Appendix G: Water Efficient Landscape Guidelines and Joint Water Conservation Recommendations for Regulated Water Companies

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Water Efficient Landscape Guidelines

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CALIFORNIA WATER SERVICE COMPANY
LANDSCAPE GUIDELINES

The Water Conservation Landscape Guide is intended to apply to all Cal Water landscape projects. As Cal Water has been active in promoting water conserving landscaping to its customers, so should those same principles be adopted and applied within, to company projects involving landscape installations and renovations.

Although these guidelines will apply in most cases, some flexibility may be allowed to accommodate individual site constraints and changes in technology that are rapidly developing in the landscape industry.

Whether your landscape project is put out to bid or performed by district personnel, landscape designs should include the following considerations:

I. Design - Addresses site planning considerations, plant material selection, and earthwork/mounding as they impact water use on-site.

II. Soils - Specifies soil testing (if needed), preparation and amendment requirements to make the best use of the water delivered to the plant material. Soil preparation is an important element in assuring the success of drought-tolerant, low water use planting designs.

III. Irrigation Management - Addresses the key irrigation considerations which produce a design capable of delivering the amount of water appropriate to the plant materials in the most efficient way possible. In addition, this section addresses concerns relative to the long-term operation and maintenance of the irrigation systems by establishing long-term operational schedules.

WATER CONSERVATION LANDSCAPE GUIDELINES

I. DESIGN

a) Site Planning - Landscape planting is required for erosion control, fire clearance zones, screening, solar control, etc., as well as for design continuity and aesthetic enhancement of the individual site and its surrounding area. If feasible, the design may incorporate existing, established on-site plant material into the new design.

b) Plant Material Selection - Drought tolerant plant materials (xeriscape) should be provided in all projects. Plant materials shal1 he capable of healthy growth in their specific location and capable of producing the desired effect. Plant materials should be grouped by water needs for maximum irrigation efficiency. Little or no turf should be included in the design. If turf is included, a drought tolerant species should be considered.

c) Earthwork - Lawn should be discouraged on bermed areas. Terracing of large mounds or slope areas should be reviewed as a design possibility to reduce irrigation water runoff.

II. SOILS

a) A determination of soil type, depth, and uniformity present on-site should be made at which time soil amendment consistent with findings should be addressed. Decomposed organic matter or polymer water retention products should be incorporated in the soil to improve water infiltration and retention on all sites.

b) Two or three inches of organic mulch should be added on top of non-turf planted areas to reduce evaporation, moderate soil temperatures, and discourage weeds. Sheet plastic and other non-porous materials should not be placed under the mulch.

WATER CONSERVATION LANDSCAPE GUIDELINES (cont)

III. IRRIGATION MANAGEMENT

a) All irrigation systems should be designed to avoid runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures.

b) The design of the irrigation system should take into account the soil's water holding capacity to determine appropriate water application rates, timing, and quantities.

c) All landscaped areas should be serviced by an automatic irrigation system operated by a multiple programmable controller. Irrigation plans and specifications should include watering schedules for each zone area and valve system based on the actual needs of the plant material and the zone climatic conditions. Schedules should call for early morning watering.

d) The irrigation design should utilize separate valve systems for high water use and low water use areas and sprinkler headtypes (spray heads, bubblers, drip emitters, etc.) capable of emitting the amount of water appropriate to the plant material zone.

e) Adjustments in watering schedules should be made for the establishment of new plant materials, maintenance of plant material after the initial establishment period, and weather changes.

f) Irrigation plans should include provisions for the long-term maintenance of the systems including periodic inspection to assure long-term water use efficiency.

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Joint Water Conservation Recommendations for Regulated Water Companies

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July 25, 2006

President Michael R. Peevey
Commissioner Geoffrey F. Brown
Commissioner Dian M. Grueneich
Commissioner John Bohn
Commissioner Rachelle Chong

Re: Water Conservation Recommendations

Dear Commissioners,

The following Joint Recommendations (Recommendations) were prepared by California American Water Company (Cal Am), California Water Service Company (Cal Water), Golden State Water Company (Golden State) (Water Companies), Natural Resources Defense Council, and Mono Lake Committee. The Recommendations are endorsed by the following additional environmental groups and interested parties: California Urban Water Conservation Council, Environmental Defense, Pacific Institute, Planning and Conservation League, League of Women Voters of California, Friends of the River, Sierra Nevada Alliance, and Southern California Watershed Alliance. These companies and organizations are referred to collectively herein as the ñJoint Signatories.ò The Joint Signatories provide these Recommendations as a demonstration to the California Public Utilities Commission (Commission) of diverse stakeholder support for prompt and timely actions to implement the Commissionôs Water Action Plan (WAP) objective to strengthen water conservation programs. These recommendations also serve as a response to the July 7, 2006 letter from Kevin Coughlan requesting comments on ñmethods to implement the Water Action Plané .ò Joint Signatories may also provide their own comments on the Rate Case Plan and other aspects of the Water Action Plan.

