

# PEPPERDINE UNIVERSITY

OFFICE OF REGULATORY AFFAIRS

Via Email (commentletters@waterboards.ca.gov)

Clerk to the Board  
State Water Resources Control Board  
P.O. Box 100  
Sacramento, CA 95812-0100



Re: Comments of Pepperdine University on Whether the State Water Board  
Should Develop a Water Recycling Policy

To Whom It May Concern:

I am writing on behalf of Pepperdine University to offer comments on whether the State Water Resources Control Board ("State Water Board") should pursue development of a Water Recycling Policy and the content of such a policy if drafted. Pepperdine supports the implementation of a statewide Water Recycling Policy. We strongly encourage the use of recycled water given the scarcity of potable water in Southern California. As such, the Water Recycling policy should have as its primary goal the expansion of use of recycled water. Additionally, the Water Recycling Policy should be flexible to adjustments based upon site-specific circumstances and actual uses of recycled water rather than providing a "one-size-fits-all" regulatory scheme. Finally, the State Water Board should modify the Anti-Degradation policy to encourage rather than discourage the use of recycled water.

## Introduction

Some background is useful to set the context in which Pepperdine uses recycled water. The University's Malibu campus is situated on 830 acres located in an unincorporated area of Los Angeles County, near Malibu, California (Figure 1). Pepperdine uses tertiary-treated, reclaimed water for over 90% of the landscape irrigation on the Malibu campus. The reclaimed water is appropriate for landscape irrigation as the nutrients found in the reclaimed effluent are naturally absorbed by the plants or naturally degraded in the landscape environment. In fact, reclaimed water is preferable for this use as its nitrogen is a valuable nutrient which would have to be supplied for the vegetation in other forms if it were not present in the reclaimed water.

In 1987 Pepperdine began a sophisticated water monitoring system on its Malibu campus known as the Hydrogeologic Monitoring Program ("HMP"). The HMP was designed to ensure that irrigation practices on the campus did not exacerbate slope instability through groundwater recharge and movement. The program achieves its purpose through three

primary methods: groundwater elevation monitoring, soil moisture monitoring, and a computerized water balance model. The first two methods are direct measurements taken monthly around the campus. The water balance is an indirect method, synthesizing numerous data sources from the field and other sources in an intricate computer program that represents the hydrogeologic processes that control the fate of precipitation and irrigation on campus.

The objective of Pepperdine's irrigation program is to provide sufficient water to plants to maintain vegetation while minimizing groundwater recharge and surface runoff. In accord with this objective, Pepperdine routinely collects information under the HMP to tune its irrigation program. Among the information collected, daily precipitation is measured with two automated rain gauges equipped with dataloggers. Groundwater elevations are measured in multiple monitoring wells both on and off campus. Pepperdine measures soil moisture content with neutron probes at multiple locations on campus. Additionally, Pepperdine personnel perform visual assessments of soil moisture conditions in the field to aid irrigation scheduling. Electrical conductivity is also measured in potable water, irrigation water, sub-drain runoff, and groundwater at numerous locations across campus.

Irrigation is administered by a computerized central control system. The schedule determines the amount of water applied to each area, and is set based on current climatic conditions, inspection of plant health, and soil moisture estimates regularly made by Pepperdine personnel. The irrigation distribution system at Pepperdine University delivers potable or recycled water to metered irrigation areas. A central controller regulates individual satellite valves that govern the amount of water delivered to each sprinkler. Pepperdine's HMP program in conjunction with its irrigation system ensures responsible and efficient water use, minimizes both groundwater recharge and surface runoff, and prevents any adverse impact on the environment.

### **Specific Comments**

*The State Water Board should develop a statewide Water Recycling Policy.*

The staff of the State Water Board in its paper prepared for the March 20, 2007 State Water Board workshop on developing a statewide Water Recycling Policy request guidance on whether the State Water Board should develop a Water Recycling Policy. We strongly believe that the State Water Board should develop a Water Recycling Policy that encourages the use of recycled water. Both regulators and the regulated community alike would benefit from a policy that presents a clear and consistent approach to this statewide goal. The current absence of such a policy results in other ill-fitting policies and requirements driving the decision making with respect to determining appropriate uses of recycled water. For example, as explained below, Resolution 68-16, developed nearly 40 years ago, appears to largely constrain the use of recycled water despite the State's desire to conserve water and expand the use of recycled water. Moreover, without such a statewide policy, the ad hoc decision-making of the Regional Boards is neither transparent nor predictable to the regulated community. This unpredictable decision-making discourages potential users of recycled water thereby unnecessarily decreasing an already scarce resource.

*Any State Water Recycling Policy should set out as its first principle the promotion of expanded use of recycled water consistent with the goal of protecting the environment.*

If the State Water Board chooses to develop a Water Recycling Policy, the subsequent task of most importance is to clearly delineate and describe the objective(s) of the policy. We believe that given the context of Southern California's scarce water supply, the Water Recycling Policy should have the primary objective of promoting the use of recycled water while protecting waters of the State. Water is a valuable resource which we believe, as the population of the State of California continues to grow, will become increasingly scarce. Reuse and recycling of water helps to conserve other water resources that might be tapped in times of scarcity such as our current drought year and should therefore be encouraged. The issues posed by staff for the State Water Board workshop do not mention the goal of encouraging recycled water use. Instead, the issues seem oriented to developing a policy that would require all potential impacts from the use of recycled water to be mitigated or absent before the approval of any use of recycled water. This is a classic command and control approach, which unfortunately will severely burden and constrain appropriate uses of recycled water as the cost and time to administer and respond to these requirements will make the use of recycled water non-competitive with domestic water. The end result will be increased use of potable water for purposes which would be better served by recycled water in a context where domestic water availability is one of the most serious state-wide crises.

