August 9, 2012

TO: CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION, ITS BOARD CHAIRPERSON, AND ITS BOARD MEMBERS

TO: MR. SAM UNGER, DIRECTOR OF CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION (REGION 4)

TO: DR. ERIC WU, CHIEF OF GROUNDWATER PERMITTING UNIT, CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

320 West Fourth Street, Suite 200
Los Angeles, Ca. 90013

Electronic filing and submission to: losangeles@waterboards.ca.gov
And by filing hard copy duplicate original at the above address

Re: NOTICE OF AVAILABILITY OF DOCUMENT FOR PUBLIC REVIEW – CONCEPTUAL GROUNDWATER INJECTION PLAN BY CITY OF MALIBU

Dear Sirs and Madams:

I respectfully submit my comments on the Conceptual Groundwater Injection Plan of the City Of Malibu, submitted by the City of Malibu on June 29, 2012, to your agency, the California Regional Water Quality Control Board, Los Angeles Region, and pursuant your notice of a public comment period, dated July 9, 2012.

I own residential property in the Malibu Civic Center on Malibu Road on the beach side. The Fig. 21 on page 25 shows proposed injection under my property.

As I am an attorney, I consulted with scientists who are eminently qualified in hydrology, geology and geotechnical engineering, and who are board-certified, licensed and registered in their respective scientific areas of expertise by California licensing boards. I report to you their scientific evaluations and conclusions so that you may endeavor to obtain enough information to determine whether a permit should be issued for a groundwater injection plan.
First, I asked basic questions of my expert consults: Will the subject City of Malibu groundwater injection plan work? Is it feasible? The unanimous professional opinion that has been expressed to me is: NO.

In order to explain why it is not feasible and appears unworkable, a detailed report of the consults’ discussions is needed.

The contents of the Conceptual Groundwater Injection Plan of the City Of Malibu, submitted by the City of Malibu on June 29, 2012, are significantly inadequate and incomplete. Without the relevant scientific calculations and studies, the Groundwater Plan cannot be reviewed for viability and safety or whether it is feasible and practical.

1. The Conceptual Groundwater Injection Plan of the City Of Malibu, submitted by the City of Malibu on June 29, 2012, lacks a discussion of the faults and fault zones in the Malibu Civic Center and at the injection sites, their nature(s) and/or their impact(s) on the modeling. My consults state that a thorough fault zone issue discussion should be done in depth, because their presence and impacts may cause the proposal to be unworkable.

Specifically, the presence of faults could be a barrier to the flow of injected groundwater, but whether this is so has not been discussed or presented in the studies, cross-sections and modeling.

The expected rise of the water table level so that it is much closer the surface can decrease the seismic stability factors dramatically. This needs to be evaluated carefully.

2. The faults are not included in or diagramed in some of the cross-sections. At pages 12-13, where the cross-sections are printed, faults are not shown on Cross-Sections A-A or B-B. A fault is shown on Cross-Section D-D. These diagrams are therefore significantly deficient.

3. The rise in water table levels is very likely to significantly increase earthquake hazards and the resulting safety issues. In particular, liquefaction due to shallow groundwater levels is of great concern. Liquefaction and possible decrease in structural stability will likely impact building codes and future development, as well as already developed properties.
The rise of the water table level so that it is much closer the surface can decrease the seismic stability factors dramatically. This needs to be evaluated carefully.

4. It is unclear whether the proposed hotel project apparently in the far left (northeast corner of the area) outlined in a lopsided triangle, at page 28, Figure 23, is included in this plan, and whether its effluent is included in the projected daily volumes of effluent that will be disposed of in this proposed Conceptual Groundwater Injection Plan of the City Of Malibu, submitted by the City of Malibu on June 29, 2012.

5. At a City of Malibu Civic Center stakeholders meeting on June 28, 2012, the speaker and city officials were asked what the added volume sizes and the estimated or modeling number of daily effluent discharge is likely projected to be from waste discharges of the six commercial and housing development projects that are in the pipelines and waiting for a municipal sewer system. They answered that they did not know. This Regional Water Quality Control Board needs this information, modeling and calculations in order to make a decision on whether to issue a permit, and on what conditions.