As discussed below, Water Companies support the water conservation objectives and actions outlined in the Commissionôs WAP and are pursuing implementation of many of the Planôs water conservation ñactionsò in various forums before the Commission. In the past, Water Companies have been constrained from expanding water conservation programs by certain Commission rate setting practices, as described more fully in these Recommendations. Water Companies have sought collaboration with the environmental community to assure their support.

Environmental organizations are seeking expanded water conservation programs and accomplishments by regulated water companies, including more effective and equitable price signals for water consumers and additional cost-effective investments in water efficiency measures by the companies and their customers. Such improvements in water efficiency will serve generally to reduce diversions from Californiaôs rivers, protect and restore the stateôs aquatic ecosystems, and reduce energy consumption. Cost-effective efficiency measures will also help mitigate the rising costs of water, wastewater, and energy utility service for consumers and communities.

While Joint Signatories strongly support the water conservation objectives established in these Recommendations, they are equally aware that the Water Action Plan sets forth a

number of other objectives that are also critical to meet the long term water supply reliability needs and concerns of their ratepayers. Thus, the Commissionôs implementation measures must both balance and reflect the total package of needs while maintaining affordability.

Recommendations of Joint Signatories

Phase One. At the earliest opportunity Joint Signatories recommend that the following water conservation implementation measures be ordered by the Commission:

1. ***Decoupling revenues from sales***. One key action necessary to substantially increase the water conservation actions of regulated utilities is for the Commission to remove the current financial disincentive to conserve water. Several water companies, including CAW and Cal Water, have proposed a water revenue adjustment mechanism (WRAM). As clearly stated in the WAP, a WRAM provides water companies and customers revenue neutrality with respect to the effects of water conservation programs and is consistent with the Commissionôs successful revenue decoupling mechanisms for gas and electric utilities.

2. ***Increasing block rates***. Conditioned on implementation of a WRAM, Joint Signatories recommend the use of increasing block and volumetric rates. Increasing block rates are supported by the WAP and also are used in the gas and electric industries. Increasing block rates will be designed to be revenue neutral compared to the current rate structure, yet provide price signals for higher use customers to reduce consumption. Implementation should be phased in, starting with modest differentiation between blocks to gain customer understanding and acceptance.[1] Joint Signatories recommend that education programs and conservation options be made available to Water Company customers concurrent with implementation of the Phase One recommendations. Joint Signatories recognize that Water Companies have a duty to their ratepayers and the cities they serve to develop and implement equitable and efficient rate structures, which meet the reasonable needs of their residential and business customers. Joint Signatories agree that implementation of block rates should take into account effects on low income customers.

3. ***Increased conservation program activity and accountability***. Joint Signatories support increased water conservation budgets and recommend that the Commission adopt policies and allow utility recovery in rates for any additional implementation cost to ensure each of the following:

[1]The Water Companies agree that the initial implementation, though modest, should provide a meaningful change from current single block rates.

a. Cost-effective water conservation program investment will be maintained at a level equivalent to 1.5 % of revenues or more.[2]

b. Water conservation programs should be subject to a two-way balancing account to provide year to year implementation flexibility as well as accountability for unspent funds.

c. Each Water Company is and will remain a signatory to the MOU Regarding Urban Water Conservation in California.[3]

d. Each Water Company will comply with the requirements of the Best Management Practices contained within the MOU.

e. The Water Companies are committed to streamline and enhance the reporting for conservation programs, thus providing accountability and transparency for their conservation expenditures. The Water Companies will report annually on water conservation program budgets, expenditures, and accomplishments. Joint Signatories recommend that the Public Utilities Commission and the Division of Ratepayer Advocates first consider two standard report formats developed by the California Urban Water Conservation Council as the means to comply with these agreed upon conservation reporting objectives. These reports are: 1) the Councilôs BMP Report Forms[4]; and 2) the Councilôs BMP Water Savings Calculation Model.[5] This will provide the Commission and the public with consistent data on the conservation programs of each Water Company and should also minimize duplicative and potentially burdensome reporting requirements.

f. Since water consumption is typically reduced by 20% or more when service connections are metered and billed volumetrically, the Commission should have a policy to ensure that all Water Company customers with metered service connections are being billed at volumetric rates.

