Colvin, Judith

From: mweo-bounces@water.ca.gov on behalf of Bernard Everling [bernard@ktua.com]

Sent: Wednesday, March 26, 2008 2:16 AM

To: mweo@water.ca.gov

Subject: [MWEO] Written Comments Pursuant to Modified Proposed State ModelWater Efficient Landscape Ordinance

Attachments: State Model Water Ord Ltr 03.08 revw.doc

Dear Ms. Judy Colvin/Ms. Julie Saare-Edmonds,

Comments regarding this draft ordinance are attached. Glad to get these in before March 27.

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Dear Ms. Judy Colvin/ Ms. Julie Saare-Edmonds,

We offer for consideration the following comments regarding the most recent draft of the Model Water Efficient Landscape Ordinance:

Page 2, Section 490, (e): (after the words): *L*andscape design, (add): and irrigation design,

Page 4, Section 490.3, item 2, (e): Comment: We believe there is a responsibility with owners and occupants of ALL properties regardless of property size, to conserve water and use it wisely. What will be allowed by an ordinance not applicable to projects with a landscape area of 2,500 square feet or less, is an open environment to potential misuse or waste of water, the very thing this ordinance seeks to curtail. Granted, not all property occupants may be property owners, and not all properties have significant landscape areas. However, this should not cause one water customer over another to not follow water conservation practices and methods while the other is subject to this ordinance. Recommend that this applicability section be revised with applicability to all water use customers.

Page 4, Section 491, 2: (after the words): irrigation system, (add): /method.

Page 5, item 10: (after the word/s in first sentence): *heads*, (add):./irrigation method. There are more methods today for applying irrigation water than only "heads." Therefore, the terminology used throughout this ordinance should reflect it based on this.

Page 5, item 10: (after the words in second sentence): *weather data*, (add): to effect watering.

Page 5, item 10: (after the words): (ie., soil moisture sensor), (add): ,wind sensor, weather sensor, etc.

Page 5, item 11: Comment: This definition for "*drip irrigation"* states a limit of 2 gallons per hour flow rate for emission devices. Drip irrigation as a category under an irrigation method should not be limited to the output in gallons per hour, if it is to also be a low volume irrigation system utilizing emission devices. There is an availability of emitter flow rates greater than 2 gallons per hour that can apply water effectively to a range of soil textures, including but not limited to, sandy types. Drip irrigation can be applied via above ground means as well as below ground. water We recommend replacing "*equal to or less than two (2) gallons per hour",* with "with a flow rate measured in gallons per hour." This complements the definition of "emitter", item 14, as well as *"low volume irrigation", item 33*, which includes drip irrigation.

Page 5, item 13: Question: Is not "effective precipitation" or "usable rainfall" the portion of total precipitation retained by soil that can be available for plants?

Page 5, item 14: (after the word): soil, (add): as. (after the word): *measured*, (replace): "as" with "in".

Page 5, item 15: (after the word): site, (add): soil/soil media.

Page 5, item 16: Comment: Not all projects are built and maintained under the same parameters of the stated timelines due to the type of project. Establishment may take longer than 1 or 2 years, depending on project owners and those that are to take over the projects. Suggest inserting "typically" in front of "means".

Page 5, item 19: replace “needs to be” with “is”.

Page 5, item 21: (after the words): flows through, (add): water use equipment.

Page 5, item 23: remove “with the same *irrigation schedule*.” Not all hydrozones, though having the same water *use classification* plants (low, medium or high), and watered by separate valve/s, may have the same watering schedule. Not all conceivable scenarios with watering schedules can be covered, due to site details and therefore should not be part of this definition.

Page 6, item 25: Comment: since irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices, it can be the applicant’s judgment or an agency’s determination of the accuracy of a derived efficiency. Example of calculations at the end of the package alludes to this as “assumptions.”

Page 6, item 27: Comment: What criteria were used in determining the 10% non-irrigated planting area in a landscape design plan as subject to the MAWA calculation? Why not all non-irrigated planting areas counted as landscape area for the MAWA calculation, since they would yield water savings when not irrigated? Whether properties will be utilized or remain with planting designs as permanently and solely dedicated use areas cannot be determined, and there should be some mechanism to allow for redesignation.

Page 6, item 33: Comments: This definition refers to a type of “system.” This is a confusing definition for “low volume irrigation” and should be simplified and revised to work with and complement low flow devices which encompass the types stated in the definition, and not mention precipitation rate (for example of volume output, see item 14, page 5 for emitter). (Check current definition): It is the “precipitation” rate that occurs in inches per hour, not “flow” rate (see definition of flow rate under item 23, page 5). (After the word) including, (add): surface and above surface. There are low flow technologies/devices available that do not fit in the category of “rotor sprinkler, impact sprinkler, bubbler and spray sprinkler” that provide irrigation effectively with little or no ponding or run-off. Yet when placed in a system they can have precipitation rates that exceed the stated 0.75 inches per hour, and still meet or have a slower percolation rate than the infiltration rate of the soil/soil media. Coarse sandy soils for example, have up to a 2 inch per hour infiltration rate.

