BOLINAS COMMUNITY PUBLIC UTILITY DISTRICT

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November 11, 2011

OWTS Policy
State Water Resources Control Board
P.O. Box 2231
Sacramento, California 95812

Re: Comment Letter – Draft OWTS Policy Documents

Dear Sir/Madam:

On behalf of the Bolinas Community Public Utility District ("BCPUD"), I am writing this letter to provide the BCPUD's comments on the draft Onsite Wastewater Treatment System ("OWTS") Policy and Substitute Environmental Document ("SED"). The BCPUD Board of Directors discussed the OWTS Policy and SED at its regularly scheduled meeting on October 19, 2011 and received input from the public. The following comments are submitted for your careful consideration.

To begin with, our district welcomes and supports the State Water Resources Control Board ("SWRCB")'s "tiered" approach of successive levels of OWTS regulation depending on the likelihood of risk to public and environmental health posed by these systems, with satisfactorily performing existing systems deemed exempt. Within that framework, we encourage adoption of the following additional policies because they will increase the cost-effectiveness and overall benefit of the policy to the public while simultaneously minimizing financial burden on property-owners.

Source Identification

Pollution abatement is expensive, so it is important to accurately trace a pollution source to ensure that remediation is as cost-effective as possible. Expensive mandated OWTS upgrades have not always solved identified pollution problems because the actual sources of the pollution were later found to be wildlife or livestock. In Marin County, OWTS upgrade costs far exceed those quoted in the SWRCB's policy document and a new, engineered OWTS easily will cost $60,000 or more for a private residence. Mandated OWTS upgrades unjustly burden property owners, particularly where the pollution source is not definitively determined and therefore may remain unaddressed even after an upgraded system has been installed.

Fortunately, the recent invention of the PhyloChip at Lawrence Berkeley National Laboratory has provided for the first time an ability to identify the specific mammalian source of fecal coliform bacteria found in contaminated water. We respectfully submit that the SWRCB's OWTS policy documents should require that the SWRCB (or its delegated local governing body) first perform an analysis of polluted water using the PhyloChip and then determine appropriate mitigation for the identified source(s). If the pollution source is not human, then no upgrade or other remediation of nearby OWTS should be required. If the pollution source is human, neighboring OWTSs should be evaluated individually to determine if and what level of remediation is needed. As drafted, the proposed policy documents assume without verification that all OWTS nearby contaminated water are pollution sources and must be rebuilt, which is not a cost-effective policy given the availability of the PhyloChip.

Nitrate Management

As with the bacterial pathogens discussed above, the SWRCB (or its delegated local governing body) should first determine whether the likely source of excess nitrates is a nearby OWTS or whether the source is nearby livestock, fertilizer runoff, or another source before placing the burden of expensive OWTS upgrades upon their owners. Likewise, it cannot be assumed that all new developments will create a nitrate problem at densities above one OWTS per 2.5 acres, because there is a range of widely variable influencing circumstances, as the SWRCB's policy documents acknowledge. To specify the very conservative 2.5-acre cap statewide will result in unnecessarily high acreage absorbed into development — land that could otherwise be reserved for pasture or open space or other important uses. Therefore, development density should instead be specified case-by-case, taking into account the relevant local conditions such as soil type, groundwater flow patterns, and the proximity of drinking-water wells and water bodies.

In addition, it is important to note that uptake of nitrates into vegetation as a nutrient clearly provides effective diversion from groundwater. To this end, composting systems are even more effective than shallow drip dispersal systems. Although composting is discussed in Chapter 3 of the 2002 Leverenz report cited in the OWTS policy documents, that report predates important new work emerging on the topic. In particular, community-level composting of mixed feces, urine, vegetable waste, and cellulosic fiber in insulated volumes exceeding one cubic yard has been found to easily and reliably achieve, by natural bacterial metabolism, temperatures over 140°F, where naturally occurring and ubiquitous thermophilic bacteria dominate, but where human pathogens die off. Extensive field experience with this process is described in "The Humanure Handbook" by Joseph Jenkins (Chelsea Green, 2005), and die-off rates of individual pathogens are currently being quantified using the PhyloChip at Lawrence Berkeley National Laboratory under the direction of Gary Andersen and John Hulls. Professionally operated community collection and composting of human body waste, as is already commonly done for other household waste, could effectively and economically address numerous water problems in a community simultaneously, including supply shortage as well as pathogen and nitrate contamination from effluent, while as a bonus producing sterile compost suitable for replenishing depleted soil. Therefore, a specific program should be incorporated into the SWRCB's OWTS Policy to support pilot projects using this system in communities having identified OWTS problems.

Public Education

Regrettably, many OWTS owners know little or nothing about these important systems and are averse to becoming involved with them; yet at the same time owners tend to be skeptical of the need to hire professional maintenance services. Therefore, education on OWTS maintenance would be a great benefit to these owners as well as to the public at large for two reasons. First, it would minimize the likelihood that owners would be faced with expensive upgrades or replacements. Second, it would lead to a reduction in overall pollution of the public water commons to the degree that such pollution is coming from undetected OWTS plumes or runoff. Indeed, even when OWTS pollution is detected, mitigation may not be possible for fiscal or socioeconomic reasons, as the SWRCB's OWTS policy documents point out.

The SWRCB should develop educational materials for local regulatory agencies to distribute to all OWTS owners, documenting the high cost of OWTS failure and listing several inexpensive ways of avoiding this outcome, including: 1) checking for proper plumbing setup and leak-tightness; 2) periodic scum and sludge thickness measurement in the septic tank; 3) tank pump-out when particulate carryover becomes imminent; 4) installation and periodic cleaning of a particle filter between septic tank and leach-field; and 5) providing effective drainage around the leach-field to maintain the appropriate separation from groundwater.

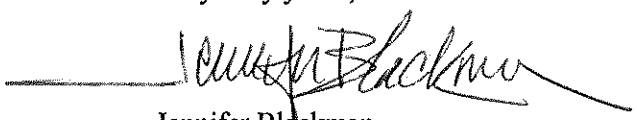
Summary

In conclusion, we believe that the following policies, for the reasons discussed above, will increase OWTS policy implementation cost-effectiveness and overall benefit to the public while simultaneously minimizing financial burden on property-owners:

- Accurate pathogen and nitrate source tracking by the SWRCB or its delegated local regulatory agencies prior to ordering OWTS abatement.
- Encouragement of shallow drip-dispersal to address nitrate runoff.
- Determining appropriate OWTS density in new developments on a case-by-case basis.
- Sponsoring pilot programs using thermophilic composting in OWTS-stressed communities.
- Comprehensive public-education program on OWTS preventive maintenance.

Thank you for the opportunity to provide feedback on the proposed State OWTS Policy and SED. Please contact me if you have any questions about this letter.

Very truly yours,



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