



W A T E R D E P A R T M E N T

Water Conservation Office 212 Locust St. Suite B Santa Cruz, CA 95060 (831) 420-5230

July 14, 2010

Mr. Simon Eching
California Department of Water Resources
Water Use and Efficiency Branch
Post Office Box 942836
Sacramento, CA 94236-0001

Subject: Adoption of New Water Efficient Landscape Ordinance for the City of Santa Cruz

Dear Mr. Eching,

I am writing to let you know that the City of Santa Cruz has recently updated its local water efficient landscape ordinance to fulfill the requirements of AB 1881. A copy of our adopted ordinance is attached. For your convenience, an electronic version of this ordinance is available at <http://www.cityofsantacruz.com/index.aspx?page=411>.

This ordinance was developed through a collaborative effort among all the land use jurisdictions and water agencies of Santa Cruz County with the goal of creating a regionally consistent approach to this state law that met or exceeded the landscape requirements contained in the state's model ordinance. The City was pleased to lead this process and believes that the extra effort put forth to involve other agencies will lead to a greater effectiveness in conserving water in new and renovated landscapes, not only within the City's water service area, but throughout all of Santa Cruz County as well. In the process, we carefully reviewed several other regional and local landscape ordinances, as well as the state's model ordinance, and drew on those elements that, in our experience, were the most promising and effective measures to reduce outdoor water consumption in new landscapes. Although our framework differs, many provisions are identical to or consistent with the state's model ordinance. The key areas in which the City ordinance is more restrictive than the state's model are as follows:

- **Applicability.** The City's ordinance applies to any commercial, industrial and public development projects, not just those with a landscape area over 2,500 square feet in size. Moreover, the city's landscape standards are set forth as a condition of water service, and as such, apply in other jurisdictions receiving water service provided by the City.
- **Turf Limits.** The City's ordinance includes a strict limit on turf and other water intensive plant materials that will reduce the amount of water needed on new landscapes as compared to that allowed under the state's model ordinance. In

addition, such turf is prohibited in the City ordinance on slopes greater than 5 percent compared to the model, which allows turf on slopes of up to 25 percent.

- **Irrigation Design.** The City's ordinance requires that the precipitation rate of all overhead spray nozzles be less than one inch per hour, whereas the model ordinance only calls for low precipitation rates on slopes greater than 25 percent.
- **Compliance.** The City's ordinance calls for a final inspection of the landscape installation to verify that the landscape improvements were installed and the irrigation system is functioning as approved, and does not rely solely on certification forms in lieu of a physical site inspection.
- **Ease of Understanding.** The City's ordinance uses a streamlined and simplified structure relative to the model ordinances that is based on a series of water conservation standards which eases the process of communicating landscape requirements to applicants and aids in achieving overall compliance.

For these reasons, we have concluded that the City's ordinance is at least as effective, if not more so, than the state's model ordinance in conserving water.

We appreciate all the technical assistance, especially the workshops, provided by the CA Department of Water Resources during the process of updating this ordinance.

Please do not hesitate to contact me at 831-420-5232 or tgoddard@cityofsantacruz.com if you have any questions.

Sincerely,



Toby Goddard
Water Conservation Manager

ORDINANCE NO. 2010-11

AN ORDINANCE OF THE CITY OF SANTA CRUZ
REPEALING CHAPTER 16.16 OF THE SANTA CRUZ MUNICIPAL CODE
AND ADDING CHAPTER 16.16 OF THE MUNICIPAL CODE
PERTAINING TO WATER EFFICIENT LANDSCAPING

BE IT ORDAINED by the City Council of the City of Santa Cruz as follows:

SECTION 1: Chapter 16.16 of the Santa Cruz Municipal Code is hereby repealed.