6. If Phase One facilities are up and running, and the levels of effluent injection have risen to their maximum acceptance levels, how will the City of Malibu deal with effluent from properties in Phases 2 and 3?

7. The report is inadequate in dealing with whether the subsurface seven layers are permeable. It lacks discussion of the relationship of the geology encountered in the borings within the seven layers used or identified in the models.

8. In light of the facts that the Malibu Civic Center basin is already mostly saturated, where is the injected water likely to go?

Although the Malibu area does not rely on naturally present groundwater to supply potable and safe water supplies, the SWRCB Resolution No. 88-63 does view it as such. Unless the perceived potential of drinking water is put aside, it appears to me that groundwater injection would probably de-grade and make this this potential source of drinking water unpotable.

To refresh your memories, the City of Malibu is supplied with water piped in by the Los Angeles County Waterworks, District 29. I believe the water is purchased from the Southern California Metropolitan Water District of Southern
California. It is a member of the West Basin Water District, which delivers recycled, reclaimed water to its customers.

The proposal has estimated waste volumes to be injected and modeling for rising groundwater levels to the maximum groundwater levels are too close, and therefore do not appear to show an acceptable, safe margin of error.

I report a consult’s observation that a likely outcome of using groundwater injection is to raise the water table level to zones already saturated with effluent from residential and other OWTS systems.

A forensic water analysis of the Malibu Civic Center has been recommended by one of my consultants before going ahead with this proposal.

From a legal point of view, a major issue exists of whether groundwater injection into the diagrammed areas along Malibu Road will interfere with and trespass on the underground water, mineral, oil and gas rights of the owner(s). My deed reserves the fee simple ownership rights to underground water, mineral, oil and gas rights to the Marblehead Land Company. Interference with those rights is subject to “Takings” and compensation by the governmental entities engaged in that interference under the California Constitution, Article I, Section 19, and the “Takings” and “Due Process” Clauses of the 5th and 14th Amendments, U.S. Constitution. Pennsylvania Coal Co. v. Mahan, 260 U.S. 393, 43 S.Ct. 158 (1922).

Further, I am opposed to and object to the implementation of a sewer system. I view it as unnecessary, as exorbitantly costly, and as causing confiscatory taxation that the majority of Malibu residential property owners cannot afford. It will cause enormous disruption and interference with the residents’ use of their properties.

I am opposed to sewering and to this groundwater injection plan, because the SWRCB sewering mandate is unfunded by the State of California, and the tax burden of implementing it is in the process of being attempted to be placed unfairly on the backs of local private property owners.

I am opposed to sewering in the Malibu Civic Center, because it lays the infrastructure for hyper-development contrary to the choice of most Malibu area voters, residents and residential property owners.

We in Malibu specifically established the City of Malibu to stop hyper-development via the laying of sewers. A City of Malibu Local Coastal Plan and a
City of Malibu Land Use Plan call for restricted and limited growth, particularly in the Malibu Civic Center. They call for the maintenance of open-space, rural, residential and recreational levels of land use as much as possible. But, now six big projects, five of which are commercial, await the installation of these sewer facilities contrary to and in violation of those plans.

Thank you for giving me the opportunity to communicate my positions to you.

Very truly yours,

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Encls:


2. Los Angeles Metropolitan/West Basin Water District Map of piped water delivery to the Malibu area
INJECTION BRAINSTORMING

Editor:

When I was in school, we frequently engaged in informal speculation about all sorts of technical stuff. It was called then—and still is. I imagine—"brainstorming" by verbal analogy to the barnstorming tours of early acting companies and 1920-30s Jenny flights. Now, as reported in the Malibu Surfside News (07/05/12, p. 2, et seq.), plans are afoot to inject as much as 500,000 gallons per day of treated waste water into a section of the Malibu Creek floodplain deposits called the "Civic Center gravels." After a little brainstorming, it seems that this is not such a good idea.

A useful way to brainstorm is by abstract modeling—simply an intellectual exercise. For example, the entire mass of the floodplain deposits, which are bounded at depth by relatively impermeable bedrock, can be considered a kind of model bottle open to the ocean—the holy grail of the injectionists—their thought presumably being that the floodplain deposits and especially the gravels are a sort of pipe through which the wastewater could be pumped—in fact, a natural ocean outfall. And on you, Hyperion.

