

CITY OF SONOMA

ORDINANCE NO. 05 - 2010

**AN ORDINANCE REPEALING AND REENACTING
CHAPTER 14.32, WATER-EFFICIENT LANDSCAPE
OF THE SONOMA MUNICIPAL CODE**

The City Council of the City of Sonoma does ordain as follows:

SECTION 1. Chapter 14.32, Water-Efficient Landscape, of the Sonoma Municipal Code is hereby repealed in its entirety and reenacted to read as follows:

Sections:

- 14.32.010 Purpose and Authority.
- 14.32.020 Applicability.
- 14.32.030 Definitions.
- 14.32.040 Landscape design plan.
- 14.32.050 Irrigation design plan.
- 14.32.060 Review Requirements and Procedures.
- 14.32.070 Provisions for deviations, substitutions or appeals.
- 14.32.080 Building permit and inspection requirements.
- 14.32.090 Maintenance standards and guidelines for cultivated landscape areas.
- 14.32.100 Forms.
- 14.32.110 Plan check and inspection fees.
- 14.32.120 Provisions for Appeal.

14.32.010 Purpose and Authority.

A. Purpose. Article X, Section 2 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. This policy protects local water supplies through the implementation of a whole system approach to design, construction, installation and maintenance of the landscape resulting in water conserving climate-appropriate landscapes, improved water quality and the minimization of natural resource inputs.

B. Authority. The Planning Director, or his/her designee, has authority for administering and carrying out the provisions in this chapter.

14.32.020 Applicability.

The provisions of this chapter apply as follows:

A. New Landscape Projects and Rehabilitated Landscape Projects. This chapter applies to all new landscape projects and rehabilitated landscape projects.

Applicable projects include but not limited to landscaping associated with commercial, institutional, and mixed use development, commons areas and developer-installed landscaping associated with new multifamily development, landscaping associated with new single-family residential development.

B. Previous landscaping approvals. This chapter applies to rehabilitated landscape projects, as defined in this chapter, proposed for existing single-family residences previously subject to the review requirements of this chapter, the predecessor water efficient landscape ordinance, or design review.

C. Exemptions. This chapter does not apply to:

1. Historical sites registered in the California Register or the National Register of Historic Places;
2. Ecological restoration projects that do not require a permanent irrigation system; and
3. Plant collections, as part of botanical gardens and arboretums open to the public.
4. Cemeteries.

Landscape designers are encouraged to follow the provisions of this chapter, regardless of these exemptions.

D. Discretionary Exemptions. New landscape projects and rehabilitated landscape projects for public parks and playgrounds are exempted from the requirements of this chapter provided the landscape area is 50 percent or more of an existing landscaped area and a minimum landscape area of 2,500 square feet; unless the approval authority explicitly requires, during the design review process, that the project is subject to this chapter.

E. Wells. The presence of a well on site shall not be considered grounds for exempting a project that is subject to the provisions of this chapter from any of its requirements.

14.32.030 Definitions.

A. The following definitions apply to this Chapter:

“Cultivated landscape area” means planted areas that are frequently maintained by mowing, irrigating, pruning, fertilizing, etc.

“Development” means any proposed material change in the use or character of land, including, but not limited to, land clearing or the placement of any structure or site improvements on the land.

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

“ET Adjustment Factor” or “ETAF” means a factor of 0.60 for the city, that, when applied to reference evapotranspiration (ET_o), adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.

“ET_o” or reference evapotranspiration is 46.1 inches per year for Sonoma and means a standard measurement of environmental parameters which affect the water use of plants. ET_o is expressed in inches per day, month, or year as represented in this Chapter and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is watered sufficiently. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

“Ground cover” means plants, other than turf grass, normally reaching an average maximum height of not more than 24 inches at maturity.

“High water use plants” means turf, annuals, container plantings, and other plants recognized as high water use by the WUCOLS.

“Historic Overlay Zone” means an area whose boundary is defined in City Ordinance No. 07-2007 or as amended.

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

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

“Invasive plant species means species of plants not historically found in California and/or that spread outside cultivated areas and can damage environmental or economic resources as determined by the California Invasive Plant Council (www.cal-ipc.org).

“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.

“Irrigation system” means a permanent, artificial watering system designed to transport and distribute water to plants.

“Isolation valve” means a device used to isolate a portion of the irrigation system.

