

Bonnie Blue

From: Marilyn Dove <msdove_90265@hotmail.com>
Sent: Monday, July 28, 2014 1:37 PM
To: Bonnie Blue
Cc: Sally Benjamin
Subject: RE: Draft EIR #13-001
Attachments: wasteWaterRxPlant_ccwtf.pdf; wasteWaterRxPlant_ccwtf.docx

Dear Senior Planner Blue:

attached PDF and corresponding WORD file lists my comments .
Please confirm receipt.

Marilyn Dove
310 383-2561

RECEIVED
JUL 28 2014
PLANNING DEPT.

RECEIVED
JUL 28 2014
PLANNING DEPT.

TO: Senior Planner Bonnie Blue

RE: Draft EIR #13-001 Civic Center Wastewater Treatment Facility (CCWTF) Project Draft EIR

BY: Marilyn Dove 24958 Malibu Road 310 383-2561

Section	Page, Table or Figure	Comment	M.Dove
		(Page 1-2 and many other places) The Draft EIR misstates what the R4-2009-007 ban prohibits. The ban prohibits discharges from OWDs. Since there are zero-discharge OWDs such OWDs would not be prohibited. The MOU also misstates the ban and it should be corrected	1
		Malibu must align itself with California Executive Order S-3-05, County LID ordinances and its own local policy objectives. Adding 1132 MT annually for a project with minimal returns is counter-indicated. Per Appendix G-2, average Nitrate-N levels are already compliant. This project estimates only a 3 mg/L reduction over 30 years from a No Project Alternative (see Figure 5-5 of Appendix G2). While TDS would be halved over 30 years there are more cost-effective and GHG neutral alternatives not explored in this DEIR.	2
		The project is not cost effective per projections cited in Figure 5-5 of Appendix G2. Contrary to its stated objectives it does not minimize cost to property owners nor maximize use of recycled water. The project should conform to its stated objectives.	3
1		Effluent Flow Rate: Why is expected discharge rate 300000 to 507000 1) total effluent flow rate 507k gpd max but section 5.3.2 mentions continuous dumping between 300k to 507k gpd so why is it called "recycled". 2) Also section 3.2 and 3.3.2 states a key aim and treatment objective is to maximize use of recycled water so why are there plans to both dump so much AND inject it into wells?? The project plans seem to be based on no recycling indeed in section 3 page 3-32 the injection rate of 280 gpm equates to 403,200 gpd which is over 80% of maximum effluent rate (this is assuming 280gpm is total for all 3 injection wells which is unclear). 3) Why is this effluent being injected within 1200 feet of the ocean and per Appendix G2 Anti-Degradation Analysis page 27 last paragraph this is where it will flow at shallow depths?? 4) Also from HWQ-2 it states 469280gpd expected at buildout in 2019 which is a 45% increase over today's rate. Calculating backwards, today's rate is 185710 gpd. SO why is the effluent rate so much greater?? Page 3-28 states expected recycling is 125,000 gpd which is almost 70% of today's effluent rate but only between 25% to 40% of 2019 effluent rate. Storage for 10 million gallons is not a minor issue and must be addressed in this DEIR rather than later.	4 5
1	1-2 to 3	The 9 pumping stations are omitted from the above ground elements. Instead it implies there is only 1 pump station	6
1	Table 1-1	What about the Winter Canyon storm drain?? What protections will be afforded to prevent dumping inadvertent or otherwise down this storm drain which leads directly to the ocean What happens when there is a SSO event (sanitary sewer overflow) Will there be a 24 hour hotline for example with the phone number on the manhole? What safeguards are taken to divert from storm drains?	7
1	Table 1-1 BIO	Migratory marine mammals are not mentioned in the impacts and would be negatively impacted an ocean outfall option due to water and sediment pollution (source National Park Service). Currently the migrating grey whale females with calves routinely come within 300 feet of Malibu Road's shore to rest, groom and teach their calf. I have witnessed this for the last 10 years.	8