SECTION 2: Chapter 16.16 of the Santa Cruz Municipal Code is hereby enacted to read as follows:

“Chapter 16.16

Water Efficient Landscaping

Sections:

- 16.16.010 Purpose.
- 16.16.020 Definitions.
- 16.16.030 Applicability.
- 16.16.040 Landscape Plan Review and Approval Required.
- 16.16.050 Persons Qualified to Prepare Landscape Plans.
- 16.16.060 Contents of Plans.
- 16.16.070 Landscape Water Conservation Standards.
- 16.16.080 Alternative to Turf Limitations.
- 16.16.090 Final Inspection/Water Audit.
- 16.16.100 Irrigation System Management and Maintenance.
- 16.16.110 Provisions for Existing Landscapes Over One Acre in Size.
- 16.16.120 Exceptions.
- 16.16.130 Administrative Enforcement.
- 16.16.140 Limit of City Responsibility.

- 16.16.010 Purpose

The purposes of this chapter are to promote efficient water use, to manage peak season water demand, and to preserve water storage in order to ensure a reliable and adequate public water supply by regulating landscape design, construction, and maintenance. It is also the purpose of this chapter to comply with California Government Code section 65591 et. seq., the Water Conservation in Landscaping Act.

16.16.020 Definitions

For the purpose of this chapter, the following words shall have the meanings set forth below:

- (a) “applied water” means the portion of water supplied by the irrigation system to the landscape.

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- (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) “CCF” means one hundred cubic feet, a common billing unit used by water agencies for basing charges for water service. One hundred cubic feet equals 748 gallons.
- (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) “common area” means those areas in a residential development that are owned, shared, and available for use by all residents, and managed by either the homeowner’s association or governing board.
- (h) “community garden” means a plot of land used by a community group and open to the public for the cultivation of flowers, vegetables, edible plants, or fruit.
- (i) “conversion factor (0.00083)” means the number that converts acre-inch per acre per year to CCF per square foot per year.
- (j) "director" means the director of the water department of the City of Santa Cruz, or the director’s authorized representative.
- (k) “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.
- (l) “establishment period” 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.

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- (m) "ET adjustment factor" 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.
- (n) "expanded service" means an additional water meter or larger capacity meter is required to serve the proposed development, as determined by the water agency.
- (o) "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.
- (p) "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.
- (q) "hydrozone" means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.
- (r) "irrigation audit" means an in-depth evaluation of the performance of an irrigation system. 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.
- (s) "irrigation efficiency" 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.
- (t) "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.
- (u) "irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.
- (v) "landscape architect" means a person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code, Section 5615.
- (w) "landscape area" means all the planting areas, turf areas, and water features in a landscape design plan subject to the landscape water budget 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, other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation), agricultural uses, commercial nurseries and sod farms.

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- (x) "landscape water budget" means the upper limit of annual applied water for the established landscaped area. It is based on the region's reference evapotranspiration, type of plant material, and landscape area as specified in Section 16.16.070 (b).
- (y) "landscape contractor" means a person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- (z) "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- (aa) "local agency" means a city or county, including a charter city or charter county, or water agency that is responsible for adopting and implementing this Chapter. The local agency is also responsible for the enforcement of this Chapter, including but not limited to, in the case of a city or county, approval of a permit and plan check or design review of a project; and in the case of a water agency, approval of a new or expanded water service application.
- (bb) "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.
- (cc) "low water use plant" means a plant species whose water needs are compatible with local climate and soil conditions. 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.
- (dd) "Model Water Efficient Landscape Ordinance" means the regulations developed by the California Department of Water Resources required by the California Water Conservation in Landscaping Act and contained in the California Code of Regulations, Title 23, Division 2, Chapter 2.7.
- (ee) "modified service" means a substantial change in the water use characteristics of an existing service connection (for example, converting from a single family residential service to multiple residential service, or from a residential use to a commercial use).
- (ff) "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.
- (gg) "native plant" means a plant indigenous to a specific area of consideration. For the purposes of these guidelines, the term shall refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such

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plants that are suited to the ecology of the present or historic natural community(ies) of the project's vicinity.

