CITY OF
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Planning Department
311 Vernon Street
Roseville, California 95678-2649

November 5, 2009

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

Subject: Compliance with Water Conservation in Landscaping Act of 2006 (AB 1881) – Notification of Adoption of Local Water Efficient Landscape Ordinance

Dear Mr. Eching:

As required by Assembly Bill 1881, this letter shall serve as notification to the Department of Water Resources that the City of Roseville has adopted a local water efficient landscape ordinance, effective January 1, 2010. The City of Roseville declares that its ordinance is at least as effective as the statewide model ordinance, and submits the following as evidence of its findings:

- The ordinance is applicable to all landscapes identified in the applicability section of the model ordinance.
- The ordinance requires the most efficient and appropriate irrigation equipment.
- The ordinance encourages the use of improved technology, and provides flexibility for consideration of future irrigation technology improvements.
- The ordinance requires irrigation scheduling to be based on reliable ETo data and/or soil moisture sensors.
- The ordinance establishes a Maximum Applied Water Allowance water budget based on an ETAF of 0.7 for both new and rehabilitated landscapes.
- The ordinance provides for water budgets that can support an average 0.5 plant factor palette without wasting or overusing water.
- The ordinance contains provisions to minimize overspray and runoff.
- The ordinance contains requirements for audit and maintenance.
- The ordinance requires submittal of a landscape documentation package consistent with the submittal requirements outlined in the model ordinance.
- The ordinance requires grouping of plants into hydrozones.
- The ordinance requires use of recycled water, where available, unless a waiver is granted consistent with the language provided in the model ordinance.
- The ordinance provides a minimum two-inch mulch/bark requirement.
- The ordinance requires soil analysis, reporting, and amendment.
- The ordinance identifies mechanisms to ensure compliance with the WELO.

Enclosed for your records is a copy of the City's water efficient landscape ordinance. If you have any questions, please do not hesitate to contact me in the Planning & Redevelopment Department at (916) 774-5276 or via email at misom@roseville.ca.us.

Sincerely,

Mike Isom, AICP
Senior Planner

Enclosure

Cc: Mike Shellito, Interim City Manager
Brita Bayless, City Attorney
Paul Richardson, Director of Planning & Redevelopment
Derek Whitehead, Director of Environmental Utilities

ORDINANCE NO. 4786

ORDINANCE OF THE COUNCIL OF THE CITY OF ROSEVILLE ADDING CHAPTER 19.67 TO TITLE 19 OF THE ROSEVILLE MUNICIPAL CODE REGARDING WATER EFFICIENT LANDSCAPING

THE CITY OF ROSEVILLE ORDAINS:

SECTION 1. Chapter 19.67 of Title 19 of the Roseville Municipal Code is hereby added to read as follows:

Chapter 19.67
WATER EFFICIENT LANDSCAPING

19.67.010 Purpose.

A. Intelligent design and water management can enable citizens of Roseville to enjoy a well landscaped community, while at the same time conserving resources. Skillful planting and irrigation design, appropriate use of plants, and intelligent landscape management, can ensure that excessive water demands are reduced and allow the community to be less vulnerable during periods of severe drought. Efficient design practices such as: irrigation systems that apply water at a usable rate within the root zone of the plants, automatic irrigation controllers that allow early morning watering when there is less heat and wind allowing more efficient irrigation, and properly maintained moisture sensors that override automatic irrigation when the soil is already moist or wet are all measures that can reduce water demands, yet at the same time provide sufficient moisture to maintain the City's climate-appropriate landscaping.

B. The purpose of these requirements is to comply with the Water Conservation in Landscaping Act of 2006, Government Code Sections 65591 et. seq, and to define the standards and procedures for the design, installation, and management of landscaping. This is intended to utilize available plant, water, land and human resources to the greatest benefit of Roseville residents. Water resources are a finite resource. Therefore, in times of water shortages, water cutbacks may be required, combined with limits to landscaping installation and water usage, as specified in the Roseville Municipal Code Chapter 14.09 (Water Conservation).