“Precipitation rate” (see definition for “precipitation rate”, item 44, page 7) can be likened to “application rate” (see item 1, page 4) when devices are incorporated in a system design. Likewise, a precipitation rate of a single device can be different than a precipitation rate in a system with more than one device in it. Since all these emission devices stated in the definition are devices with outputs measured in gallons per hour, and that these can be spaced at various distances in a system design, precipitation rates are irrelevant. Delete (after the word) *system*: *“with a flow rate equal to or less than 0.75 inches per hour”.* The definition should read, “low volume irrigation” means any irrigation system including surface and above surface drip irrigation, subsurface drip, micro-sprinklers and similar irrigation type.

Page 7, item 39: (after the words) “reducing evaporation”, (add): a comma, (delete): *and,* (after the words): “*suppressing weeds*”, (add): encouraging lateral water distribution across soil surfaces, and aesthetic purposes.

Page 7, item 47: (after the words): “drawings which show”, (add): the work as installed, including exact information of”. (After the words): “in the field”, (add): dimensioning,

Page 8, item 58: (after the word) “*sprinkler*”, (add): /emission device

Page 8, item 60: (after the words): ‘*’sprinklers or*”, (replace): “*emitters*”, with “emission devices”. (After the words): “*in a*”, (add): common

Page 9, Section 492.2, item 2., (a), (after the words): “licensed landscape architect”, (add): certified irrigation designer

Page 12, Section 492.6, item 3., (at the end of the second paragraph, after the words): “*soil moisture sensor*”, (add): temperature sensor, etc.)

Page 14, Section 492.6, item 3., (b), (1.), last sentence: *“In areas where precipitation amount is not significant, applicants can skip this section.”* What is the purpose of this when it leaves room for applicants to elect to skip it in water use calculations? Who has the ultimate say to determine whether or not the project area receives “significant” precipitation? How is “significant” measured? (In Section 492.7, for the soil management plan, section 2., a recognized entity can indicate by statement if a soil analysis is not necessary. Is there an entity assigned to determine precipitation amount and whether it should be part of the water use calculations?)

Page 19, item (b) Turf: Item (3) proposes “installation of long, narrow, or irregularly shaped turf areas less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or other low volume irrigation technology.” It appears that this item is trying to address overspray and run-off from overhead spray irrigation adjacent to non-permeable hardscape, yet there is no mention of it here (perhaps omitted with purpose). However, a turf area of any shape or size can occur adjacent to a landscape area, irrigated or non-irrigated, where the effects of overspray can be inconsequential. We would like this item to read (after the words): “*in any direction*”, (add): ,adjacent to non-permeable vehicular and pedestrian hard paved surfaces, and constructed structures,…and (after the words): “irrigation technology”, (add): where practical and efficient.

Page 19, item (b) Turf: Item (4) proposes “irrigated areas (including turf) within 24 inches of non-permeable hardscape shall be irrigated with drip irrigation or subsurface irrigation technology.” It appears this section should be renamed “(b) Landscape areas” when it applies to both turf, shrub/groundcover/tree plantings, and mulch, one that covers all landscape. It appears that this item is trying to address overspray and run-off from overhead spray irrigation. Where planted landscape areas can vary in size and shape from tens, hundreds, thousands, ten thousands, or hundreds of thousands of square feet or more, this item seems impractical and unnecessary. Recommend (adding at the beginning): “Where practical and efficient,”...(after the words): “*non-permeable hardscape*“, (add): where overspray and runoff would otherwise occur,”

Page 19, item (c) Water Features, (2): (Add after the words): “Where available,”…(add): “and where reviewed and pre-approved for use in the design by the local county health department”. The health department has determined that certain water borne diseases could occur in recycled water sources. Also, recycled water may not be allowed in landscape on structures, especially where direct discharge would occur into piped storm drain systems.

Page 19, item (d) Mulch, (1): We agree mulch in the landscape offers many benefits. This item currently as stated applies to all surface areas other than turf, without regard to slope. Mulch will not stay on slopes with a certain substantial gradient, or where adjacent to waterways that flow levels rise and fall, for example. Suggest indicating mulch application on flat areas up to a maximum slope gradient (to be stated), and where practical. Mulch applied in areas of hydroseed application, whether irrigated or non-irrigated, can and will smother the hydroseed and does not work. It has been studied and verified that increased areas of applied mulched soil surfaces have caused ground-nesting bees beneficial to mankind (flower pollinators and pest control) to have difficulty finding adequate nesting sites, as they need open ground to nest in. This item needs to be revised to encompass various possible site situations and applications, as well as environmental impacts. Same section, last sentence, (after the words): “drip irrigation”, (add): or other low volume irrigation technology”