“Landscaped area” or “landscape area” means the entire parcel less the building footprint, driveways, and non-irrigated portions of parking lots, hardscapes (such as decks and patios), and other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g. open spaces and existing native vegetation). Water features are included in the calculation of the landscaped area. “Landscape documentation package” means the documents required under Chapter 14.32.060.

“Landscape project” means either a new landscape project or a rehabilitated landscape project.

“Low water use plants” means native trees, shrubs and groundcovers (such as rosemary), juniper, most native oaks and other plants recognized as low water use by the WUCOLS.

“Maximum Applied Water Allowance (MAWA)” means the upper limit of annual applied water for the established landscaped area as specified in Section 14.32.060.A.2.a. 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 (also commonly referred to as the “water budget”). “Moderate water use plants” means ornamental trees, shrubs, ground covers, and perennials and other plants recognized as moderate water use by the WUCOLS.

“Mulch” means nonliving organic and synthetic materials customarily used in landscape design to retard erosion, retain moisture, and reduce weed growth.

“New landscape project” means, for purposes of this Chapter:

a. A new building or new development with landscaping and is subject to use permit review, design review, issuance of a building permit, encroachment permit, grading permit, or a new water connection or water meter upgrade; or

b. Other new landscape such as a private park, playground, or greenbelt, not owned and/or maintained by the City or a governmental agency, without an associated building and is subject to use permit review, design review, issuance of a building permit, encroachment permit, grading permit, or a new water connection or water meter upgrade.

“New development” means construction activity as defined in Chapter 19.92.

“Open space” means:

a. All areas of natural plant communities or areas replanted with vegetation after construction to reestablish natural plant areas, such as revegetated natural areas; tree, shrub, hedge or ground cover planting areas; and

b. Other areas allowed to be counted as open space in accordance with the City of Sonoma zoning ordinance.

“Overhead irrigation” means those systems that deliver water through the air (e.g. pop-ups, impulse sprinklers, spray heads, rotors, micro-sprays, etc.)

“Overspray” means the irrigation water which is delivered beyond the landscaped target area; wetting pavements, walks, structures, or other non-landscaped areas.

“Plant factor” or “plant use factor” means a factor that, when multiplied by reference evapotranspiration ETo, estimates the amount of water needed by plants. Plant factors as used in this ordinance are derived from the Department of Water Resources 2000 publication *Water Use Classification of Landscape Species*.

“Point of connection” means the point at which an irrigation system taps into the main water supply line.

“Point source irrigation” means non-spray system designed to apply small volumes of water slowly at or near the root zone of plants.

“Project” as used in this Chapter means the same as landscape project.

“Project applicant” or “applicant” means the individual or entity submitting a Landscape Documentation Package, to request a permit, plan check or design review from the City. A project applicant may be the property owner or his/her designee. “Rain sensor” means a rain-sensing shutoff device which automatically shuts off an irrigation system when it rains.

“Recreational area” means areas dedicated to active play or recreation such as sports fields and golf courses where turf provides a playing surface.

“Reference Evapotranspiration (ETo)” means a standard of measurement of environmental parameters which affect the water use of plants and is an estimate of the evapotranspiration of a large field of four to seven-inch tall, cool season grass that is well watered.

“Rehabilitated landscape project” means any re-landscaping or replacement landscape project with a landscape area being rehabilitated that is greater than or equal to 1,000 square feet; and is subject to use permit review, design review, issuance of a building permit, encroachment permit, grading permit, or a new water connection or water meter upgrade.

“Review authority” means the reviewing body as defined in Chapter 19.92.

“Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

“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.

“Shrub” means a self-supporting woody perennial plant of low to medium height characterized by multiple stems and branches continuous from the base, usually not more than 10 feet in height at its maturity.

“Special landscape area (SLA)” means any of the following: an area of the landscape dedicated solely to edible plants; areas irrigated with recycled or reclaimed water; water features using recycled or reclaimed water; and areas dedicated to active play such as parks, sports fields, golf

courses, and where turf provides a playing surface. The ETAF for a SLA shall not exceed 1.0 for new landscape areas. The ETAF for a SLA shall not exceed 0.8 for existing non-rehabilitated landscapes.

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

“Submeter” means a separate meter that is located on the private side of the water system and is plumbed to measure all water that flows only through the irrigation system. This meter is to be used by the owner to monitor irrigation water use.

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

“Vegetation, native” means any plant species with a geographic distribution indigenous to all or part of Sonoma County. (Plant species which have been introduced by humans are not native vegetation.)