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[2] The 1.5 percentage represents a system-wide objective, i.e., for all districts within a particular GRC proceeding; individual districts may be higher or lower than the system-wide level. Conservation budgets include direct Water Company programs and documented Water Company contributions to programs undertaken by the Water Companyôs wholesale supplier or in partnership with other wholesale suppliers, energy utilities, and other agencies.

[3] Water Companies are and have been in compliance the Water Action Planôs recommendations that water utilities sign the MOU with the California Urban Water Conservation Council.

[4] Use of this web-based reporting system is already required of all signatories to the Urban MOU.

[5] In November 2004, the Council approved the use of the BMP Water Savings Calculation Model developed under a cooperative agreement with CALFED. The model is intended for use by the Council to provide internally consistent estimates of water savings that result from the implementation of quantifiable BMPs, and is available for use by individual water suppliers to calculate their own water savings.

g. Beginning in 2007, water companies will gather data on water losses in a format consistent with the most current version of the M-36 Manual regarding water audits and leak detection published by the American Water Works Association. This information will be submitted to the Commission each year by district.[6]

Phase Two. Joint Signatories agree that, following Commission approval and implementation of the above three recommendations, a second phase of water conservation development will be promptly considered for implementation. Key components of Phase Two will include consideration of the following actions:

1. Foundational analyses for additional water use efficiency.

a. The Water Companies agree to prepare a quantitative determination of their avoided cost of water, using the method developed by the CUWCC, for each ratemaking district or region in the company.[7] Due to the importance of this analysis to any assessment of the value of saved water and the cost effectiveness of the Water Companiesô investments in water conservation, this determination and its supporting documentation will be developed and provided to the Commission 60 days before the filing of a general rate case application.

b. Subject to state law and Commission policy regarding the confidentiality of customer data, the signatories will work together to develop approaches to allow wastewater service providers to employ volumetric billing of wastewater service in the Water Companiesô service areas. The Joint Signatories will report its findings and recommendations to the Commission within 18 months after implementation of Phase One.

c. For each district where the Commission has not already approved an installation plan, Water Companies will file a meter installation plan for all unmetered service connections, consistent with state law and BMP 4, as part of the general rate case application or a separate application to be filed before the next rate case.

d. The Water Companies will include a component analysis of water system losses, which will identify sources of losses and describe various cost-effective

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[6] AWWA is in the process of revising the M-36 manual. Free software for reporting data in the newly proposed format is available for download at http://www.awwa.org/WaterWiser/waterloss/Docs/WaterAuditSoftware.cfm.

[7] See *Final Draft, Water Utility Direct Avoided Costs from Water Use Efficiency*, January 2006 available for download (including the final model and installation instructions) from the Council's website at: <http://www.cuwcc.org/committee_sub_avoided_cost_enviro_benefits.lasso>.

mitigation measures recommended to be implemented as a result of analysis of the water loss data noted in Phase 1 item 3.g. in each of their rate case applications.

e. In furtherance of the WAPôs objective to reduce the energy consumption of water utilities, Joint Signatories will work together to develop approaches for improving energy efficiency and quantifying energy savings attributable to the Companiesô water conservation programs.

2. Proposals for financial incentives for enhanced water conservation investments. Joint Signatories will propose measures that provide financial rewards for successful conservation programs, as was recommended in the WAP. Financial incentives will encourage Water Companies to pursue a portfolio of measures that reduce water consumption. This portfolio may include innovative rate designs, customer directed water conservation measures, and or internal measures to reduce consumption, e.g. reduction of losses. These financial incentives are intended to place demand-side management programs on a financial par with supply-side investments.

a. ***Rate base treatment of certain investments in water efficiency.*** Joint Signatories will develop and propose to the Commission recommendations for criteria to allow future investment in water conservation programs to be eligible for addition to the rate base upon which the Water Companiesô authorized rate of return may be earned. Such recommendations will address:

i. The location of the investment, i.e., company or customer premises;

ii. The types of programs, equipment, components, or software that may be eligible or ineligible;

iii. The permanence or durability of water savings;

iv. Cost-effectiveness; and

v. The appropriate sequencing and loading order for both rate-based and non-rate based investments.

b. ***Other financial incentives.*** Joint Signatories will propose to the Commission other financial incentives to recognize Water Companiesô performance in developing programs to increase water conservation. Proposals may include financial incentives for education and other programs which would not be suitable for rate base treatment. Proposals

may be modeled after stockholder incentives established by the Commission for energy utilities.