19.67.020 Authority and relationship to other documents.

A. Consistency with specific plans and other design guidelines. Landscape and irrigation plans shall be designed consistent with this Chapter and any adopted specific plans or other planning area design guidelines, if applicable. Where any inconsistencies arise between this Chapter and other adopted policy documents, the more restrictive requirement shall govern, the only exception being for the West Roseville Specific Plan Village Center. Due to its unique nature, the West Roseville Specific Plan Design Guidelines shall guide landscape design for the remaining undeveloped properties within the Village Center boundaries, as depicted in the West Roseville Specific Plan.

B. Water use consumption information for specific plant species. Should conflicts arise between the water use information contained in the Water Use Classification of Landscape Species publication, as defined in Section 19.67.040, and the Specific Plan or planting area design guidelines, the Water Use Classification of Landscape Species publication shall govern.

19.67.030 Applicability.

A. The provisions of this Chapter shall apply to all of the following landscape projects:

1. Public Agency and Non-Residential Projects. New construction and rehabilitated landscaping for public agency projects and private development projects.

2. Developer-Installed Landscaping Exceeding 2,500 Square Feet in Single-Family Residential Projects. New construction and rehabilitated landscaping which is developer-installed in single-family projects with a landscape area equal to or greater than 2,500 square feet requiring a building permit, improvement plan approval, or design review.

3. Developer-Installed Landscaping Less than 2,500 Square Feet in Single-Family Residential Projects. New construction and rehabilitated landscaping which is developer-installed in single-family projects with a landscape area less than 2,500 square feet shall be required to comply only with the following:

   a. Turf shall not comprise greater than fifty percent (50%) of the front yard planting area of developer-installed single-family landscaping.

   b. The irrigation system shall be operated by an automatic controller. At a minimum, each controller shall have a 7-day calendar, three cycle/day capacity, dual programs, adjustments of watering times down to two (2) minutes, and rain switch.

   c. A typical four (4) season irrigation schedule shall be developed and supplied to the owner. Instructions for establishment of landscaping shall be included. The schedule shall be physically attached in a prominent location adjacent to the irrigation controller.

4. Multi-family Residential Projects. All new construction and rehabilitated landscaping.

5. Homeowner-Provided Landscaping. New construction or rehabilitated landscaping which are homeowner-installed and/or homeowner-hired in single-family residential projects with a total project landscape area equal to or greater than 5,000 square feet requiring a building permit, improvement plan approval, or design review.

6. Existing Landscaping. Landscaping constructed prior to the effective date of this Chapter and not rehabilitated shall only be required to comply with the requirements contained in Section 19.67.130.

7. Cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries shall only be required to comply with the requirements contained in Sections 19.67.050(B)(2), 19.67.070, and 19.67.080. Existing cemeteries shall comply with the requirements contained in Section 19.67.130.

8. Homeowners Associations and Common Interest Developments. The architectural guidelines (i.e., CC&Rs) of a common interest development, which may include community apartment projects, condominiums, planned developments, stock cooperatives, or single family subdivisions governed by a Homeowners Association shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group. Further, said guidelines shall not prohibit the removal of turf, nor restrict or prohibit the reduction of turf in lieu of more water efficient alternatives (Civil Code Section 1353.8).

B. The provisions of this Chapter shall 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.

19.67.040 Definitions.

For the purposes of this Chapter, the following definitions shall apply:

"Applied Water" means the portion of water supplied by the irrigation system to the landscape.

"Backflow Prevention Device" means a safety device used to prevent pollution or contamination of the City water supply due to the reverse flow of water from the irrigation system.

"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 system is off.

"Conversion Factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year.

"Certificate of Completion" means the document required under Section 19.67.060.

"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 United States Environmental Protection Agency WaterSense irrigation auditor certification program, licensed landscape architect, and Irrigation Association Certified Landscape Irrigation Auditor program.

