$ETWU = (ETo)(0.62)\left(\frac{PF \times HA}{IE} + SLA\right)$$

Where:
ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS (B32-2(nn))
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)

SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor
IE = Irrigation Efficiency (minimum 0.70)

§ 00.100 Soil Analysis.

The [Planning Office] shall have discretion to require soil analysis as a condition of approval for any [major project permit types, e.g., design review, grading permit, or use permit], where a landscape project submittal is required.

A soil analysis report shall document the various characteristics of the soil (e.g. texture, infiltration rate, pH, soluble salt content, percent organic matter, etc), and provide recommendations for amendments as appropriate to optimize the productivity and water-efficiency of the soil. The soil analysis report shall be made available to the professionals preparing the landscape and irrigation design plans in a timely manner either before or during the design process. A copy of the soils analysis report shall be submitted to the [Planning Office] as part of the landscape documentation package.

§ 00.110 Landscape Installation Report

Landscape installation assessment for new or rehabilitated landscapes shall be conducted by a certified landscape professional after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into a landscape installation report.

A. The landscape installation report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system were installed as specified in the landscape and irrigation design plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

B. The landscape installation report shall include the following statement: "The landscape and irrigation system has been installed as specified in the landscape and irrigation design plan and complies with the criteria of the ordinance and the permit."

C. The [jurisdiction] shall administer ongoing programs that may include, but not be limited to, post-installation landscape inspection, irrigation water use analysis, irrigation audits, irrigation surveys and water budget calculations to evaluate compliance with the MAWA.

§ 00.120 Landscape and Irrigation Maintenance

Landscapes shall be maintained to ensure successful establishment following installation, and to ensure water use efficiency consistent with this [chapter]. A maintenance schedule shall be established and submitted to the [Planning Office] either with the landscape application package, with the landscape installation report, or any time before the landscape installation report is submitted. Maintenance contract documentation shall be provided to the [Planning Office] if so requested.

A. The timing of the maintenance schedule shall extend 30 months from the date of the landscape installation report, unless a different time period is established by the [Planning Office] under a condition of permit approval. The landscape professional(s) overseeing maintenance activities shall provide to the [Planning Office] a minimum of three summary reports at appropriately spaced intervals over the 30-month period. The reports shall evaluate the condition of the installation, and describe maintenance needs and any actions taken.

B. Maintenance shall include, but not be limited to the following: routine inspection; pressure testing, adjustment and repair of the irrigation system; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; replanting of failed plants; weeding; pest control; and removing obstructions to emission devices.

C. Failed plants shall be replaced with the same or functionally equivalent plants that may be size-adjusted as appropriate for the stage of growth of the overall installation. Failing plants shall either be replaced, or be revived through appropriate adjustments in water, nutrients, pest control or other factors as recommended by a landscaping professional.

§ 00.130 Landscape Project Referral

The [Planning Office] shall refer the landscape project documents to any [jurisdiction] department or outside agency whose interests or area of expertise warrants their participation in the review process. Referral agencies may include, but are not limited to, [Santa Clara Valley Water District, Fire Department, and Clean Water Program].

§ 00.140 Landscape Project Review Fee.

The submittal of a landscape and irrigation design plan shall be accompanied by a project review fee as provided by the fee schedule adopted by the [legislative body].

§ 00.150 Audit of Existing Landscapes

The [jurisdiction] shall be authorized to require audits to evaluate water use on established landscapes larger than one acre. Such audit may be also be initiated as a coordinated effort between the [jurisdiction] and a water purveyor (e.g., Santa Clara Valley Water District, as part of the Water District's established outdoor water conservation programs). When such audit is required, it must be completed by a certified landscape irrigation auditor.

Following the findings and recommendations of the certified landscape irrigation auditor, the [jurisdiction] may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use. Landscape renovation or rehabilitation resulting from such audit activity shall be considered a landscape project, and shall be subject to applicable document submittal requirements of Section 00.070.

For established landscapes that have dedicated irrigation meters, the maximum applied water allowance (MAWA) shall be calculated as follows:

$$MAWA = (ETo)\ (0.62)\ (LA)\ (0.8)$$

Where:
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
LA = Landscape Area (square feet)
0.8 = Reference Evapotranspiration Adjustment Factor (ETAF)

§ 00.160 Public Education

A. The [jurisdiction] shall provide information to all applicants regarding the design, installation, management and maintenance of water-efficient landscapes and irrigation systems.

B. All model homes that are landscaped shall have signs installed that provide information on the principles of water-efficient landscaping.

§ 00.170 Penalties

Non-compliance with any applicable provision of this [chapter] shall be subject enforcement action, as provided in [code reference].

