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I. PURPOSE

The purpose of this policy is to ensure efficient landscape water use by establishing standards for landscape design appropriate to Santa Rosa's climate, soils, water resources, land use and resource planning.

II. APPLICABILITY

1. This policy applies to all new single-family residential projects that are served by a City meter on or after January 1, 2007.
2. This policy does not apply to landscaping in the backyard with the exception of developer installed backyard landscapes (i.e. model homes, etc.). However, projects installing backyard landscapes are encouraged to use this policy as a guideline.
3. This policy does not apply to office, commercial, industrial and institutional landscaping; park and greenbelt landscaping; developer-installed landscaping in multiple-family residential and in common areas of single-family residential projects, since they are subject to City Resolution No. 21142 (Water Efficient Landscape Policy).
4. This policy does not apply to any landscape irrigated with private well water. However, these projects are encouraged to use this policy as a guideline.

III. DEFINITIONS

For purposes of this Policy, the following definitions apply:

1. Distribution Uniformity - A measurement of how evenly water is being applied.
2. Flow sensor - A device that has the ability to notify the user when unexpected water is flowing or leaking through the irrigation system.
3. Head-to-head coverage - When the spray from a sprinkler reaches the adjacent sprinkler(s) and vice-versa.
4. High-water-use plant - Turf, annuals, container plantings, and other plants recognized as high-water-use by the *Water Use Classification of Landscape Species* document (<http://www.owue.water.ca.gov/docs/wucols00.pdf>), as it currently exists or maybe amended in the future. For purposes of this policy, pools, fountains and other water features are considered to be high-water-use

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plants and the square footage of these are to be included in the high-water-use square footage total in Appendix A.

5. Hydrozone - A grouping of plants with similar water needs.
6. Invasive plants - A plant that has or is likely to spread into native flora or managed plant systems, develops a self-sustaining population, and becomes dominant or disruptive to those systems. For a complete list of invasive plants visit the California Invasive Plant Council website (www.cal-ipc.org), as it currently exists or maybe amended in the future.
7. Landscape area - The parcel area less building footprints, driveways, paved walks and patios, parking areas and undeveloped open space or designated natural areas. A project's landscaped area includes all planted areas and permeable hardscape areas (i.e. decomposed granite, etc).
8. Low head drainage - Water that escapes from the low irrigation heads after a valve has turned off.
9. Low-water-use-plant - "Mediterranean Region" and native trees, shrubs and groundcovers (such as rosemary), juniper, most native oaks, and other plants recognized as low-water-use by the Water Use Classification of Landscape Species document (<http://www.owue.water.ca.gov/docs/wucols00.pdf>), as it currently exists or maybe amended in the future.
10. Matched precipitation rate - All emission devices on a given irrigation valve apply water at the same rate.
11. Microclimate - A section of a landscaped site with unique climatic conditions that affect the amount of water plants use within the area. Examples of landscape microclimates include: courtyards, tree / building overhang areas, median islands, Northern vs. Southern exposures, etc.
12. Moderate-water-use-plant - Many ornamental trees, shrubs, and groundcovers, most fruit bearing trees, roses, and other plants recognized as moderate-water-use by the Water Use Classification of Landscape Species document (<http://www.owue.water.ca.gov/docs/wucols00.pdf>), as it currently exists or maybe amended in the future.
13. Overspray - Water from an overhead irrigation system that lands outside the desired planting area, especially water which wets adjacent hard surfaces (e.g. sidewalks, patios, streets).

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14. Permeable landscape - An area that is landscaped with material that meets the classification of a porous mulch or a hardscape material that allows water to flow through it to the soil surface.
15. Porous mulch - A loose material which is applied to the soil surface to reduce evaporation and retard weed growth. Examples of porous mulches include: wood chips (bark), decomposed granite, straw, and compost.
16. Porous landscape fabric - A material that allows water to flow through it to the soil surface.
17. Rain shut-off device - A device which automatically prevents the irrigation system from activating when a measurable amount of rain occurs.
18. Runoff - Water which is not absorbed by the soil to which it is applied and runs off onto other areas. Runoff usually occurs when water is applied at a rate greater than the infiltration rate of the soil, and is especially problematic on slopes and on heavy clay soils.
19. SMART irrigation controller - A device that will monitor and use information about environmental conditions (e.g. soil moisture, rain, wind, evapotranspiration, plant type, etc.) to decide when and how much to irrigate.

IV. POLICY

A. Design Standards

1. Plant Selection, Water Use Limitation, and Mulch

- a. The estimated landscape water use, as determined by plant type and square footages installed, must not exceed the peak month water use calculation as determined using the worksheet attached as Appendix A.
- b. Plants having similar water use shall be grouped together in distinct hydrozones.
- c. Invasive plants shall not be installed in the landscape.
- d. A minimum of a three inch layer of porous mulch shall be applied to all exposed soil surfaces of non-turf areas within the landscaped area. Non-porous material, such as plastic sheeting, shall not be placed under the mulch; porous landscape fabric is permitted.

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2. Irrigation

- a. The irrigation system shall be designed to maximize the distribution uniformity (e.g. head-to-head coverage, emission devices shall have matched precipitation rates within a valve, proper irrigation methods shall be used so that plant material does not affect spray patterns, and irrigation water is only applied to the intended plant material and does not run off or overspray onto adjacent pavement, sidewalks, structures or other non-landscaped areas).
- b. All planted landscaped areas shall be irrigated with automatic controllers with repeat start-time and multiple program potential.
- c. Separate irrigation valves shall be used for different plant types, irrigation methods, solar exposures, microclimates, slopes (e.g. low precipitation rate heads), and soil types.
- d. Pressure regulation shall be installed so that all components of the irrigation system operate at the manufacturer’s recommended optimal pressure.
- e. Point application irrigation methods (e.g. drip, bubbler, etc.) shall be used in landscaped areas less than 5 feet wide.
- f. Rain shut-off devices shall be installed on each irrigation controller.
- g. Check valves shall be installed as needed to prevent low head drainage.