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

"Common Interest Developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1353.8

"Controller" means an automatic timing device used to remotely control valves or heads to operate an irrigation system. A weather-based controller is a controller that utilizes evapotranspiration or weather data to make adjustments to irrigation schedules. A self-adjusting irrigation controller is a controller that uses on-site sensor data (e.g., soil moisture) to adjust irrigation schedules.

"Drip Irrigation" means any low volume irrigation system utilizing emission devices with a flow rate equal to or less than two (2) gallons per hour (including micro-spray systems).

"Ecological Restoration Project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

"Effective Precipitation or Usable Rainfall (EPPT)" means the portion of total precipitation that is used by the plants.

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

"Environmental Utilities Department" means the Department within the City of Roseville that is responsible for providing utility service with the City. The Roseville water utility is a division within the Department responsible for providing retail water service.

"Established Landscape" means the point at which plants in the landscape have developed significant roots growth to support themselves. Typically, most plants are established after one (1) or two (2) years of growth.

"Establishment Period of the Plants" means the first year after installing the plant in the landscape, or the first two (2) years if irrigation will be terminated after establishment.

"Estimated Total Water Use (ETWU)" means the annual total water used for the landscape as described in Section 19.67.050(B)(2).

"Evapotranspiration (ET)" means the loss of water to the atmosphere by the combined processes of evaporation and transpiration.

"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 ET Adjustment Factor, the average irrigation efficiency is 0.71. Therefore, the ET Adjustment Factor (0.7) = (0.5/0.71). ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing, non-rehabilitated landscaping is 0.8.

"Evapotranspiration (ET) Rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

"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.

"Hardscapes" means any durable surface material (pervious and non-pervious).

"Homeowner-Provided Landscaping" means landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired by a homeowner.

"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 (i.e., inches per hour).

"Invasive Plant Species" means the species of plants that have a tendency to colonize open spaces, riparian corridors, and other sensitive habitats.

"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 run off that causes overland flow, and preparation of an irrigation schedule.

"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. The minimum average irrigation efficiency for purposes of this Chapter is 0.71.

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

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

"Landscape Package" means the documents required under Section 19.67.050.

"Landscaped Area (LA)" means all of 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 nondevelopment (e.g., open spaces and existing native vegetation).

"Landscape Architect" means a person who holds a license to practice landscape architecture in the state of California (Business & Professions Code Section 5615).

"Landscape Contractor" means a person licensed possessing a valid C-27 license by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

"Landscape Project" means the total area of landscape in a project as defined in "landscape area," for the purposes of this Chapter, meeting the requirements under Section 19.67.030.

"Lateral Line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve. This pipeline is typically downstream of the zone control valve and non-pressurized when irrigation is not occurring.

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

"Main Line" means the pressurized pipeline that delivers water from the water source to the valve or outlet. This pipeline is typically pressurized at all times.

"Maximum Applied Water Allowance (MAWA)" means the upper limit of annual applied water for the established landscaped area as specified in Section 19.67.050(B)(2). MAWA is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscaped 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.

"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.

"Mulch" means any organic material such as leaves, bark, straw or other 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.

"New Construction" means a new building with a landscape or other new landscape.

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

"Overhead Sprinkler Irrigation Systems" means systems that deliver water through the air (e.g., spray heads and rotors, etc).

"Overspray" means the irrigation water which is delivered beyond the target area.

"Permit" means any authorizing document issued by the City of Roseville for new construction or rehabilitated landscaping.

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

"Plant Factor or Plant Water Use Factor" means a factor, when multiplied by the ETo, estimates the amount of water needed by plants. For purposes of this Chapter, 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 Chapter are derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species."

"Precipitation Rate" means the rate of application of water measured in inches per hour.

"Project Applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 19.67.050 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 or Rain Sensing Shutoff Device" means a component which automatically suspends an irrigation event when it rains.