PASSED AND ADOPTED by the [legislative body] of the [jurisdiction] on [date] by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

LANDSCAPE WATER-EFFICIENCY CHECKLIST

Applicant Name: _____ Phone: _____ Email: _____

Project Site Address: _____

Total Landscape Area (square feet):	**Landscape area:** All the planting areas, turf areas, and water features in a landscape installation. 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 wildland vegetation).
Turf Area:	**Turf:** A ground cover surface consisting of non-native grass species that is customarily mowed. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are examples of cool-season turf grasses. Bermuda grass, kikuyu grass, seashore paspalum, St. Augustine grass, zoysia grass, and buffalo grass are warm-season turf grasses.
Non-Turf Plant Area:	
Special Landscape Area:	See reverse side for other definitions.
Water Feature Wet Surface Area:	

NOTE: If landscape area exceeds 2,500 sq. ft., a landscape and irrigation design plan (and supporting documents) shall be required. If no landscaping is proposed, enter "0" for "Total Landscape Area," and proceed directly to the signature block at the bottom of this form.

Landscape Parameter	Requirements	Project Compliance
Turf	Total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.	☐ Yes ☐ No [Water budget calculation required with landscape project submittal]
	All turf areas shall be wider than eight (8) feet.	☐ Yes
	Turf (if utilized) is limited to slopes not exceeding 25%.	☐ Yes
Non-Turf	At least 80% of non-turf area shall consist of native or low water use plants.	☐ Yes ☐ No [Water budget calculation required with landscape project submittal]
Hydrozones	Plants with similar water needs shall be grouped within hydrozones. Each hydrozone shall be controlled by a separate valve.	☐ Yes ☐ No [Provide explanation on back]
Irrigation System	Systems shall be designed and maintained to minimize water waste (e.g., runoff, low head drainage, overspray). Low-volume irrigation shall be utilized in non-turf areas. Irrigation shall only occur between the hours of 8:00 pm and 10:00 am.	☐ Yes ☐ No [Provide explanation on back]
Soil	A minimum of eight (8) inches of non-compacted topsoil shall be available in planted areas.	☐ Yes ☐ No [Provide explanation on back]
	Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.	☐ Yes ☐ No [Provide explanation on back]
Mulch	A minimum two (2)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).	☐ Yes ☐ No [Provide explanation on back]

I am aware of available informational resources regarding native and low water use plants, irrigation efficiency, and other aspects of water-efficient landscaping. I certify that the information provided on this checklist is correct, and I understand that any changes to the project will necessitate a new checklist.

_____ _____

Signature of property owner or authorized representative Date

This checklist implements the requirements of the Water Conservation in Landscaping Ordinance. The reponses provided will be evaluated to determine whether the proposed landscape is generally consistent with the ordinance's water-efficiency goals.

Applicant Comments

Use additional paper if necessary

Staff Evaluation

☐ Approved

☐ Not Approved

Staff Comments

Signature

Date

Select Definitions

Hydrozone: A portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

Low water use plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be considered low water use plants.

Low-volume irrigation: 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.

Native plant: A plant indigenous to a specific area of consideration. For the purpose of this division, the term will refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community of the project's vicinity.

Special landscape area: An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

Water feature: A landscape design element where open water performs an aesthetic or recreational function. Water features include ponds, fountains, waterfalls and artificial streams. Also includes spas and swimming pools that are ancillary to single-family, two-family and multi-family residential uses.

Wet surface area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa, or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

		State*		BAWSCA	Palo Alto	Sunnyvale (proposed)	Local Regional Model	County of Santa Clara	Proposed Ordinance
		Developer Installed	Homeowner Installed						
Residential	Exempt	0 - 2,500 s.f.	0 - 5,000 s.f.	0 - 1,000 s.f.	0 - 1,000 s.f.	0 - 2,500 s.f.			0 - 2,500 s.f.
	Checklist						0 - 2,500 s.f.	0 - 2,500 s.f	
	Owner prepared plans			1,000 s.f. - 2,500 s.f.	1,000 s.f. - 2,500 s.f.				
	Full Submittal	> 2,500 s.f.	> 5,000 s.f	> 2,500 s.f.	> 2,500 s.f.	> 2,500 s.f.	> 2,500 s.f.	> 2,500 s.f.	> 2,500 s.f.
Non-residential	Exempt	0 - 2,500 s.f.		0 - 1,000 s.f.	0 - 1,000 s.f.	0 - 1,000 s.f.			
	Checklist						0 - 2,500 s.f.	0 - 2,500 s.f.	0 - 2,500 s.f.
	Owner prepared plans			1,000 s.f. - 2,500 s.f.	1,000 s.f. - 2,500 s.f.				
	Full Submittal	> 2,500 s.f.		> 2,500 s.f.	> 2,500 s.f.	> 1,000 s.f.	> 2,500 s.f.	> 2,500 s.f.	> 2,500 s.f.