Section	Page, Table or Figure	Comment	M:Dove
1	Table 1-1 MM-BIO-4	The biological monitors should be present and reviewed during the operational phase especially regarding salinity, silting and changes in sand levels. Results must be made electronically accessible to the public in a format importable to spreadsheet applications	9
1	Table 1-1 MM-BIO-6	There is only mention of mitigation during construction for biological impacts. What about impacts during operation? Salinity impacts to marine habitat were not addressed.	10
1	Table 1-1 BIO	What measures will be taken regarding removing pharmaceutical drugs which are disposed into the sewer? This is an operational impact that isn't addressed anywhere	11
1	Table 1-1 U-2	says "construction and operation. . . would result in potentially significant impacts" but no mitigation is mentioned and the significance column says "less than significant" the two columns conflict	12
1	Table 1-1	Traffic impacts during operation. The routine and emergency maintenance of the 9 pump stations is not addressed.	13
1	Table 1-1	Numerous hazards are mentioned during construction and operation. How can the cumulative impact of all these hazards be considered "less than significant"?	14
1	Table 1-1	Population and Housing: The cost of the project to R-1 to R3 parcels will negatively impact the affordability of housing and displace residents. Visitor serving establishments will have to pass on these costs to their customers, further limiting access to many.	15
1	Table 1-1	GHG- the environmental impact column says sea level rise may have significant impacts on project there are no mitigation measures so how can the result be less than significant	16
1	Table 1- GHG-1	Project's Greenhouse gas generation annual 1132 Mton. The DEIR's comparison to the statewide rate does not put anything into perspective. The comparison is misleading first because California has heavy industry, heavily travelled freeways and large agri-business none of which is present in Malibu. Second California represents almost 159,000 square miles whereas Malibu is about 100 square miles (0.06%). Third Malibu's population is 13000 representing a mere 0.03% of California's 38 million. Compare it to Malibu's current annual emission rate instead. Looking at it this way, the project impact could be as high as 3-5% increase each year.	17
1	Table 1-1 HWQ-1	Maintenance should include routine testing for salinity bacteria, chemicals and nutrients. A benchmark must be established before use.	18
3	3-23	The injection depth stated in the DEIR is 30 to 130 feet but the assumption used the per Appendix G2 Anti-Degradation Analysis is 160 feet. That means the model does not fit the project.	19
3	3-9	The injection well heads are above ground and are not listed in the above ground structures	20
3	Figure 3-3 page 3-5	Shows a Phase 1 (commercial only) pumping station on Malibu Road at the west end of the prohibition zone. There is no commercial zoning at location on of Malibu Road. In fact, Figure 3-10 on page 3-26 clearly shows this area not even in Phase 2 . If this is to service the county's discharge pipe it should be moved to the source -i.e. - on PCH not Malibu Road. And that discharge pipe down the canyon should be shutdown and dismantled. Similarly on page 3-32 the Malibu Road entry under phase 1 should be deleted (ie it should say PCH for phase 1) also paragraph 3 page 3-33.	21
3	Page 1-33	Traffic operational impacts mentions injection wells on Malibu Road but the Project description diagram Figure 3-4 does not mention these injection wells instead it only says Civic Center injection wells	22

Section	Page, Table or Figure	Comment	M. Dove
3	Page 3-14	Figure 3-8 is missing several above ground structures listed in Figure 3-7. Namely solid storage tanks. It is difficult to assess the congruity of the 2 tables. Numbers should be provided in Figure 3-8 which correspond to numbered items in Figure 3-7. Also the injection well heads are above ground and there are no Figures or story poles to indicate their presence on Malibu Road.	23
3	Page 3-24	The Draft EIR has not mentioned the MOU's water quality sampling requirement. This sampling must be done to determine the efficacy of Phase 1 & 2 in improving water quality in the lagoon. This means a benchmark must be taken before the CWTF project commences. The methods and criteria for this benchmark is also not mentioned in the draft EIR.	24
3	Page 3-32	Clarify the existing ambiguity: 3 injection wells are mentioned then a disposal rate of 280 gpm is mentioned. Is that total for all 3 injection wells or 280gpm for each?	25
3	Page 3-33	Strike the option to divert down stormdrains. Everyone knows there is a paucity of "existing stormdrains" in that section of Malibu Road that is why the area behind Colony Plaza always floods.	26
5		Inadequate consideration of other wastewater treatment options for example decentralized zero-discharge system. To quote: "The "Zero-Discharge" Wastewater Treatment System has been advocated for the scenic and/or historically preserving tourism spots. The Decentralized Wastewater Treatment (DWT) coupled with the Land Treatment Method has been found to be the most effective treatment system to achieve such historically unachievable "Zero-Discharge" dream. The DWT, normally also referred as aerobic onsite or clustered Wastewater treatment system, is installed to provide efficient treatment for group of residential dwellings and businesses in sparsely distributed community." ¹ <small>1 CWWA 2nd Canadian Wastewater Management and Policy Forum, 25-27 February 2007 Queens University, Bruce Anderson, et al, Centre for Sustainable Watersheds</small>	27
5	5.3.1	No Project Alternative has not been given enough analysis. For example, the Appendix G2 Anti Degradation Analysis shows point sources for LARWQC standard exceedances. Most of the basin is compliant and on average Malibu's Nitrate-N is well below LARWQC standard. Current average TDS level is slightly above (within .05) standard. Again these exceedances can be addressed case by case. All OWDs can be retrofitted to reduce TDS emissions. Also for residences and low density developments existing OWDs can be augmented for a zero discharge system at a fraction of the cost (both environmentally and financially) of the other options.	28
5	5.3.4	It is only 6 miles to connect to the Temescal Cyn access pipeline to Hyperion currently in construction and coming online in spring 2015. Where does the 22 mile figure come from? All impacts of this alternative are exaggerated. Figure 5-2 indicates no other city has connections to Hyperion which is patently false. Therefore Table 5-1 is also wrong for the Alternative D column1	29