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

"Recreational Area" means areas dedicated to active play such as parks, sports fields and golf courses where turf provides a playing surface.

"Recycled Water, Reclaimed Water, or Treated Sewage Effluent Water" means treated or recycled wastewater of a quality suitable for non-potable uses such as landscape irrigation. This water is not intended for human consumption.

"Reference Evapotranspiration (ETo)" means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month, or year as represented below, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool season turf that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated. Refer to Section 19.67.050(B)(2)(b) for City of Roseville ETo.

"Rehabilitated Landscaping" means any re-landscaping project that requires a building permit, improvement plan approval, or design review and meets the requirements of Section 19.67.030.

"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 or too great a volume (application rate exceeds infiltration rate) or when there is a slope.

"Slope" means the steepness, incline, gradient, or grade of a straight line. A higher slope value indicates a steeper incline.

"Soil Moisture Sensing Device or Soil Moisture Sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

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

"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 community playing surface.

"Sprinkler Head" means a device which delivers overhead watering through a spray nozzle.

"Static Water Pressure" means the pipeline or municipal water supply pressure when water is not flowing.

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

"Stormwater Quality Design Manual" means the most recent version of the design manual for the Sacramento and South Placer regions which sets forth the design criteria and operation and maintenance requirements for stormwater control measures.

"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.

"Temporarily Irrigated Areas" means either: (1) Landscaping which is reliant on irrigation for a temporary duration of time to allow plant root establishment; or (2) areas such as unfinished building pads, or other areas approved for future development, in which landscaping is planted on an interim basis.

"Turf" means a groundcover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are common cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are common warmseason grasses.

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

"Water Conserving Plant Species" means a plant species identified as having a low plant water use factor.

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

"Watering Window" means the time of day irrigation is allowed.

"WUCOLS" means 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.

19.67.050 Submittal requirements.

A. Landscape Package submittal required. Prior to issuance of a building permit or improvement plans, the project applicant shall submit a Landscape Package to the City for review and approval. The Landscape Package shall contain the information required by Section 19.67.050(B), and shall be incorporated into the improvement plan and/or landscape plan set in a form determined acceptable to the Planning Director.

B. Elements of the Landscape Package. The Landscape Package shall include the following six (6) elements, which shall be incorporated into the landscape plan set in a form determined acceptable to the Planning Director:

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 the identity of 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 the following statement: "I agree to comply with the requirements of the Water Efficient Landscaping Ordinance and submit a complete Landscape Documentation Package."

2. Water Efficient Landscape Worksheet
   a. Hydrozone Information Table
   b. Water Budget Calculations for Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU). For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the following ETo values:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETO
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

i. Water Budget Calculations shall adhere to the following requirements:
   (1) The plant factor used shall be obtained from the most recent Water Use Classification of Landscape Species publication. The plant factors ranges shall be calculated as follows:
      a. 0 to 0.3 for low water use plants;
      b. 0.4 to 0.6 for moderate water use plants; and
      c. 0.7 to 1.0 for high water use plants.
   (2) All water features shall be included in the high water use hydrozone.
   (3) Temporarily irrigated areas shall be designed as low water use hydrozones.
   (4) Special Landscape Areas shall be clearly identified. Water use for Special Landscape Areas shall be calculated with an ETAF not to exceed 1.0.

ii. The landscape project's Maximum Applied Water Allowance (MAWA) shall be calculated as follows:
   (1) MAWA = (ETo)(0.62)[0.7 x LA + 0.3 x SLA], where:
      a. MAWA = Maximum Applied Water Allowance (gallons per year)
      b. ETo = Reference Evapotranspiration (inches per year) (as provided in Section 19.67.050.B.2.b)
      c. 0.7 = ET Adjustment Factor
      d. LA = Landscaped Area includes Special Landscape Area (square feet)
      e. 0.62 = Conversion factor (to gallons per square foot)
      f. SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
      g. 0.3 = The additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

3. Soil Management Report. In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant or designee, as follows:

a. Submit soil sample(s) to a laboratory for analysis and recommendations.
   i. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants; and
   ii. 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 for appropriate amendment.

b. The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape and irrigation design plans to make any necessary adjustments.

c. Any soil management or amendment recommendations shall be included with the design plans for City review.

d. Upon completion of construction and prior to issuance of an occupancy permit, the project applicant or designee shall submit documentation verifying implementation of soil analysis report recommendations within the landscaped area to the City with the Certificate of Completion.