- (hh) "new construction" means the construction of a new building or structure containing a landscape or other new land improvement, such as a park, playground, or greenbelt without an associated building.
- (ii) "overhead sprinkler irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).
- (jj) "overspray" means the irrigation water which is delivered beyond the target area.
- (kk) "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.
- (ll) "plant factor" or "plant water use factor" is a factor, when multiplied by ETo, estimates the amount of water needed by plants.
- (mm) "precipitation rate" means the rate of application of water measured in inches per hour.
- (nn) "project applicant" means the individual or entity submitting a landscape plan required under 16.16.030, in connection with a building permit application or design review from the local land use agency or requesting new, modified or increased water service from the water agency. A project applicant may be the property owner or his or her designee.
- (oo) "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.
- (pp) "recreational area" means areas dedicated to active play such as parks, playgrounds, sports fields, and golf courses where turf provides a playing surface.
- (qq) "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants.
- (rr) "rehabilitated landscape" means any project that is required to modify its existing landscape as a condition of a land use approval or a discretionary permit or any re-landscaping project that requires a permit, plan check, design review, or requires a new or expanded water service application.
- (ss) "runoff" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape onto other areas.
- (tt) "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.
- (uu) "sprinkler head" means a device which delivers water through a nozzle.

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- (vv) "station" means an area served by one valve or by a set of valves that operate simultaneously.
- (ww) "turf" means a ground cover surface of mowed grass that requires frequent watering during the growing season. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
- (xx) "valve" means a device used to control the flow of water in the irrigation system.
- (yy) "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).
- (zz) "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, and any subsequent revisions.

16.16.030 Applicability

The director shall be responsible for assuring that all applicants for new, increased, or modified water service shall comply with the standards set forth in this chapter wherever water service is provided by the City as a condition of receiving water service.

- (a) The provisions of this Chapter shall apply to all of the following landscape projects:
 - (1) New commercial, industrial, and public development projects requiring a building permit, land use approval/design review or requiring a new, expanded, or modified water service.
 - (2) Existing commercial, industrial, and public development that is required to rehabilitate or modify their landscape as part of a land use approval/design review process shall also be required to comply with the provisions of this Chapter in the relandscaped area.
 - (3) Developer-installed landscaping. New single and multiple family residential development projects resulting in three or more dwelling units with a total irrigated landscape area which is installed by the developer equal to or greater than 2,500 square feet.
 - (4) Single family and two-unit residences. New single-family and two-unit residential development projects on a parcel of land less than 10,000 square feet shall be required to meet only provision regarding turf limits listed in Section 16.16.070 (c) and spray irrigation setbacks listed in Section 16.16.070 (e). Such projects are encouraged to follow voluntary water efficient landscape guidelines/checklists.

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- (5) New single-family and two-unit residential development projects on a parcel of land equal to or greater than 10,000 square feet shall be required to meet all standards set forth below.
 - (6) New recreation areas. New parks, playgrounds, sports fields, and golf courses are subject to the all the provisions of this Chapter except the turf area limits set forth in Section 16.16.070 (c) (1).
- (b) The provisions of this Chapter shall not apply to:
- (1) Remodels/additions to existing one and two unit homes.
 - (2) Existing landscapes of less than one acre in size.
 - (3) Ecological restoration projects that do not require a permanent irrigation system.
 - (4) Community gardens.
 - (5) Registered local, state, or federal historical sites where landscaping establishes an historical landscape style, as determined by a public board or commission responsible for architectural review or historic preservation.
 - (6) Enclosed, private yards and patios in multi-family residential developments.
- (c) Pre-existing landscapes over one acre in size. Existing large landscapes, including existing cemeteries, shall be subject only to the provisions for existing landscapes listed in Section 16.16.110.

16.16.040 Landscape Plan Review and Approval Required

No person shall install landscaping for a project subject to this chapter without the review and approval required by this chapter.