Response to July 28 Comment Letter from Marilyn Dove (C-1)

Response to Comment 1

Comment addressed in EIR, see Chapter 1 - Executive Summary.

Response to Comment 2

Constituents of Emerging Concern (CECs) are addressed in Section 4.7 – Hydrology and Water Quality. It should be noted that these same constituents are currently being discharged to the groundwater basin through the OWDSs.

Response to Comment 3

Figure 5-5 in Appendix G2 shows simulated changes in groundwater quality resulting from Project implementation and does not pertain to Project costs. The Project seeks to minimize costs to property owners by phasing implementation and utilizing an economical but advanced MBR treatment technology. The Project maximizes recycled water use to the extent feasible by including the irrigated ball fields of the City's Bluffs Park into Phase 1 and offsetting imported portable water use.

Response to Comment 4

- 1) The treated effluent meets state water quality criteria for recycled water and has the potential for reuse and is therefore referred to as recycled water. In the outfall alternative (Section 5.3.2 referenced in Comment 6), only that portion of the recycled water not reused would be sent to the outfall.
- 2) The Project intent is to reuse as much recycled water as possible, but recycled water demand in the Project area is much less than what would be produced, so an additional means of disposal is required. The impact analysis assumes no reuse in order to analyze the most conservative case (i.e., the one with the greatest potential for environmental impacts).
- 3) The recycled water would be injected into the most permeable part of the groundwater basin, based on field analyses and modeling. The injected water would only emerge in shallow depths well offshore in the ocean.
- 4) The effluent rate is greater as it represents the projected rate at build-out conditions (full development per the City's General Plan and LCP), as compared to today's effluent rate which is based the existing level of development in the Prohibition Area. This maximum build-out does not account for the feasibility (or infeasibility) of development of individual parcels and therefore is a conservative estimate.

Response to Comment 5

The proposed Project does not include 10 MG of storage nor is there any intention to build a 10 MG recycled water storage tank as part of any phase of the Project. This storage tank is referenced in the EIR as the LARWQCB asked the City to explore different storage scenarios as part of its studies. The siting and expense of providing 10 MG of

storage would jeopardize the feasibility of the Project and is not an essential part of the Project, therefore it is not a recommended project component. See FAQs on City's website at <http://www.malibucity.org/DocumentCenter/View/6800>.

Response to Comment 6

The description referenced in Comment 6 is intended to reflect the development on the treatment plant site only. Additional language has been added to the second paragraph of Section 1.2 to distinguish between the treatment plant site elements and those of the collection and distribution systems, which would include the nine pump stations. See Chapter 3 – Project Description, for a complete description of the pump station elements.

Response to Comment 7

As described in Chapter 3 – Project Description and Section 4.7 – Hydrology and Water Quality, the treatment plant site has been designed such that grading would occur that would route all stormwater runoff at the facility to designated onsite capture locations where it would be pumped and returned to the headworks for treatment. In regards to the pipeline flows, a Sewer System Management Plan (SSMP) would be required, and would include, among other things, an emergency response plan to address pipeline breaks and overflows. This is described in the analysis of Impact HWQ-1 on page 4.7-30 in Section 4.7 – Hydrology and Water Quality.