But there's a problem. It's called the "Ghyben-Herzberg principle," and it occurs along ocean shores where permeable masses, such as floodplain deposits containing low-salinity, or "fresh" ground water, are intruded by denser high-salinity sea water. In granular materials, ground waters of differing densities remain, except for minor diffusion, separated along a boundary commonly referred to as the "interface"—a condition Messrs. Ghyben and Herzberg independently discovered about 125 years ago. From the shore, this interface slopes down landward. Under such conditions, the only way fresh ground water can reach the ocean is by moving upward along the interface to seep into the ocean through a narrow zone in the ocean bottom near the shoreline. Model-wise, that zone acts as a leaky cork in our model bottle. However rapidly the fresh water moves along the interface, the rate of its disposal in the ocean is not nearly so great as if the flow were directly to the ocean through the Civic Center gravels. Water injected into these gravels could move through them laterally only to that pesky Ghyben-Herzberg interface—consider it the model bottleneck—which then directs the flow to the leaky cork at the shoreline. Unfortunately, there is no way to make this model leakier than it is, because the thickness of the cork is strictly a function of how high the fresh water is above sea level near the shore, an elevation that is essentially constant.

The Civic Center floodplain deposits are at all times saturated to within about 5-10 feet of the surface. Of course, water is incompressible, so carrying our leaky-bottle model one step further, what must happen during injection is that the injected water would displace the resident ground water. As a result, the surface of the saturated section—what commonly is referred to as the "ground-water table"—would rise nearer the surface because it can't go anywhere else. Seismic shaking-wise, generally, and liquefaction-wise, especially, this is not good.

Of course, the model cries for quantification, so let's see. The proposed daily injected 500,000 gallons has a volume of 66,845 cubic feet. Assuming the floodplain deposits have an average model porosity of 15 percent, this means that each day 445,633 cubic feet of floodplain deposits in the immediate vicinity of the injection well would become saturated. Presumably, this volume would form a sort of mound around the injection well, but model-wise, let's assume that it spreads out laterally beneath the floodplain surface so that the water table is raised uniformly everywhere. Since 445,633 cubic feet is equivalent to 10.2 acre-feet, distributing it over the entire 180-acre floodplain area would result in a ground-water table rise rate everywhere of 0.057 feet per day. Allowing for a model leakage of 10 percent to the creek and ocean, which is reasonable brainstorming-wise, the ground-water table rate of rise would be 0.051 feet per day. Therefore, beginning with a floodplain water table of from 5 to 10 feet below the surface, ground water would reach the surface in some places in 98 days and in others in 196 days. Model-wise, call it three to six months.

Everything considered, I have three recommendations: (1) be sure earthquake insurance premiums for properties in the floodplain are paid up; (2) ask the injectionists to brainstorm a little before spending any more tax dollars on the idea of injection disposal; (3) if (2) is rejected, get some investors together and try to corner the galoshes market.

Don Michael
LETTERS TO THE EDITOR

(Continued from page 4)

never experienced anything like this and also important as a means of holding the school district accountable. But the permanent poles disallow temporary usage because in case we decide based on experience that 61_night these particular

lights need to be scaled back or in any other altered, and instead necessitate moving the school vehicles in.

This is such a huge thing to do versus Malibu without any test experience and without any community discussion.

Jeff Jennings argued that we shouldn’t want Coastal controlling Malibu Sutfside News (07/05/12, p. 2, et seq.), plans are brainstorming by verbal then “brainstorming” about the project at hand. There was Jeff Jennings argued that we shouldn’t want Coastal controlling the public interest, health, safety, convenience and welfare of the City of Malibu.

The appellant also contends the planning commission’s finding that the proposed use would be detrimental to the public interest, health, safety, convenience and welfare of the City of Malibu.

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Alcohol CUP Appeal

(Continued from page 3)

self-imposed conditions and concluded that the request would be detrimental to the public interest, health, safety, convenience, or welfare.

The planning commission determined, as it had previously determined under the original CUP application, that an undue concentration existed and approval of the CUP would be detrimental to the public interest, health, safety, convenience, and welfare of the City of Malibu.

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