4. Landscape Plan. Landscape plans, including plant selection, shall be designed consistent with the applicable Specific Plan or special planning area design guidelines. At a minimum, landscape design plans shall address the following:

a. Plant materials. The Estimated Total Water Use for plants selected for the landscaped area shall not exceed the Maximum Applied Water Allowance. The landscape plan shall identify landscape materials, trees, shrubs, groundcover, turf, etc. Planting symbols shall be clearly drawn and plants shall be labeled by botanical name, common name, container size, spacing, and quantities or each group of plants indicated. Planting areas dedicated permanently and solely to edible plants should be clearly delineated.

b. Plant selection. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.

c. Hydrozone information. Each hydrozone shall contain plant materials with similar water use needs. Hydrozones shall be designated as low, moderate, high water, or mixed water use and shall be labeled by number, letter, or other method. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation. Areas irrigated with recycled water should be clearly delineated. For hydrozones with plants of mixed water use, refer to Section 19.67.050(B)(5)(b).

d. Water Features. Water features may be permitted, subject to design review, and the provisions of Chapter 14.09 (Water Conservation).
   i. All water features shall incorporate re-circulating water systems.

ii. The surface area of a water feature shall be indicated on the plans and included in the high water use hydrozone area of the water budget calculation.

e. Limitations on turf.

i. Turf shall not be permitted on slopes greater than 4:1.

ii. Turf shall not comprise greater than fifty percent (50%) of the front yard planting area of developer-installed single-family landscaping.

iii. With the exception of Special Landscape Areas, turf shall not comprise greater than fifty percent (50%) of non-residential landscaped area.

iv. Turf shall not be permitted within the Protected Zone Radius of any native oak tree, as defined in Chapter 19.66.

f. Mulch and Amendments.

i. 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 not advisable. The plans shall identify the type of mulch and application depth. Shredded (i.e., "gorilla") mulch is not acceptable.

ii. Stabilizing mulching products shall be used on slopes greater than 3:1.

iii. Required soil amendments and quantities shall be clearly denoted on the plans. Soil amendments shall be incorporated based on the recommendations of the soil report (see Section 19.67.050(B)(3).

g. Other design considerations. The landscape design plan, at a minimum, shall:

i. Delineate property lines, utilities and utility easements, streets, driveways, walkways, and other paved areas or hardscapes (pervious or impervious);

ii. Identify buildings and structures including pad elevation(s) if applicable;

iii. Identify natural features to remain, including rock outcroppings, existing oak and ornamental trees, shrubs, etc.;

iv. Identify recreational or other special landscape areas, as defined in Section 19.67.040;

v. Identify the location and installation details of any applicable stormwater best management practices required by the City's Stormwater Quality Design Manual.

vi. Identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.).

h. Verification. The landscape plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscaping Ordinance and applied such criteria for the efficient use of water in the landscape design plan," which shall be signed by a licensed landscape architect, licensed landscape contractor or any other person authorized to design a landscape plan pursuant to Sections 5500.1, 5615, 5641 et seq., 6701, and 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 Agriculture Code.

5. Irrigation Plan. For the efficient use of water, an automated 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.

a. System requirements

i. Dedicated landscape water meters are required for all non-residential landscape areas.

ii. Weather-based irrigation controllers or soil moisture-based controllers or other self adjusting irrigation controllers shall be required for irrigation scheduling in all irrigation systems.

iii. 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.

(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, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.

(4) 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.