* State's final submittal requirements include a complete planting plans, irrigations design plans, grading plans, soil analysis, audit, maintenance schedule and certificate of completion

Full submittal for all other agencies, including the Proposed Ordinance, is very comparable.

Attachment G

Attachment H

APPLICABILITY AND SUBMITTAL REQUIREMENTS COMPARISON

Table 1: Applicability Comparison

Parameter	DWR Ordinance	Proposed City Ordinance

Applicability	• All private and public projects with new or rehabilitated landscapes > 2,500 s.f. that need a discretionary approval or building permit
	• Home-owner provided new or rehabilitated landscapes > 5,000 s.f. that need a discretionary approval or building permit
	• Landscape Project submittal for above
		• All projects that require a discretionary approval if landscaping is proposed in conjunction with the project
		• New residential projects that require a building permit if landscaping is proposed in conjunction with the project
		• Landscape ≤ 2,500 s.f.
		  • Single family homes and duplex – checklist for informational purposes
		  • Multi-family and non-residential – must comply with checklist
		• Landscape Project submittal – if landscape > 2,500 s.f.

Table 2: Submittal Requirements Comparison

Parameter	DWR Ordinance	Proposed Ordinance ≤ 2,500 s.f.	Proposed Ordinance > 2,500 s.f.
Water Budget calculations	• Required	• Optional	• Optional
Checklist	• Not an option	• Required only for multi-family and non-residential	• Required
Landscape Design Plan	• Required	• Required, if Water Budget prepared	• Required
Irrigation Design Plan	• Required	• Required, if Water Budget prepared	• Required
Grading Design Plan	• Required	• Only if project triggers any thresholds in Chapter 16.08 of CMC	• Only if project triggers any thresholds in Chapter 16.08 of CMC
Soil Management Report	• Required	• Not required under normal circumstances	• Not required under normal circumstances
Landscape and Irrigation Maintenance Schedule	• Required	• Required, if Water Budget prepared	• Required
Certificate of Completion	• Required	• Landscape Installation Report required, if Water Budget prepared	• Landscape Installation Report required
Irrigation Audit/Survey	• Required	• Not required	• Not required

Table 3: Differences between DWR Ordinance, SCVWD regional group and Proposed Ordinance

Parameter	DWR Ordinance	SCVWD Regional Group	Proposed Ordinance		Why?
			Landscape area ≤ 2,500 s.f.	Landscape area > 2,500 s.f.	
Pool and spa covers	• Highly Recommended	• Not required or recommended	• Required	• Required	• High water use element in landscaping.
Surface area of water features	• Water budget required to determine size of pool	• Water budget required to determine size of pool	• Limited to 10% of landscape area	• Limited to 10% of landscape area OR • Provide water budget	• Allow applicants with minor projects the flexibility of not having to prepare a water budget.
Geotechnical review	• N/A	• Slopes of more than 50%	• Slopes of more than 30%	• Slopes of more than 30%	• To be consistent with requirements in the RHS Ordinance.
Maintenance Agreement	• N/A but requires the City to administer programs that include • irrigation water use analysis, • irrigation audits, and • irrigation surveys for compliance with the Maximum Applied Water Allowance (MAWA).	• Not required but requires the City to administer programs that include • Irrigation water use analysis, • Irrigation audits, and • Irrigation surveys For compliance with the Maximum Applied Water Allowance.	• Not required	• Required	• Similar to Storm water maintenance agreement to be used as a means to inform current and future property owners of: • The existence of landscape requirements • Their obligation to maintain the landscape and not remove/replace the landscape without city approval.
Effective Precipation formula	• Local agencies have the option of requiring the use of this formula to calculate MAWA.	• Allow applicants to use this more restrictive formula.	• Not required	• Not required	• This is a more restrictive formula. Since the DWR allows the agency to choose a formula, staff recommends using the more lenient formula.