- (a) Design Review. For projects requiring design review or a discretionary land use approval, the applicant shall submit a landscape concept plan. The landscape concept plan shall include general representation of the site features, existing and proposed buildings, proposed planting areas, and the proposed method and type of irrigation.
- (b) Building Permit/Plan Check. A complete landscape plan must be submitted and found to satisfy the requirements of this Chapter before the local agency can approve a building permit application, or the director can approve an application for water service and the installation of new water meter, or authorize a change in water service. The City shall notify the applicant in writing if plans are found to be incomplete or inconsistent with the standards and indicate where such additions or revisions are necessary.

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- (c) Plan Review Fee. landscape plan review fee set by resolution of the City Council shall accompany each such application to cover the City's cost to review the landscape plan.

16.16.050 Persons Qualified to Prepare Landscape Plans

Landscape plans for all projects, except a single family or two-unit residence, shall be prepared by, and bear the signature of, a certified irrigation designer, a certified landscape irrigation auditor, a licensed landscape architect, a licensed landscape contractor, a licensed professional engineer, or any other person authorized by the State to do this work.

16.16.060 Contents of Plans

Landscape plans shall consist of separate planting, irrigation, and grading plans, all drawn at the same size and scale, and shall accurately and clearly include the following information:

- (a) Project information
 - (1) Project applicant/contact person;
 - (2) Address;
 - (3) Parcel number(s);
 - (4) Total landscape area, in square feet;
 - (5) Source and type of water supply (potable/recycled/other alternative, including graywater), including number and size of service connections.

- (b) Planting Plan

Planting plans shall identify and locate the following:

- (1) New and existing trees, shrubs, ground covers, and turf areas within the developed landscape area;
- (2) Planting legend indicating all plant species by botanical name and common name, spacing, and quantities of each type of plant by container size;
- (3) Water use classification (high, moderate, low, or very low) for each plant material specified, according to WUCOLS;
- (4) Each hydrozone (including high, medium, and low water uses) delineated and labeled, including the square footage for each area;
- (5) Property lines, streets, and street names;

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- (6) Building locations, driveways, sidewalks, retaining walls, and other hardscape features;
- (7) Appropriate scale and north arrow;
- (8) Planting specifications and details.

(c) Irrigation Plan

Irrigation plans shall identify and locate the following:

- (1) Irrigation point of connection (POC) to water system;
- (2) Static water pressure at POC;
- (3) Location and size of water meter(s);
- (4) Backflow prevention devices as may be required the water supply agency;
- (5) Manual shut off valves;
- (6) Location, size, and type of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads and nozzles, riser protection equipment, soil moisture sensors, pressure regulator, drip and low volume irrigation equipment;
- (7) Flow rate (gallons per minute or gallons per hour), precipitation rate (inches per hour) and design operating pressure (psi) for each irrigation circuit;
- (8) Irrigation legend with the manufacturer name, model number, and general description for all specified equipment, separate symbols for all irrigation equipment with different spray patterns, spray radius, and precipitation rates;
- (9) Irrigation system specifications and details for assembly and installation;
- (10) Recommended irrigation schedule for each month, including number of irrigation days per week, number of start times (cycles) per day and minutes of run time per cycle required for each irrigation event designed to avoid runoff, and estimated amount of applied irrigation water expressed in gallons per month and gallons per year, for the established landscape;
- (11) The parameters used for programming the weather-based irrigation system controller schedule for the established landscape including: soil type, slope, plant type, and type of irrigation nozzle/emitter used for each circuit;
- (12) Calculation of landscape water budget;

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- (13) Stormwater management/rainwater collection features and facilities.
- (d) Grading Plan (not required when landscaped slopes on the site are less than 10%)
 - (1) Finish grades, contours, and spot elevations;
 - (2) Grading volume (cubic yards);
 - (3) Elevations of building floors, parking lots, and streets;
 - (4) Location and height of retaining walls;
 - (5) Drainage patterns and drainage control facilities.
- (e) Specifications.
 - (1) In addition to planting, irrigation, and grading plans, any written specifications prepared for a project that are applicable to the landscape improvements shall be submitted for review.