(5) Backflow prevention devices shall be provided as required by the Environmental Utilities Department to protect the water supply from contamination by the irrigation system.

(6) 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.

(7) The design of the irrigation system shall conform to the hydrozones delineated on the landscape design plan.

(8) The irrigation system shall be designed and installed to meet irrigation efficiency criteria as described in Section 19.67.050(B)(2) regarding the Maximum Applied Water Allowance.

(9) Low volume irrigation shall be used in mulched planting areas to maximize water infiltration into the root zone.

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

(11) Sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

(12) Swing joints or other riser-protection components shall be provided on all risers subject to damage that are adjacent to high traffic areas.

(13) Check valves or anti-drain valves are required for all irrigation systems.

(14) 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 technology (including but not limited to multi-system, multi-trajectory rotator sprinklers).

(15) 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 volume technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:

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

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

c. The irrigation designer specifies an alternative design or technology (including but not limited to multi-stream, multi-trajectory rotator sprinklers), as part of the Landscape Package, and clearly demonstrates strict adherence to irrigation system design criteria in Section 19.67.050(B)(5). Prevention of overspray and runoff must be demonstrated and confirmed during the irrigation audit.

(16) Slopes greater than 4:1 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 Package, and clearly demonstrates no runoff or erosion will occur. Prevention of

runoff and erosion must be demonstrated and confirmed during the irrigation audit.

(17) Irrigation design plans that incorporate use of recycled water shall comply with the requirements of the City's Design Standards for On-Site Recycled Water Systems.

b. Hydrozone

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

ii Sprinkler heads and other emission devices shall be selected based on its appropriateness for the plant type within that hydrozone.

iii. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

iv. Individual hydrozones that mix plants of moderate and low water use or moderate and high water use may be allowed if:

(1) The 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.

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

vi The areas irrigated by each valve shall be designated, and each value shall be assigned a number corresponding to the hydrozones identified on the landscape plan. The valve number(s) shall be listed in the Hydrozone Information Table on the plans.

c. The irrigation plan, at a minimum, shall identify:

i. Location and size of water meters for landscape;

ii. 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;

iii. Static water pressure at the point of connection to the public water supply;

iv. Flow rate (gallons per minute), application rate (inches per hour) and design operating pressure (pressure per square inch) for each station;

v. Recycled water irrigation systems as specified in Section 19.67.100.

d. The irrigation plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscaping Ordinance and applied such criteria for the efficient use of water in the irrigation plan," which shall be signed by a licensed landscape architect, certified irrigation designer, irrigation consultant, licensed landscape contractor or any other person authorized to design an irrigation system pursuant to Sections 5500.1, 5615, 5641 et seq, 6701, and 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 Agriculture Code.

6. Grading and Drainage Plan. For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff and water waste. A grading and drainage plan shall be submitted as part of the Landscape Documentation Package. The grading and drainage plan prepared by a civil engineer and submitted for improvement plan review in association with a development project may also satisfy this requirement.
   a. In addition to other City grading design standards, the grading plan shall include the following information:
      i. Height of graded slopes;
      ii. Drainage patterns;
      iii. Proposed underground and in-ground drainage improvements; Pad elevations; and
      iv. Finish grade.
   b. Stormwater retention or treatment improvements, if applicable.
   c. Verification. The grading and drainage plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscaping Ordinance and applied such criteria for the efficient use of water in the grading and drainage plan," which shall be signed by a licensed professional as required by law.

C. Approval required. Upon approval of the Landscape Package by the City, and provided all other applicable City requirements are met, the project applicant shall:
1. Receive from the City a permit or approval and record the date of the permit or approval in the Certificate of Completion; and
2. Submit a copy of the approved Landscape Package along with the record drawings, and any other information to the property owner or his/her designee.