“Water feature” means a design element where open water is an aesthetic feature or performs a recreational function. Water features include features artificially supplied with water (except stormwater) including but not limited to ponds, lakes, waterfalls, fountains, artificial streams, spas and swimming pools. The surface area of water features is included in the high water use hydrozone of the landscape area.

“Weather based or sensor based irrigation control technology” means technology that uses local weather and landscape conditions to tailor irrigation schedules to actual conditions on the site or historical weather data.

“WUCOLS” means the *Water Use Classification of Landscape Species* document published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000, as the same may be amended from time to time.

14.32.040 Landscape design plan.

A. General. For each project subject to this Chapter, a landscape design plan shall be submitted to, reviewed by, and subject to the approval of the Design Review Commission or the Planning Department, whichever approval authority applies to the application submitted.

B. Nature of Required Plans. Landscape design plans for each project shall be prepared by a landscape architect, a certified irrigation consultant, a landscape contractor with certification from an industry-recognized irrigation association, or a professional landscape designer.

C. Design Standards. For each project subject to this chapter, applicants shall submit a landscape design plan in accordance with the following minimum standards:

1. Amendments, Mulching and Soil Conditioning

a. A minimum of 8 inches of non-mechanically compacted soil shall be available for water absorption and root growth in planted areas.

b. Incorporate compost or natural fertilizer into the soil to a minimum depth of 8 inches at a minimum rate of 6 cubic yards per 1,000 square feet or per specific amendment recommendations from a soils report.

c. A minimum 3-inch 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.

2. Plants

a. Selected plants shall not cause the estimated water use to exceed the Maximum Applied Water Allowance (MAWA).

b. Plants with similar water use needs shall be grouped together in distinct hydrozones and where irrigation is required, the distinct hydrozones shall be irrigated with separate valves.

c. Low and moderate water use plants can be mixed, but the entire hydrozone will be classified as moderate water use for MAWA calculations.

d. High water use plants shall not be mixed with low or moderate water use plants in the same hydrozone.

e. All non-turf plants shall be selected, spaced and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.

f. Turf shall not be planted in the following conditions:

(i) Slopes exceeding 10 percent.

(ii) Planting areas 8 feet wide or less.

(iii) Street medians, traffic islands, planter strips or bulbouts.

g. Invasive plants as listed by the California Invasive Plant Council are prohibited.

3. Water Features. Recirculating water systems shall be used for water features.

14.32.050 Irrigation design plan.

For each project subject to this Chapter, applicants shall submit an irrigation design plan that meets the requirements listed in this section and the manufacturers' recommendations.

A. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance and in accordance with the following minimum standards:

1. In all new commercial development subject to the provisions of this chapter, a separate dedicated water meter shall be required for the purpose of landscaping. A separate dedicated water meter shall also be required for common areas associated with new residential condominiums and planned unit developments. For existing development or redevelopment, a submeter may be permitted in lieu of a separate dedicated water meter at the discretion of the review authority.

2. Irrigation systems with meters 1 ½ -inch or greater require a high-flow sensor that can detect high flow conditions and have the capabilities to shut off the system.

3. Isolation valves shall be installed at the point of connection and before each valve or valve manifold.

4. Weather-based or other sensor based self-adjusting irrigation controllers shall be required.

5. Rain sensors shall be installed for each irrigation controller.

6. Pressure regulation and/or booster pumps shall be installed so that all components of the irrigation system operate at the manufacturer's recommended optimal pressure.

7. Irrigation system shall be designed to prevent runoff or overspray onto non-targeted areas.

8. Point source irrigation is required where plant height at maturity will affect the uniformity of an overhead system.

9. Minimum 24-inch setback of overhead irrigation is required where turf is directly adjacent to a continuous hardscape that flows into the curb and gutter.