Response to Comment 8

Additional language has been added to Section 5.3.2, Alternative B – Ocean Outfall, Biological Resources to address this potential impact. See Chapter 5 of the EIR.

Response to Comment 9

A biological monitor is the person who would be observing plant and wildlife species onsite during Project construction. Monitoring data required by Project construction and operation permits would be maintained by the City and available for public review in accordance with Public Records law requirements and City standard procedures.

Response to Comment 10

See Section 4.3.2 for the biological impact analyses. Also see Appendix G1 for the ocean mixing analysis. These analyses demonstrated no significant adverse impacts associated with plant operations, including the injection of unused recycled water.

Response to Comment 11

Potential water quality impacts resulting from constituents of emerging concerns (CECs), which include pharmaceutical drugs, are addressed in Impact HWQ-1 in Section 4.7 – Hydrology and Water Quality, Operations Impacts, Injection and Percolation. This section explains that these same constituents are currently being discharged to the

groundwater basin through the OWDSs, and that studies show that the MBR and disinfection technologies utilized by the Project would likely result in less than or similar levels of CEC discharges to the Malibu Valley Groundwater Basin and the Winter Canyon alluvium compared to those which occur under present conditions.

Response to Comment 12

The text has been updated to clarify that mitigation measures are provided in the other referenced EIR sections to reduce potentially significant impacts to less than significant.

Response to Comment 13

The operation and maintenance of the pump stations is discussed in Chapter 3 – Project Description, Section 3.4.4. As discussed in Section 4.15.2 – Transportation and Traffic, Environmental Impact Analysis, Impacts, routine pump station maintenance is not expected to require more than one trip per week and therefore, would not significantly impact traffic.

Response to Comment 14

Implementation of each of the identified mitigation measures would reduce the potential impacts associated with hazards to less than significant. The mitigation measures are described in detail in each impact section in Chapter 4 – Environmental Impact Analysis and in the Mitigation Monitoring and Reporting Plan (provided under separate cover).

Response to Comment 15

The City is sensitive to the costs the Project would place on residential property owners. However, it is speculative to suggest that homeowners would be displaced and that access to visitor-serving uses would be affected.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City, as well as disruption of visitor-serving uses.

Response to Comment 16

As discussed in detail in Section 4.14, all GHG-related impacts would be less than significant due to Project siting and design. Appendix I discusses sea level rise as it relates to the Project. The City would employ a planned retreat strategy as sea levels increase in coming years. This would be part of a larger City strategy for dealing with

rising sea level impacts as they relate to roads and other utilities. No additional mitigation measures are required.

Response to Comment 17

Comment acknowledged. The text in Table 1-1, GHG-1 has been revised to reflect that the Project's greenhouse gas generation of 1,132 MTons of CO_{2e} was compared against the Southern California Air Quality Management District's (SCAQMD's) proposed threshold of 3,000 MTons for commercial projects as a measure of significance. See also Thresholds of Significance discussion in Section 4.14 – Greenhouse Gas Emissions and Climate Change.

GHG emissions associated with Malibu's existing facilities would not represent a reasonable threshold for comparison of Project impacts since City facilities primarily include City Hall and park facilities, rather than comparable utility facilities. Using this accepted SCAQMD standard, the Project was determined to result in less than significant impacts related to GHG emissions.

Response to Comment 18

Monitoring requirements would be set by the Project's construction and operating permits, such as those issued by the LARWQCB, and as required for the City's ongoing monitoring Project operations to ensure proper function of the treatment facility.

Response to Comment 19

The text has been revised to reflect the deeper potential injection depth; see Chapter 3 – Project Description, Section 3.3.4, Dispersal, Injection Wells. This modification does not affect the validity of the analyses conducted as the aquifer into which the injection would occur does not change.

Response to Comment 20

The comment references above-ground structures described in Section 3.3.2, which relate to the collection and distribution system only. A description of the injection wells, including the above-ground well heads and associated facilities, can be found in Chapter 3 – Project Description, Section 3.3.4, Reuse/Dispersal, Dispersal.