B. Design Recommendations

- a. Flow sensors may be installed to help detect and eliminate leaks.
- b. Freeze sensors may be used to prevent the irrigation system from activating when the temperature drops below a preset point.
- c. Sub-surface drip may be installed to help reduce evaporative water loss and overspray in irregular shaped landscapes.
- d. Drip systems constructed with rigid or flexible PVC pipe may be installed to increase system longevity, reduce maintenance, and lessen the leak potential.
- e. Advanced irrigation controllers may be installed to allow for more efficient water management. Examples of these controllers include: irrigation controllers with a water budget feature and SMART irrigation controllers that automatically adjust runtimes based on weather and/or soil moisture.

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C. Documentation for Compliance

The following documentation is to be presented to the City and is required for compliance with this policy.

STEP 1: Building Permit/Plan Check

The following shall be submitted with a building permit application:

- A. A scaled landscape plan that accurately and clearly identifies and depicts:
 - New and existing trees, shrubs, groundcovers, turf, and any other planting areas.
 - Property lines, new and existing building footprints, streets, driveways, sidewalks, other hardscape features, pools, fountains, and water features.
- B. An irrigation design plan that will meet the irrigation design standards of this policy.
- C. Where slopes exceed 10%, a grading plan drawn at the same scale as the planting plan that accurately and clearly identifies finished grades and spot elevations where contours exist within landscaped areas.
- D. The Peak Month Water Use Calculation worksheet (Appendix A).
- E. The Certificate of Conformance (Appendix B), completed by the design professional or applicant, which substantiates compliance with all requirements of this policy.

STEP 2: Final Inspection

Upon installation and completion of the landscape a final inspection will be performed to verify policy compliance. The Water Conservation Program requires advance notice for all inspections. Inspections can be requested for either morning or afternoon during regular business hours. Specific times of the day cannot be scheduled. Failure to meet the requirements of this policy will necessitate correction of all non-compliance issues prior to the issuance of the certificate of occupancy.

D. Appeal Process

This Policy is designed to help Utilities customers effectively manage their landscape water use and to encourage customers to implement landscape water conservation measures that go above and beyond the standards outlined in this policy. The applicant or any affected person may appeal the final decision of staff regarding plan check or final inspection to the Director of Utilities, or a final decision of the Director of Utilities to the Board of Public Utilities by filing a

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written notice of appeal within ten City working days of the date of the decision. The decision of the Board of Public Utilities shall be final and may not be appealed to the City Council. An appeal regarding plan check must be submitted prior to the installation of the landscape.

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E. Appendix A

Peak Month Water Use

**Single Family Residential Landscape Policy
Landscape Square Footage Information**

The following calculations will help you determine your site specific water budget and establish a plant type mix that will allow you to meet your water budget.

A.) **Lot Size** What is the size of your lot?

B.) **Landscaped Area**

Front Yard Landscape Area (sqft) =

Rear Yard Landscape Area (sqft) =

Side Yard(s) Landscape Area (sqft) =

Total Landscaped Area (sqft) =

C.) **Maximum Allowable Peak Month Water Use**

2.4 gallons per sqft x $\frac{\text{Total landscaped area from B}}{\text{(Total landscaped area from B)}}$ =

Maximum water use =

Maximum Allowable Peak Month Water Use =

Enter the **smaller** of these two numbers below

Read prior to completing the Estimated Landscape Water Use section:

If your Total Estimated Water Use (Section D) is greater than your Maximum Allowable Peak Month Water Use (Section C) then you must revise / rearrange the plant type mix in Section D until your Total Estimated Water Use is equal to or less than your Maximum Allowable Peak Month Water Use.

D.) **Estimated Landscape Water Use**

(Low water use plant sqft) x 1.25 gallons (per sqft) =

(Moderate water use plant sqft) x 2.50 gallons (per sqft) =

(High water use plant sqft) x 4.00 gallons (per sqft) =

(Permeable landscape sqft) x 0.00 gallons (per sqft) =

Total estimated water use =

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F. Appendix B

Certificate of Conformance

Project Name _____

Project Location _____

Type of Project (e.g., subdivision, single lot) _____

The *Certificate of Conformance* is to be submitted with the building permit application, together with complete planting, irrigation and, where necessary, grading plans.

Please check all boxes, unless otherwise noted, and fill in appropriate blanks.

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Irrigation

- The irrigation system shall be designed to maximize the distribution uniformity (e.g. head-to-head coverage, emission devices shall have matched precipitation rates within a valve, proper irrigation methods shall be used so that plant material does not affect spray patterns, and irrigation water is only applied to the intended plant material and does not run off or overspray onto adjacent pavement, sidewalks, structures or other non-landscaped areas).

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- Separate irrigation valves shall be used for different plant types, irrigation methods, solar exposures, microclimates, slopes (e.g. low precipitation rate heads), and soil types.
- Pressure regulation shall be installed so that all components of the irrigation system operate at the manufacturer's recommended optimal pressure.
- Point application irrigation methods (e.g. drip, bubbler, etc.) shall be used in landscaped areas less than 5 feet wide.
- Rain shut-off devices shall be installed on each irrigation controller.
- Check valves shall be installed as needed to prevent low head drainage.

Signature

Date

Project Design Professional / Applicant

Phone

Address