10. Slopes greater than 15 percent shall be irrigated with point source or other low-volume irrigation technology.

11. Trees shall be placed on separate valves except when planted in turf areas.

12. Sprinkler heads, rotors and other emission devices on a valve shall have matched precipitation rates.

13. Head to head coverage is required unless otherwise directed by the manufacturer's specifications.

14. Swing joints or other riser protection components are required on all risers.

15. Check valves shall be installed to prevent low-head drainage.

16. For the purpose of determining the 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.

14.32.060 Review Requirements and Procedures.

Projects shall be subject to the following review requirements and procedures:

A. Landscape design review. Landscape design review shall be conducted prior to plan check.

1. Administration. Landscape design review of projects shall be conducted by the Design Review Commission, except as follows, in which case landscape design review shall be conducted by the Planning Director or his/her designee:

a. Rehabilitated landscape project for a single family home.

b. Rehabilitated landscape project for an existing multi-family development with a landscaped area less than or equal to 2,500 square feet.

c. Rehabilitated or new landscape project for a single family home that is not part of a subdivision, planned development or within the Historic Overlay Zone area. The landscape project will not be subject to Documentation as required under Section 14.32.060.A.2 provided the following criteria are met:

(i) No turf is planted; and

(ii) Only medium and low water-use plants are planted; and

(iii) No overhead irrigation sprinklers are installed.

2. Documentation. The following documentation shall be submitted to the Planning Director in conjunction with landscape design review:

a. Maximum Applied Water Allowance (MAWA) form. A MAWA form shall include calculations and formulas to determine site specific water budget and establish a planting mix that will allow meeting the water budget. The estimated total water use must be less than the MAWA. MAWA shall be calculated using the equation:

$$\text{MAWA} = (\text{ETo})(0.62)[(\text{ETAF} \times \text{Landscape Area}) + (0.3 \times \text{Special Landscape Area})]$$

where: MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = 46.1 inches per year

0.62 = Conversion factor (to gallons)

ETAF = 0.60

0.3 = Additional water allowance for Special Landscape Area (square feet)

Example 1:

If Landscape Area is 2,000 square feet,

$$\text{MAWA} = (46.1)(0.62)[(0.60 \times 2,000) + (0.3 \times 0)] = 34,298 \text{ gallons per year}$$

Example 2:

If Landscape Area is 2,000 square feet which includes 200 square-foot garden,

$$\text{MAWA} = (46.1)(0.62)[(0.60 \times 2,000) + (0.3 \times 200)] = 36,013 \text{ gallons per year}$$

b. Hydrozone Table form. A hydrozone table form shall be completed for each hydrozone. The form quantifies high, moderate and low water use planting areas.

c. The landscape planting design plan that accurately and clearly identified and depicts:

- (i) new and existing trees, shrubs, groundcovers, turf, and any other planting areas;
- (ii) Plants by botanical name and common name;
- (iii) Plant sizes and quantities;
- (iv) Property lines, new and existing building footprints, streets, driveway, sidewalks and other hardscape features; and
- (v) Pools, fountains, water features.

d. A preliminary irrigation design plan which describes irrigation methods and design actions that will be employed to meet the irrigation methods and design actions that will be employed to meet the irrigation requirements of this Chapter.

B. Plan Check. Plan check shall be required as a condition of design review approval or prior to the issuance of a use permit, building permit, encroachment permit, grading permit, or water connection permit for the landscape project. For multiple permit applications, plan check shall occur prior to the issuance of the first permit for the landscape project.

1. Administration. Plan check shall be conducted by the Planning Department staff or by third party review as directed by the Planning Director.

2. Documentation. The following documentation shall be provided in conjunction with plan check review:

a. MAWA form and the landscape design as submitted during the design review process as provided for in section 14.32.060(A).

b. The final irrigation plan drawn at the same scale as the landscape plan that:

- (i) Accurately and clearly identifies and depicts irrigation system point of connection;
- (ii) Accurately and clearly identifies and depicts irrigation system components, e.g. controller, pipe, remote-control valves, sprinklers and other application devices, rain shut-off device, check valves, pressure regulating devices, backflow prevention devices.
- (iii) Includes the Hydrozone Table form.

c. Where slopes exceed 10 percent, a grading plan drawn at the same scale as the landscape plan that accurately and clearly identifies finished grades, drainage patterns, pad elevations, spot elevations and any drainage improvements proposed. The grading plan shall contain the following statement: "I have complied with the criteria of the City of Sonoma Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the grading plan" and shall bear the signature of a licensed professional as authorized by law.

14.32.070 Provisions for deviations and substitutions.

The Review Authority may consider and may allow minor deviations from design requirements or substitution of design alternatives and innovation which may equally reduce water consumption for any of these requirements.

14.32.080 Inspection and maintenance requirements.

Following the installation of landscaping in conjunction with a project under this Chapter, the requirements under this section shall apply.