16.16.070 Landscape Water Conservation Standards

- (a) Dedicated Landscape Water Meter
 - (1) Separate water service meters shall be required for all new landscaping, except a single family or two-unit residence, which equals or exceeds 5,000 square feet in area, and for renovated landscape sites that result in expansion of the total landscaped area equal to or more than 5,000 square feet.
 - (2) For all new nonresidential landscapes not required to have a separate water service meter, a private irrigation sub-meter shall be installed between the point of connection on the domestic water service and first irrigation valve. The submeter shall register water use in cubic feet.
- (b) Landscape Water Budget
 - (1) The landscape water budget for new landscapes shall be no more than 70 percent of reference evapotranspiration per square foot of landscaped area. The landscape water budget shall be calculated using the equation below:
$$\text{Landscape Water Budget} = (0.7) (ET_o) (0.00083) (LA), \text{ where:}$$
$$\text{Water Budget} = \text{annual upper limit of irrigation water allowed (CCF/year)}$$

0.7 = ET adjustment factor

ET_o = Reference evapotranspiration (inches per year)

0.00083 = Conversion factor to CCF

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LA = Landscape area (square feet)

- (2) New landscapes that include a recreation area or are irrigated with recycled water are allowed an additional 30 percent of reference evapotranspiration per square foot for a total of 100 percent of reference evapotranspiration per square foot.
- (3) The estimated annual water use, calculated by adding the amount of water recommended in the irrigation schedule, or by another method approved by the water agency, shall not exceed the annual landscape water budget.
- (4) The landscape water budget assigned for a given irrigation account shall not be increased unless review of subsequent landscape plans has occurred and approval of said plans has been obtained by the land use or water agency.

(c) Turf Limits

- (1) The combined size of turf and areas devoted to high water use plants, decorative pools, fountains, water features and swimming pools shall be limited to no more than 25 percent of the total developed landscape area. This limit does not apply to recreation areas requiring large turf areas for their primary function. However, recreation areas shall be designed to limit turf in any portion of the landscaped area not essential for the operation of the recreational facility.
- (2) Except when required as a storm water best management practice, turf shall not be planted in the following conditions:
 - a) Planting areas less than 8 feet wide in any direction;
 - b) On slopes greater than 5 percent;
 - c) In street medians, traffic islands, planter strips, and parking lot islands.
- (3) Turf varieties shall be water-conserving species, such as tall and hard fescues.

(d) Landscape Design

- (1) Except for areas designated for turf or high water use plants, all plants shall be composed of very low to moderate water use plants, as identified in Water Use Classification of Landscape Species (WUCOLS Guide) or other species, including native plants that are well-adapted to the climate of the region, and require minimal water once established.

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- (2) Plants having similar water requirements shall be grouped together in distinct hydrozones, and where irrigation is required, the distinct hydrozones shall be irrigated with separate valves.
 - (3) Planting of trees and the protection and preservation of existing native species and natural areas is encouraged.
 - (4) Water in decorative pools and fountains must be recirculated.
- (e) Irrigation Design
- (1) All irrigation systems shall be designed to avoid runoff, over-spray, low-head drainage and other similar conditions where water flows off-site on to adjacent property, non-irrigated area, walks, roadways, or structures.
 - (2) Areas less than eight feet wide must be irrigated with subsurface or low volume irrigation.
 - (3) Point source irrigation is required where plant height maturity will affect the uniformity of an overhead system.
 - (4) All overhead spray nozzles shall have a precipitation rate of no more than one inch per hour.
 - (5) Overhead sprinkler systems shall not be permitted within 24 inches of any non-permeable surface, including driveways and sidewalks. The setback area may be planted or unplanted. Allowable irrigation within the setback may include drip, subsurface, or other low volume, non-spray irrigation technology.
 - (6) Plants that require different amounts of water shall be irrigated using separate irrigation circuits and valves.
 - (7) Trees shall be watered using separate irrigation circuits.
 - (8) Where available, recycled water shall be used to irrigate landscapes.
- (f) Irrigation Equipment
- (1) A pressure regulator shall be installed if pressure at the water meter exceeds 80 psi.
 - (2) Weather-based or other sensor-based, self-adjusting irrigation controllers shall be required, where feasible.
 - (3) Irrigation systems shall be equipped with rain-sensing devices to prevent irrigation during rainy weather.