Additionally, each potential response to the issues raised in the staff paper should be examined, both individually and in the aggregate, as to its potential effects on achieving the right balance between its environmental objectives of expanding recycled water use and protecting waters of the State. Neither objective – increasing recycled water use or protecting the environment – is absolute nor exclusive of the other; some trade-offs are appropriate to assure that the requirements of recycled water use will not significantly interfere with the objective of increasing the use of recycled water.

*The Water Recycling Policy should allow for site or use specific requirements rather than utilizing a "one-size-fits-all" regulatory approach.*

Once the objectives of the W.R.P. are set out, the next task is to determine the scope of the policy. We believe the Water Recycling Policy should provide regional decision-makers the discretion to take different paths and to adjust requirements to fit the circumstances, so long as the final approach will not unreasonably affect present and anticipated beneficial uses of the water. For example, the impacts of recycled water used to recharge an aquifer from which a municipal water supply is drawn and which could result in consumption of reclaimed water should meet drinking water standards. However, the use of reclaimed water for landscape irrigation, such as Pepperdine's situation where water is already carefully managed under the HMP to minimize groundwater recharge and surface runoff, should not be required to meet the same drinking water standard. Stated another way, the Water Recycling Policy should avoid a "one-size-fits-all" approach.

Similarly, it will lead to a much more efficient use of resources of both the Regional Board staff and the regulated users if the decision-makers are encouraged also to accept

water management programs such as Pepperdine's that achieve substantially equivalent protection of the State's water resources in place of the nutrient management plans proposed by the State Water Board staff.

The result of a "one-size-fits-all" regulatory scheme for recycled water will be to increase administration and cost of using recycled water, which will decrease uses of recycled water, thereby increasing demand for our ever decreasing supply of potable water. This is an untoward result which can be avoided through appropriate site and use specific standards.

*The State Water Board should modify Resolution 68-16 (Anti-degradation Policy) to encourage water recycling.*

The staff of the State Water Board requested guidance on whether the Anti-degradation policy is in need of modification. We believe that the Anti-degradation policy does indeed require modification to encourage the use of recycled water. As a general proposition, the term "recycled water" includes any treated water that has been fully or partially treated to reduce waste levels before it is reused. In many situations, such as the use of tertiary-treated wastewater for landscape irrigation on Pepperdine's Malibu Campus, this recycled water does not routinely meet the standards established for drinking water use but is still appropriate, and even preferred, for use in the landscape environment. On its face, Resolution 68-16 can be read to prohibit such a use if there is a chance that the recycled water will reach groundwater or other surface waters. In fact, we understand that this Anti-degradation policy has been applied in other contexts to prohibit the introduction of any waste into waters of the State, even when the water already contains such pollutants.

We fear that the Anti-degradation Policy, without modification, will be interpreted in ways that will severely constrain and decrease the use of recycled water. The policy in its first numbered paragraph provides that "... existing high quality water will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in [applicable water quality policies]." Section 2 further provides that "[a]ny activity which produces . . . a waste or increased volume or concentration of waste and which discharges . . . to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that . . . (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained." Because most Basin Plans designate directly or as a default that the beneficial use of the vast majority of water, including groundwater, is MUN or potential drinking water, the effect of these two provisions in Resolution 68-16 is to prohibit the use of recycled water unless it meets drinking water standards. This outcome, we submit, is completely hostile to a State policy of encouraging the appropriate use of recycled water, such as for landscaping and irrigation. The cost and time required to meet drinking water standards for all uses of recycled water will destroy or at least severely limit the incentives to use reclaimed water. Again, this will result in increased usage of the already scarce potable water resources.

While we know that there may be other ways to solve the problem, we believe that at a minimum the State Water Board should consider modifying Resolution 68-16 in two aspects. First, we believe that the policy should make clear that promoting the use of recycled water is of "maximum benefit to the people of the State" and is therefore consistent with the Anti-degradation policy. Secondly, the policy should specify that the "best practical treatment or control" for projects that generate recycled water is that level of treatment that is consistent with the planned use of the recycled water, rather than defaulting to a drinking water scenario, provided that such use will not unreasonably affect surface water or groundwater in the area of the planned use. In other words, the policy should be flexible and adjust its treatment requirements according to the planned uses of the recycled water.

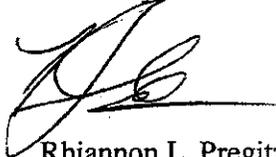
Both of these changes, we believe, would make it clear that the use of tertiary-treated wastewater with elevated levels of nutrients in the landscape environment is permissible and in some cases, such as for irrigation, even preferable.

### **Conclusion**

In summary, Pepperdine supports the implementation of a statewide Water Recycling Policy that strongly encourages the use of recycled water given the scarcity of potable water in Southern California. As such, the Water Recycling policy should have as its primary goal the expansion of use of recycled water consistent with the goal of protecting the environment. Additionally, the Water Recycling Policy should be flexible enough to allow adjustments based upon site-specific circumstances and actual uses of recycled water rather than providing a "one-size-fits-all" regulatory scheme. Finally, the State Water Board should modify the Anti-degradation policy to encourage rather than discourage the use of recycled water. With such provisions, we think that a Water Recycling Policy will have a meaningful positive effect on the appropriate use of recycled water. Without such provisions, any such policy will most likely have the unintended consequence of stunting the necessary expansion of recycled water in the State of California and may even put at risk already-functioning, effectively designed recycled water projects, such as the irrigation program that Pepperdine runs for its Malibu campus.

I appreciate your time and anticipated attention to these comments. Please do not hesitate to contact me if you have questions and comments, or want additional information.

Sincerely,



Rhiannon L. Pregitzer  
Director of Regulatory Affairs