19.67.060 Landscape certificate of completion.

A. Prior to issuance of a certificate of occupancy, a signed landscape certificate of completion shall be submitted to the Planning Department on a form prescribed by the Planning Director that shall include the following information and documentation:
1. Date, project name, project address, applicant name, telephone, and mailing address;
2. Property owner name, telephone, and mailing address;
3. 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 package;
4. Irrigation audit report (see Section 19.67.080(A)(1));
5. Scheduling parameters used to set the irrigation controller (see Section 19.67.150);
6. Landscape and irrigation maintenance schedule (see Section 19.67.070(A)); and
7. Soil analysis report, if not initially submitted with the landscape package, and documentation verifying implementation of soil management report recommendations.

B. The project applicant shall ensure that copies of the approved landscape certificate of completion are submitted to the property owner or his/her designee.

C. Following receipt and review, the City shall either approve or deny the landscape certificate of completion. If the landscape certificate of completion is denied, the City shall not be obligated to issue an occupancy permit and will provide information to the project applicant regarding necessary corrections, appeal, or other assistance.

19.67.070 Irrigation scheduling and maintenance.

A. Irrigation Scheduling. 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 utilize automatic irrigation systems and evapotranspiration data.
2. Overhead irrigation using potable water shall be scheduled between 8:00 p.m. and 10:00 a.m. unless it is demonstrated that weather conditions are unfavorable or would result in detriment to plant health. Operation of the irrigation system outside the normal watering window is permitted for auditing and system maintenance.
3. The irrigation schedule shall factor 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.
4. Using an appropriate controller, an annual irrigation program with monthly irrigation schedules shall be developed and submitted to the City for each of the following:
   a. The plant establishment period;
   b. The established landscape; and
   c. Temporarily irrigated areas.
5. Irrigation schedules shall consider the following:
   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 and shade factor setting;
   j. Irrigation uniformity or efficiency setting.

B. Landscape and Irrigation Maintenance

1. Landscaping shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the landscape certificate of completion.
2. A regular maintenance schedule shall include, but is not limited to: routine inspection; adjustment and repair of the irrigation system and its components; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscaped areas and removing any obstruction to emission devices.

3. Irrigation equipment shall be repaired or replaced with the originally installed components or equivalents.

19.67.080 Irrigation water use analysis and monitoring.

A. For new construction and rehabilitated landscape projects installed after January 1, 2010, as described in Section 19.67.030:

1. The project applicant shall submit an irrigation audit report with the landscape certificate of completion to the City that must include, at a minimum: inspection, system test (including distribution uniformity and verification of minimal overspray or run off that does not cause overland flow), system tune-up, and an irrigation schedule. Required landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.
2. The City shall administer programs that may include, but not be limited to, irrigation water use analysis, mandatory irrigation audits conducted by property owners at owners' expense, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

19.67.090 Irrigation efficiency.

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.

19.67.100 Use of recycled water for irrigation.

A. In addition to the requirements contained in this Chapter, landscape and irrigation plans for sites utilizing recycled water shall be designed consistent with the requirements of Chapter 14.17 (Recycled Water Service), and the City's Rules and Regulations for Use of Recycled Water.

B. Irrigation systems shall be designed and constructed to allow the use of recycled water where such recycled water is available or may become available in the future.

C. Irrigation systems shall use recycled water, if available, unless a written exemption has been granted by the City stating that recycled water meeting all public health codes and standards is not available and will not be available for the foreseeable future.

D. Landscaping using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for Special Landscape Areas shall not exceed 1.0.

19.67.110 Stormwater management.

Stormwater management best practices incorporated into the landscape shall comply with the requirements of the City's Stormwater Quality Design Manual.

19.67.120 Public education.

A. The City shall make available information regarding the design, installation, management, and maintenance of water efficient landscaping in single family residential homes. Said information may be provided in the form of print, electronic, or similar media deemed practical by the City.

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

1. Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as hydrozones, irrigation equipment and others which that contribute to the overall water efficient theme.
2. Information shall be provided regarding designing, installing, managing, and maintaining water efficient landscaping.