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- (4) Sprinkler heads shall have matched precipitation rates within each control circuit valve and shall be selected for proper coverage and precipitation rate, thereby minimizing over spray and runoff.
 - (5) Anti-drain check valves shall be installed at strategic points to minimize or prevent low-head drainage.
 - (6) Swing joints or other riser protection components are required on all risers located in high traffic areas.
 - (7) The irrigation system shall provide for the installation of a manual shut-off valve installed as close as possible to the point of connection to minimize water loss in case of an emergency or routine repair. Additional manual shut off valves shall be installed as necessary.
- (g) Soil Management, Preparation, and Mulching
- (1) Soil shall be prepared for planting by ripping and incorporating an organic amendment at the rate of six cubic yards per 1000 square feet into the top six inches, or amended with organic material as recommended by landscape architect or soil laboratory report.
 - (2) All exposed soil surfaces of non-turf areas within the developed landscape area must be mulched with a minimum three-inch layer of organic material.
 - (3) A laboratory analysis and soil management report shall be completed and submitted for review on projects where significant mass grading is planned and the recommendations incorporated into the landscape plans.
- (h) Stormwater Management
- (1) Implementing storm water best management practices to minimize runoff and increase on-site retention and infiltration is encouraged.
- (i) Alternative Water Sources
- (1) Irrigating with alternative water sources such as recycled water, graywater, or rainwater is encouraged where available onsite and permitted.

16.16.080 Alternative to Turf Limitations

The project applicant, in lieu of the requirement that the portion of the landscape devoted to turf, high water use plants, water features, and swimming pools be limited to no more than 25 percent of the total landscape area, may elect to complete the water efficient landscape equations and worksheets contained in Appendix B of the State of California Model Water Efficient Landscape Ordinance. In such cases, selected plant materials and overall landscape design shall not cause the estimated total water use to exceed the landscape water budget.

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16.16.090 Final Inspection/Water Audit

The Director shall have the right to enter upon any premises to make an inspection at any time before, during, and after irrigation system and landscape installation for the purpose of enforcing this chapter.

- (a) Upon installation and completion of the landscape, the City shall make a final inspection or require a certified irrigation auditor to conduct a water audit to verify that the landscape improvements were completed in accordance with approved plans. The final inspection or water audit shall verify that:
 - (1) The installed irrigation system is in a leak-free condition.
 - (2) The installed irrigation system is functioning as designed, specified, and approved.
 - (3) The irrigation system does not cause water waste due to runoff, low head drainage, overspray or other similar condition where water flows onto adjacent property, non-irrigated areas structures, walkways, roadways or other paved areas.
 - (4) The person responsible for long-term landscape maintenance and irrigation management at the property has received the recommended irrigation schedule.
- (b) The project must pass inspection or audit before the building permit can be signed off and approved for occupancy.
- (c) Water audit required for large turf areas. Properties with turf areas over 5,000 square feet, upon completing the installation of the landscaping and irrigation system, shall be required to have an irrigation audit performed by a certified landscape irrigation auditor prior to the final field inspection.