3. ***Financial assistance for demand reduction measures.*** Joint Signatories recommend measures for securing water efficiency investments that are economically feasible but may lack financial feasibility at the Companiesô approved rate of return. Such measures will enable Water Companies to pursue a more complete portfolio of economically feasible programs that reduce water consumption. Subject to the Commissionôs duty and existing rules to ensure that 100% of public funds are invested for public benefit and not placed in the rate base to increase water company earnings, the Joint Signatories recommend Water Companies be eligible for state bond funding to pay for economically feasible water conservation programs that have been authorized by the Commission.

4. ***Further refinement of increasing block rate design***. Joint Signatories will work together in Phase Two and otherwise to recommend additional refinements to the implementation of block rate structures. Refinements will build on lessons learned from Phase One as to customer response, including water consumption patterns. Refinements may include, for example, the development of seasonal rates, additional rate classes, additional rate blocks, rate block size and scope refinements, and adjustments to the service charge. The objective is to provide customers with equitable and economically rational price signals that are based on the Water Companiesô costs (historic and avoided), including financial incentives to reduce consumption at peak periods, consistent with equity and efficiency considerations.

Implementation Process

Joint Signatories are proposing implementation of the Phase One actions noted above in various proceedings before the Commission as stated below. While these Recommendations represent and reflect general policy agreement among the Joint Signatories, specific implementation details must and will be addressed in the individual Water Company filings, with the understanding that the details may vary among Water Companies as applied.

Listed below is a status report indicating the forum for each of the Phase One actions:

General Rate Cases: Cal Water and the Division of Ratepayer Advocates have jointly recommended a WRAM and increasing block rates for the eight districts in Cal Waterôs 2005 general rate case. In addition, Cal Water in its 2006 general rate case intends to request a WRAM, increasing block rates, and an increase in its water conservation budget for eight additional districts. Cal-Am has a request for WRAM, increasing block rates, and increased conservation funding for its Los Angeles District in its pending general rate case.

Policy Application: GSWC intends to file a general policy application with the Commission in the very near future. The application will include a request for WRAM and increasing block rates.

Advice Letters: Commission Resolution W-4594 authorized Great Oaks Water Company to file an advice letter to establish a revenue/sales adjustment account should the Commission grant to any other water utility a revenue/sales adjustment account in a specific or a generic formal proceeding. Accordingly, Joint Signatories recommend using the advice letter procedure to more quickly implement the actions noted in Phase One.

The three tables below provide a summary of Phase One actions and a corresponding Commission forum for adoption.

Cal Water Conservation Action Implementation

Water Conservation Action	General Rate Case	Advice Letters
1. WRAM	Pending ï 2005 GRC Districts Forthcoming -2006 GRC districts and 2007 GRC districts	Possible AL for 2006 and 2007 GRC districts
2. Increasing block rates	Pending ï 2005 GRC Districts. Forthcoming -2006 GRC districts and 2007 GRC districts	Possible AL for 2006 and 2007 GRC districts
3. Increased conservation budget and accountability	Pending ï 2005 GRC Districts. Forthcoming -2006 GRC districts and 2007 GRC districts	Possible AL for 2006 and 2007 GRC districts

Golden State Water Conservation Action Implementation

Water Conservation Action	Policy Application	Advice Letters
1. WRAM	Forthcoming policy application	
2. Increasing block rates	Forthcoming policy application	Possible AL for 2006 GRC districts
3. Increased conservation budget and accountability		Possible AL for all districts

Cal Am Water Conservation Action Implementation

Water Conservation Action	General Rate Case	Advice Letters
1. WRAM	Partially implemented in Monterey District. Requested in pending LA district GRC.	Possible AL for other districts.
2. Increasing block rates	Already implemented in Monterey District. Requested in pending LA district GRC.	Possible AL for other districts.
3. Increased conservation budget and accountability	Requested in pending LA district GRC. In some districts CAW has increased conservation budgets without guarantees of Commission funding. Cal Am may increase funding in other districts prior to Commission rate cases.	Possible AL for all districts.

Sincerely,

California American Water Company
California Water Company
Golden State Water Company
Natural Resources Defense Council
Mono Lake Committee

[Signatures follow at page 9]

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Natural Resources Defense Council

These Conservation Recommendations have been endorsed by:

California Urban Water Conservation Council
Environmental Defense
Pacific Institute
Planning and Conservation League
League of Women Voters of California
Friends of the River
Sierra Nevada Alliance
Southern California Watershed Alliance

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