A. Inspection Required. Once landscaping subject to the provisions of this Chapter has been installed, the issuance of a final inspection and/or occupancy permit shall be contingent upon the following:

1. Final inspection. A final inspection performed by City-designated inspector to review the landscaping for conformance with the approved plans. In lieu of a City-designated inspector performing the inspection, the Planning Director may, at his/her sole discretion, require the applicant's landscape architect to make a written statement to the Planning Director that the landscaping and irrigation system were installed in conformance with the approved plans. Final inspection/signoff/acceptance or other documentation of completion of work pursuant to any use permit, building permit, encroachment permit, grading permit, water connection or water upgrade, or subdivision, whichever applies, shall not be granted by the City until the landscape final inspection is completed and approved.

2. The submittal of a Certificate of Completion form. The form, available at the Office of the Planning Director, must be accompanied by an irrigation audit that contains the following:

- a. Operating pressure of the irrigation system;
- b. Distribution uniformity of overhead irrigation;
- c. Precipitation rate of overhead irrigation;
- d. Report of any overspray or broken irrigation equipment;
- e. Irrigation schedule including:
 - (i) Plant establishment irrigation schedule
 - (ii) Regular irrigation schedule by month including: plant type, root depth, soil type, slope factor, shade factor, irrigation interval (days per week), irrigation runtimes, number of start times per irrigation day, gallons per minute for each valve, precipitation rate, distribution uniformity and monthly estimated water use calculations.
- f. Single-family landscape projects that meet the provisions under Section 14.32.060.A.1.c are not required to provide a landscape audit with the Certificate of Completion.

B. Maintenance. Submittal of a regular maintenance schedule shall be submitted with the Certificate of Completion form. 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; pruning; and weeding in all landscape areas.

14.32.090 Maintenance standards and guidelines for cultivated landscape areas.

A. General. The owner or assignee of land subject to this Chapter shall be responsible for the maintenance of said land in good condition so as to present a healthy, neat, and orderly landscape area.

B. Replacement Requirements. Vegetation that is required to be planted or preserved by this Chapter shall be replaced with equivalent vegetation if it is not living within one year of issuance of a certificate of occupancy.

C. Requirement for On-Going Maintenance. A regular maintenance schedule as provided under Section 14.32.080(B) shall be required for all landscape projects.

D. Irrigation System Maintenance and Scheduling.

1. General. Irrigation of planted areas shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health.

2. Operation of Irrigation Systems. Following the establishment of a landscape area, overhead irrigation systems should only be operated between the hours of 7:00 p.m. and 7:00 a.m., except as set forth in Chapter 13.10.070. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance, except as set forth in Chapter 13.10.070.

3. Maintenance of Irrigation Systems. Irrigation systems shall be maintained as necessary to eliminate waste of water due to loss of heads, broken pipes, or misadjusted nozzles.

14.32.100 Documentation Forms.

The following forms, as referenced in section 14.32.060, shall be submitted as required under this Chapter and are available from the Office of the Planning Director:

A. Maximum applied water allowance form.

B. Hydrozone Table form.

C. Certificate of completion form.

The forms shall be developed and maintained by the Planning Director and shall be in general conformance with the requirements of the State of California Model Water Efficient Landscape Ordinance, as provided for in the California Code of Regulations, Title 23, Division 2, Chapter 2.7.

14.32.110 Plan check and inspection fees.

Applicant shall pay all fees for the cost recovery of plan check, document review and inspection by City staff or by outside consultants or professionals. Said fees shall be set by resolution of the City Council from time to time.

14.32.120 Provisions for Appeal.

Appeal of a decision made by the Planning Director, Design Review Commission, or Planning Commission shall follow the procedures as established in Chapter 1.24.

SECTION 2. Severability. If any section, subsection, sentence, clause, phrase, or word of this ordinance is for any reason held to be invalid and/or unconstitutional by the court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

SECTION 3. Effective Date. This Ordinance shall become effective thirty (30) days from and after the date of its passage.

PASSED, APPROVED AND ADOPTED by the City Council of the City of Sonoma this 20th day of October 2010.



Steve Barbose, Mayor

ATTEST:



Gay Johann, City Clerk

State of California)
County of Sonoma)
City of Sonoma)

I, Gay Rainsbarger, City Clerk of the City of Sonoma, do hereby certify that the foregoing ordinance was adopted on October 20, 2010 by the following vote:

AYES: Sebastiani, Gallian, Brown, Sanders, Barbose
NOES: None
ABSENT: None



Gay Johann, City Clerk