19.67.130 Provisions for existing landscaping installed prior to January 1, 2010.

A. Irrigation Water Use Analysis and Monitoring

1. For all existing landscaping installed prior to January 1, 2010 with a dedicated or mixed-use water meter that is one acre or more, including golf courses, green belts, common areas, multifamily housing, schools, businesses, parks, cemeteries and publicly owned landscaping, the City shall offer programs that may include, but not be limited to, irrigation water use analyses, and irrigation surveys to verify that landscape water use does not exceed the Maximum Applied Water Allowance for existing landscaping. The City may require mandatory irrigation audits conducted at property owners' expense to demonstrate that existing landscaping comply with the Maximum Applied Water Allowance.
2. For all existing landscaping over one (1) acre in size that do not have a meter, the City shall offer programs that may include irrigation surveys and irrigation audits that verify proper operation of the irrigation system and prevent water waste.

B. Maximum Applied Water Allowance for existing landscaping shall be calculated as: MAWA = (0.8)(ETo)(LA)(0.62).

C. Required landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

D. Effective Precipitation. The City may consider Effective Precipitation (not to exceed 25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance for landscaping installed before January 1, 2010: MAWA= (ETo-Eppt) (0.62) (0.7 x LA + 0.3 x (SLA).

19.67.140 Enforcement.

A. Enforcement.

1. It shall be the duty of the Planning Director to enforce the provisions of this Chapter. All departments, officials and public employees vested with the duty or authority to issue permits or licenses shall not issue a permit or license for uses, buildings or purposes in conflict with the provisions of this Chapter and any such permit or license issued in conflict with the provisions of this Chapter shall be null and void. The Planning Director may delegate enforcement responsibilities to other City employees.
2. Any landscaping that is installed, constructed, altered, enlarged, converted, moved, or maintained contrary to the provisions of this Chapter, or failure to comply with any of the conditions of a permit or variance granted under this

Chapter is declared to be unlawful. The City Attorney may initiate an action or proceeding to enforce the provisions of this Chapter, as appropriate.

19.67.150 Penalties.

Any property owner, person, firm, or corporation, whether as principal, agent, employee or otherwise, violating any provision of this Chapter shall be guilty of a misdemeanor, and upon conviction thereof shall be punishable by a fine of not more than $500.00 or by imprisonment in the County Jail for a term not exceeding six (6) months, or by both. The City Attorney in his or her discretion may reduce any violation of this Chapter to an infraction, punishable by a fine of not more than $250.00. Any property owner, person, firm, or corporation shall be deemed guilty of a separate offense for each and every day during any portion of which any violation of this Chapter is committed, continued or permitted by such person, firm or corporation, and shall be deemed guilty of a separate offense for each and every day during any portion of which any violation, of this Chapter is committed, continued or permitted by such person, firm or corporation, and shall be punishable as provided herein. Penalties under the administrative enforcement provisions of Chapter 2.52 of this code may be imposed in lieu of, but not in addition to, penalties imposed by the court for any single violation.

SECTION 2. The City Council finds that this ordinance is at least as effective as the California Department of Water Resources' Model Water Efficient Landscape Ordinance.

SECTION 3. This ordinance shall be effective at the expiration of thirty (30) days from the date of adoption.

SECTION 4. The City Clerk is hereby directed to cause this ordinance to be published in full at least once within fourteen (14) days after it is adopted in a newspaper of general circulation in the City, or shall within fourteen (14) days after its adoption cause this ordinance to be posted in full in at least three (3) public places in the City and enter in the Ordinance Book a certificate stating the time and place of said publication by posting.

PASSED AND ADOPTED by the Council of the City of Roseville this 4th day of November, 20 09 by the following vote on roll call:

AYES COUNCILMEMBERS: Allard, Garcia, Roccucci, Garbolino

NOES COUNCILMEMBERS: None

ABSENT COUNCILMEMBERS: Gray

MAYOR

ATTEST:

for City Clerk