Page 22, Section 492.9. Irrigation Design Plan. 1., (a), (1): We support water management tools; however again, we believe one water customer should not be waived from requirements of this ordinance

over another solely by categorization. The size of landscape areas for a single family residence, and water use can be substantial and residences should fall under a requirement for a separate, dedicated irrigation water meter as all others in the minimum project square footage stated. (After the words): "installed for all projects", (add): with landscape areas

Page 22, Section 492.9. 1., (a), (6): (replace at the beginning): "*Ball*", with "Water supply shut-off". (after the word): "(*i.e.,",* (add): "ball valve,"

Page 23, Section 492.9. 1., (a), (9): (after the words): "*shall be designed*", (add): "with components to help"

Page 23, Section 492.9. 1., (a), (11): (after the word): "*consideration*", (add): "in the design"

Page 23, Section 492.9. 1., (b), (3): (after the words): "*Sprinkler heads*", (add): and other emission devices". (After the words): "*uniform coverage*", (add): "on any one zone."

Page 23, Section 492.9. 1., (b), (4): Comment: this does not apply in all instances. (After the words): "*Head to head coverage*", (add): "(except where a product manufacturer does not recommend it for certain product/s)"

Page 23, Section 429.9. 1., (b), (5): Question: Are the risers referred to, above-grade installation, below grade installation, or both? Need to specify. Please define "adjacent to." Does this mean within one foot, 6 inches, or ? from "high traffic areas." "High traffic areas": Does this mean pedestrian, vehicular, etc.? Need to specify. Missing from the items listed is a recommended use of pop-up sprinklers within a close distance to the "high traffic areas." (should specify a distance). This type of sprinkler reduces the chances of harm and liability due to potential tripping and falling over installations.

Page 23, Section 429.9. 1., (b), (8): Item proposes "Irrigated areas (including turf) within 24 inches of non-permeable hardscape shall be irrigated with drip irrigation or subsurface irrigation technology." It appears that this item is also trying to address overspray and run-off from overhead spray irrigation. Where planted landscape areas can vary in size and shape from tens, hundreds, thousands, ten thousands, or hundreds of thousands of square feet or more, this item seems impractical and unnecessary. Recommend (adding at the beginning): "Where practical and efficient,"...(after the words): "*non-permeable hardscape*", (add): where overspray and runoff would otherwise occur,"

Page 23, Section 429.9. 1., (b), (10): Irrigating slopes with drip irrigation or other low volume technology. This does not apply to all situations. It could apply to smaller areas. It does not apply to large areas in a practical way. Suggest eliminating this item.

Page 23, Section 429.9. 1., (b), (11): (after the words): "*high water use plant*", (add): "s in these combinations,"

Page 27, Section 429.11. Certificate of Completion. 2., (d), (after the words): "*a list of any*", (add): "corrected"

Page 28, Section 429.12. Irrigation Scheduling. How watering scheduling is to occur is primarily in the hands of the one/s performing maintenance on a project site. They are the ones that know the site the best. There are many potential situations on project sites that each must be specifically addressed.

Page 28, Section 429.12, item 2., mention is made for hours of operation for overhead irrigation systems. Please indicate what water window all other types of irrigation systems shall operate under.

Page 28, Section 429.12, item 5., (b) and (c): (after the words): "irrigation event to", (add): "help"

Page 30, Section 429.13., 4. (a): Landscape Irrigation Audits and Audit Schedules. Comment: The local agency cannot be responsible for quantifying/recording a water customer's allowable water use when they do not have a dedicated irrigation meter, separate from domestic water use on a project site. There is no requirement for properties under 2,500 square feet, or single family residences, to have dedicated irrigation water meters. But under Section 429.9. 1., (a), (1), last sentence indicates dedicated irrigation water meters are highly recommended on properties with landscape areas less than 5,000 square feet to facilitate water management. How is it determined, and who is to determine? If a local water agency is given the authority to monitor a customer's irrigation water use, then it should be by accurate methods, not by estimation. Please review and revise to enable this to work.

Page 30, Section 429.16. Recycled Water. See comments made earlier on recycled water use on water features.

Page 31, Section 429.18., 1. (a): Public Education. Why just include educating those owners of NEW single family residences? The burden of educating should also be with owners and managers of all properties, existing, and all other properties not single family homes. How is this going to be carried out effectively?

Appendix A – Reference Evapotranspiration (ETo) Table. This data has been revised. If the footnote at the end of the table is correct, then it states the data is taken during the 1980's and 1990's. Is this correct, and applicable to year 2010 when the ordinance is proposed to be in effect? Does this table agree with the most current recorded weather data?

Page 44, Section 495.2 Appendix C – Sample Certificate of Completion. Section B. FINAL INSPECTION. Correct the error in row 4: "The irrigation system is designed as specified", with "The irrigation system is installed as specified."

Thank you for this opportunity to provide comments on this important document.