Attachment I

WATER CONSERVATION PROGRAMS AND WATER-EFFICIENT LANDSCAPE DESIGN RESOURCES

More Information on City Programs

a. *Acterra Green@Home* provides an opportunity for residents to fight climate change by making their homes more resource efficient. The home energy and water auditing service, sends trained volunteers to meet with residents to install simple energy-and water saving devices and create a home energy conservation plan. Cupertino residents have the opportunity to sign up for a FREE Green@Home house call or participate in a training to become a Green@Home volunteer by visiting www.acterra.org/greenathome and click "Request a Free HouseCall" or by calling (650) 962-9876 x 350.

b. *Santa Clara Valley Water District Water Wise Housecalls* is a free home water use survey that helps identify opportunities where residents can conserve. Conducting a house call involves calculating water use, learning to read a water meter, surveying the irrigation system, and reviewing simple ways to save water both in and outside the home. To schedule an appointment, call 1 (800) 548-1882, or submit an online request to: http://www.valleywater.org/Programs/WaterWiseHouseCallRequest.aspx

c. *Walk for Action* – The City of Cupertino, in partnership with Community Emergency Response Team (CERT), Acterra's Green@Home, Cupertino Amateur Radio Emergency Service (CARES), Rebuilding Together Silicon Valley, and Medical Reserve Corps (MRC), distributed flyers to approximately 10,000 residents/households on Saturday, October 17th and Sunday, October 18th in an effort to expand our FREE home energy and water conservation programs available to Cupertino residents. The flyer that was distributed at this event is provided as an attachment to your letter.

d. *Rebuilding Together Silicon Valley* - Qualified residents may also be eligible to receive additional conservation retrofits including double paned windows, weather stripping, hot water heater blankets and more, through Cupertino's partnership with Rebuilding Together Silicon Valley. This nonprofit agency helps to rehabilitate low-income homes at no cost to the homeowner. Interested residents should call (408) 578-9519 or visit www.rebuildingtogether-sv.org to receive an application.

e. *Water Conservation Pages on the City's website* - Water conservation links are posted on the website. Also, the Santa Clara Valley Water District's hotline number is listed on the City website for questions and requests for more information about their programs. The direct line to these resources is: www.cupertino.org/welo.

f. *Water Conservation and Landscaping Workshops* - The City periodically hosts landscaping workshops where residents can learn how to reduce water use in their gardening practices. Workshop topics include gardening with low-water use or native plants, water efficient irrigation hardware, mulching and other water-wise gardening tips. Also, every year the City promotes the Santa Clara Valley Water District landscape workshop series. More information about the workshops, including the schedule, can be found here: www.valleywater.org, or call, 408-265-2607 ext. 2554 (water conservation hotline)

Water Conservation

- Calif. Urban Water Conservation Council- www.cuwcc.org
- Best Management Practices - www.cuwcc.org/m bmp.lasso
- Water Wiser A WWA - www.waterwiser.org
- Water Education Foundation - www.water-ed.org
- Bay Friendly gardening practices: www.StopWaste.org
- Santa Clara Valley Water District- www.valleywater.org
- Bay Area Water Supply and Conservation Agency: www.bawsca.org

Landscaping Reference Websites

- Environmental Protection Agency:
  http://www.epa.gov/npdes/pubs/waterefficiency.pdf
  http://www.epa.gov/watersense/docs/ws_homes508.pdf
- Natural Resources Conservation Service:
  http://www.nrcs.usda.gov/feature/backyard/watercon.html
  ftp://ftp-fc.sc.egov.usda.gov/CA/news/Publications/conservation/landscaping.pdf
- Santa Clara Valley Water District Landscape Programs:
  http://valleywater.org/Programs/Landscaping.aspx
- BAWSCA's Water Wise Gardening information:
  http://bawsca.org/water-conservation/residential-outdoor
- General information on water-efficient landscapes:
  http://www.water.ca.gov/wateruseefficiency/docs/water_efficient_landscapes.pdf
- Guide for estimating the water needs of plants:
  http://www.water.ca.gov/wateruseefficiency/docs/wucols00.pdf
- Residential landscapes:
  http://www.water.ca.gov/wateruseefficiency/docs/ResidentialLandscapes-2005.pdf
  http://www.h2ouse.org/action/index.cfm
- CA Department of Water Resources:
  http://www.water.ca.gov/wateruseefficiency/docs/toolkit.pdf
- Parks and Commercial landscapes:
  http://www.water.ca.gov/wateruseefficiency/docs/parkscomm.pdf
- Reference evapotranspiration information:
  http://wwwcimis.water.ca.gov/cimis/welcome.jsp
- Irrigation controller information:
  http://www.water.ca.gov/wateruseefticiency/docs/inigation_controllers_0903.pdf

Other Online References

- San Francisco Public Utilities Commission (SFPUC) - www.sfwater.org
- Department of Water Resources (DWR) - www.water.ca.gov
- American Water Works Association (A WWA)- www.awwa.org
- CA Chapter, A WW A - www.ca-nv-awwa.org
- US Dept ofthe Interior - www.watershare.rnp.usbr.gov
- Association of California Water Agencies (ACW A) - www.acwanet.org
- Zone 7 - www.zone7water.com
- East Bay MUD - www.ebmud.com
- CalFed Bay-Delta Program - calwater.ca.gcv
- Association of Bay Area Governments - www.abag.ca.gov