16.16.100 Irrigation System Management and Maintenance

- (a) Maintenance. Landscape shall be maintained in good working condition and properly adjusted to ensure water efficiency. Any broken or malfunctioning equipment, including but not limited to main and lateral lines or control valves shall be repaired promptly with identical equipment to maintain the original design integrity.
- (b) Irrigation System Inspections. Irrigation system shall be inspected regularly to correct misaligned, clogged or broken heads, missing heads and risers, stuck valves, and leaks. The irrigation meter shall be read periodically to check consumption and detect any leakage.
- (c) Watering Schedule. Watering schedules shall be adjusted periodically to reflect seasonal variations in plant water requirements. Whenever possible, irrigation

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management shall incorporate the use of real-time, ETo data from the California Irrigation Management Information System (CIMIS) or similar weather-based irrigation scheduling system.

- (d) Irrigation Operation. Irrigation shall be scheduled between the hours of 10:00 p.m. and 10:00 a.m. when daily temperature and wind conditions are at a minimum.

16.16.110 Provision for Existing Landscaping Over One Acre in Size

The City will assign a landscape water budget to each existing landscape with a dedicated irrigation account over one acre in size based on 70 percent of reference evapotranspiration, or 100 percent of reference evapotranspiration for recreation areas. When evaluation of these properties shows that annual water use exceeds the landscape water budget, the customer will be required to have a certified irrigation auditor perform a water audit and make recommendations as necessary to reduce water consumption consistent with the landscape water budget.

16.16.120 Exceptions

The purpose of this Chapter is to make optimum use of the water resources available to the City water department service area and to manage peak season water demands. As technology changes and more information is available regarding plant materials, irrigation equipment and techniques, and maintenance techniques that enhance water conservation, the Director may allow the substitution of well-designed conservation alternatives or innovations which equally reduce water consumption and meet the intent of this chapter.

16.16.130 Administrative Enforcement

In addition to any other remedy provided by the Santa Cruz Municipal Code, any provision of this Chapter may be enforced by an administrative order issued pursuant to any one of the administrative processes set forth in Title 4 of the Santa Cruz Municipal Code. The Water Commission shall serve as the administrative-enforcement hearing officer for the purpose of considering appeals.

16.16.140 Limit of City Responsibility

The City of Santa Cruz has limited water resources that are vulnerable to shortage in drought conditions. Residential, commercial and irrigation accounts in the water department service area are therefore subject to water restrictions or mandatory rationing during a declared water shortage emergency. Compliance with this chapter does not guarantee the survival of landscape plants or the availability of water for landscape irrigation based on this chapter. Irrigation shall be scheduled according to any water shortage regulations or restrictions in effect.

SECTION 3: Severability. The provisions of this chapter are hereby declared to be severable and if any sentence, clause, section or part hereof is held to be unconstitutional, it is the intent of the City Council that such portion of such chapter be severable from the remainder, and that the remainder be given full force and effect.

ORDINANCE NO. 2010-11

SECTION 4: This ordinance shall be in full force and take effect thirty (30) days following its final adoption. Applications for building permits submitted prior to the effective date will be subject to landscape water conservation regulations in effect at that time."

PASSED FOR PUBLICATION this 25th day of May, 2010, by the following vote:

AYES: Councilmembers Lane, Beiers, Madrigal, Robinson; Mayor Rotkin.

NOES: None.

ABSENT: Councilmember Mathews, Vice Mayor Coonerty.

DISQUALIFIED: None.

APPROVED: M. E. Rotkin
Mayor

ATTEST: J. Brew
City Clerk

PASSED FOR FINAL ADOPTION this 8th day of June, 2010, by the following vote:

AYES: Councilmembers Lane, Mathews, Beiers, Robinson; Vice Mayor Coonerty; Mayor Rotkin.

NOES: None.

ABSENT: Councilmember Madrigal.

DISQUALIFIED: None.

APPROVED: M. E. Rotkin
Mayor

ATTEST: J. Brew
City Clerk

This is to certify that the above and foregoing document is the original of Ordinance No 2010-11 and that it has been published or posted in accordance with the Charter of the City of Santa Cruz.

J. Brew
City Clerk