

COOPERATIVE EXTENSION  
UNIVERSITY OF CALIFORNIA

DEC 10 2008

BERKELEY • DAVIS • IRVINE • LOS ANGELES • MERCED • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

DIVISION OF AGRICULTURE AND NATURAL RESOURCES  
CENTRAL COAST & SOUTH REGION / LOS ANGELES COUNTY / RIVERSIDE CAMPUS  
CENTER FOR LANDSCAPE & URBAN HORTICULTURE

Reply to:  
University of California  
Batchelor Hall Extension  
Riverside, CA 92521-0124  
Telephone: (951) 827-3320  
FAX: (951) 827-5717  
Email: [dennis.pittenger@ucr.edu](mailto:dennis.pittenger@ucr.edu)  
Website: <http://plantbiology.ucr.edu/coop>

December 10, 2008

Department of Water Resources  
Office of Water Use Efficiency and Transfers  
ATTN: Simon Eching  
P. O. Box 942836  
Sacramento, CA 94236-0001

Dear Simon:

I have read the modified text of the proposed Model Water Efficient Landscape Ordinance of November 26, 2008. Overall, this is a large improvement over the previous draft of the ordinance and I commend DWR for their work in addressing previous review comments. Below I provide comments on the November 26, 2008 version of the ordinance intended to correct factual errors and enable the regulations to achieve the desired landscape water efficiency and conservation goals. Please contact me if you have questions or need additional information related to any of my comments.

**Section 491. Definitions**

Comment 012.1

**(q)** The fact that MAWA for existing landscapes is calculated with an adjustment factor of 0.8 is very important and in sharp contrast to the 0.7 factor for new or modified sites. This should be stated here and not buried only in 491(q).

Comment 012.2

**(uu)** The correct definition of "plant factor" or "plant water use factor" is *a factor, when multiplied by ETo, estimates the amount of water needed by plants.*

This amount of water is different from the amount a plant might *use* since many plants will use more water than they actually need to perform acceptably in a landscape, including trees, shrubs, and cool-season turfgrass. Many landscape species will perform adequately at plant factors much below 1.0, but these same plants can use water at a factor of 1.0 or greater when the water is available.

Comment 012.3

**(ppp)** WUCOLS 1999 is NOT an official University of California Cooperative Extension publication. It was authored by a UC Cooperative Extension academic but published by the California Department of Water Resources. It has not been accepted for publication by the University. Please correct the affiliation and authority of the publisher because the current wording indicates that WUCOLS is fully approved and condoned by UC, which not true. It is a DWR publication authored by a UC Cooperative Extension employee.

This is an important issue. The Landscape Coefficient is an unproven theoretical relationship and the data in WUCOLS was compiled by committees of mostly non-academic practitioners who expressed the amount of water they observed or assumed certain plant species used or needed. More recent field research indicates the WUCOLS assigned values are not reliable.

#### Section 492.4

Comment 012.4

(2) (b-1): Please change to:

The plant factor used shall be from WUCOLS or research-based information from the University of California.

The justification can be found in my comments above.

Comment 012.5

#### Section 492.7 Irrigation Plan (a)(1)(B) vs. Section 492.9 (b)(1) and Section 492.10 (a)

Recommendation: require calculations of schedules (492.10) but revise 492.7 to allow any automatic controller that accepts and provides:

1. Independent programming of each valve.
2. multiple (4-6) program starts (cycles) per day.
3. override by a rain sensor.

Section 492.7 mandates the installation of weather- or soil moisture-based irrigation controllers while Section 492.10 mandates the calculation of detailed ETo-based irrigation schedules for each valve. The mandates of Section 492.10 can be easily met with a conventional irrigation controller, so why mandate a weather-or soil moisture-based controller? If someone is required to calculate all the schedules, then why mandate a specific type of controller? DWR-sponsored research has demonstrated that installation of a weather-based controller does not necessarily result in irrigation schedules that *"utilize the minimum amount of water to maintain plant health"*, which is the stated requirement in Section 492.10, so why mandate their use? If there is so much confidence in weather- or soil moisture-based controllers then why is a detailed calculation of irrigation schedules required (492.10)? These types of controllers will set their own schedules which, based on the interpretations of the DWR-sponsored research on weather-based controllers, will very likely differ dramatically from the calculated schedules. Bottom line – the use of a weather-based or soil moisture-based controller does not assure implementation of correct, water conserving schedules.

#### Section 492.7 (a)(2)(E)

Comment 012.5

Mixing of high and low water-needing plants should be permitted. Allow them but require that their water need be in the "high" category for calculating the site budget and water requirement.

**Section 492.12**

Comment 012.6

Add language to require the audit reconcile the schedules produced by a weather-based or soil moisture-based irrigation controller with the irrigation schedules calculated in 492.10. Schedules of these devices must be closely evaluated to reality and certified they meet the MAWA. Adjustments must be made to assure the minimum water needed by plants to maintain health and appearance is applied.

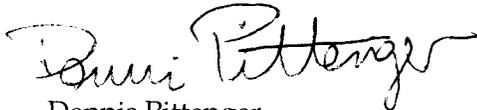
**Section 493.1 (a)(1)(b)**

Comment 012.7

The fact that MAWA for existing landscapes is calculated with an adjustment factor of 0.8 is very important and in sharp contrast to the 0.7 factor for new or modified sites. This should be stated much earlier in the overall document under 491(q).

Thank you for your consideration.

Sincerely,



Dennis Pittenger  
Area Environmental Horticulturist  
Central Coast & South Region



Cooperative Extension - 111  
 Dennis Pittenger  
 Batchelor Hall Extension  
 University of California Riverside  
 Riverside, CA 92521-0124

**OFFICIAL BUSINESS**  
**PENALTY FOR PRIVATE USE \$300**

**RETURN SERVICE  
 REQUESTED**

PRESORTED  
 FIRST CLASS



Department of Water Resources  
 Office of Water Use Efficiency and Transfers  
 ATTN: Simon Eching  
 P. O. Box 942836  
 Sacramento, CA 94236-0001

*Simon Eching*  
*12/15/01*

L\*LWLM1 94236