EXHIBITS BEGIN HERE

ITEM NO 15

4/20/2010

EXHIBIT

Municipal Code Amendment

- New Chapter 14.15 - Landscape Ordinance

AB1881 – Water Conservation in Landscaping Act 2006

- Directed CA DWR to update Model Water Efficiency in Landscaping Ordinance (DWR Ordinance)
- Local agency to adopt
  - Own ordinance "as effective as" DWR Ordinance, else
  - DWR Ordinance effective Jan. 1, 2010

Applies to:

- Single family projects that involve:
  - Homeowner provided landscaping of 5,000 s.f. or more
  - Developer installed landscaping of 2,500 s.f. or more
- All other projects that involve landscaping more than 2,500 s.f.

Submittal requirements (professionally prepared)

- Water budget calculations
- Soil Management Plan
- Landscape and Irrigation Design Plans
- Grading Design Plans
- Certificate of Completion
- Landscape and Irrigation Maintenance Schedule
- Water Budget required if water feature proposed
- Pool Covers highly recommended

- Applies to:
  - Landscaping associated with new construction:
    - 1,000-2,500 square feet (owner prepared documents)
    - 2,500+ square feet (professional required to prepare documents)
- Submittal requirements for all projects:
  - Checklist (25% turf limitation + 80% drought tolerant) (encourage a maximum turf size in ordinance)
  - Landscape and Irrigation Design Plans
  - Water Budget not required, if turf limitation option chosen
  - Landscape Installation Audit
  - Landscape and Irrigation Maintenance Schedule
  - Water features limited to 10% and water budget required
  - Pool covers highly recommended

- Applies to:
  - Landscaping associated with new construction:
    - 0-2,500 square feet (owner prepared documents)
    - 2,500+square feet (professional required to prepare documents)
- Submittal requirements:
  - Checklist only for 0-2,500 sf
  - Additional requirements for 2500+ sf
    - Landscape and Irrigation Design Plans
    - Landscape Installation Report
    - Landscape and Irrigation Maintenance Schedule
    - Monitoring of maintenance for 30 months
    - If required: Grading Plans and Soil Analysis
    - Water features size not limited but water budget required
    - Pools with covers considered medium water using landscape

- Ordinances reviewed and considered:
  - DWR Model Ordinance
  - Local working group within Santa Clara Valley Water District (SCVWD) service area
  - Bay Area Water Supply and Conservation Agency (BAWSCA) Model Ordinance
    - Members – Mainly San Mateo & Alameda county cities & some Santa Clara cities
- Community Meeting – March 10, 2010
  - Six community member – architects, landscape architect/auditor, representatives from Apple and SCVWD

- Applied to:
  - Landscaping associated with new construction:
    - 0-2,500 square feet (owner prepared documents)
    - 2,500+square feet (professional required to prepare documents)
- Submittal requirements:
  - Checklist only for 0-2,500 sf
  - Additional requirements for 2,500+ sf
    - Landscape and Irrigation Design Plans
    - Landscape Installation Report
    - Landscape and Irrigation Maintenance Schedule
    - Maintenance Monitoring Report
    - If necessary, Grading Plans and Soil Analysis
    - Allow up water features of up to 10% of landscaped area without water budget
    - Pools require covers

- Planning Commission recommended approval of model ordinance on 4-1 vote (Comm. Miller – No)
- Concerns about:
  - Applicability of ordinance to single family projects
  - Monitoring requirements in the Model Ordinance presented
- Revisions have been made to Model Ordinance to address these concerns

- Applies to:
  - Landscaping associated with new construction:
    - 0-2,500 square feet (owner prepared documents), advisory only for single-family
    - 2,500+square feet (professional required to prepare documents)
- Submittal requirements:
  - Checklist only for 0-2,500 sf
  - Additional requirements for 2,500+ sf
    - Landscape and Irrigation Design Plans
    - Landscape Installation Report
    - Landscape and Irrigation Maintenance Schedule
    - If necessary, Grading Plans and Soil Analysis
    - Allow up water features of up to 10% of landscaped area without water budget
    - Pools covers required
    - No maintenance monitoring requirement

- No fees proposed in implementing this ordinance
- The ordinance is exempt under CEQA

The Planning Commission recommends (4 - 1) that the City Council adopt the new Chapter 14.15, Landscape Ordinance