Response to Comment 21

The pump station referenced in this comment shown on Figure 3-3 would be part of Phase 3 (blue line). The legend for Figure 3-3 uses a yellow line to indicate where sections of pipeline would be a force main, which is the case in this location. With the yellow force main line designation around it, this line (and pump station) may appear green, which is the legend color designating Phase 1 pipelines; however, this pump station and the associated pipeline would occur in Phase 3.

Response to Comment 22

Figure 3-4 is a simple figure meant to provide an overview of the basic operation of the Project. The “Civic Center Injection Wells” shown on the right side of the diagram is a more general way of referring to the three injection wells proposed along Malibu Road to serve the greater Civic Center Prohibition Area.

Response to Comment 23

Some above-ground structures are not visible in the renderings (Figures 3-7 to 3-9 of Chapter 3 – Project Description) as they are hidden behind landscape and/or other structures. Figure 3-8 has been updated with numbering to correspond to the Figure 3-7 treatment facility site plan. The solids storage tanks are underground. The solids storage building is shown in Figures 3-7 to 3-9 (building to the southwest of the percolation ponds). Above-ground features at the injection well sites are described in Section 3.3.4, Reuse/Dispersal, Dispersal and a depiction of a possible wellhead facility design is included as Figure 4.1-4 from Section 4.1 – Aesthetics.

Response to Comment 24

Text has been revised; see Section 3.4.2 of Chapter 3 – Project Description. However, it should be noted that permits issued by other regulatory bodies, such as the LARWQCB, not the EIR, would address the methods and criteria for benchmarking and monitoring.

Response to Comment 25

Text in Chapter 3 – Project Description, Section 3.4.3 Construction, Construction Methods for Injection Wells, has been edited to clarify that each well would be designed to inject up to 280 gallons per minute (gpm) of recycled water.

Response to Comment 26

Groundwater produced during the drilling and testing of monitoring and test wells is typically disposed of via the storm drains. It is anticipated that the same method would be used during injection well construction, with discharges occurring at the storm drain on the western side of Malibu Road (23762 Malibu Road) per the City’s permit with the LARWQCB for coverage under the *General National Pollutant Discharge Elimination System and Waste Discharge Requirements for Discharges of Groundwater from Potable Water Supply Wells to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties*.

Response to Comment 27

In deciding upon the selected treatment technology, multiple factors were considered, including the volume and types of wastewater to be treated, treatment objectives, siting conditions, and cost. Possible treatment technologies were discussed with the Technical Advisory Committee to the Project, and the MBR process (the proposed treatment technology) was selected. MBR is a biological wastewater treatment process

that has been widely used on the type of wastewater expected from the Malibu commercial and residential properties. Because the commercial properties consist of dry retail (toilet and wash basin flows only) and restaurant uses, the character of the wastewater is similar to residential, differing in concentration rather than in composition. This difference in concentration has been taken into account in the design of the treatment plant. There are no industrial flows that could be high in toxicants or hard to treat compounds. The selection of treatment process has been reviewed by the Technical Advisory Committee (TAC), who agreed with the treatment process selection. The TAC included several wastewater treatment experts, including Dr. Michael Stenstrom, Distinguished Professor in the Civil and Environmental Engineering Department at the University of California, Los Angeles, and Mr. Lea Fisher, a retired senior process treatment expert from one of the largest wastewater design consultancies in the United States. Dr. Stenstrom is an expert in wastewater treatment processes and has extensive direct experience with the MBR process. He teaches and leads research in wastewater treatment processes and technologies in UCLA's School of Engineering and is therefore 'current and up to date' on the various treatment technologies including MBR. Dr. Stenstrom was present at all the TAC meetings where the selection of the recommended treatment process was discussed. The meeting(s) that he missed focused on other elements of the project, and therefore his absence from these meeting(s) does not undermine the validity of the recommendation of MBR treatment. Mr. Lea Fisher was also involved in the process selection and the subsequent sizing of MBR process units for this project. Mr. Fisher has designed numerous treatment plants throughout the United States, including the recent MBR treatment plant at Ironhouse Sanitary District in Oakley, California.

The MBR process (the proposed treatment technology) is a biological wastewater treatment process that has been widely used on the type of wastewater expected from the Malibu commercial and residential properties; it is not an unproven experimental process. The MBR process is being used at hundreds of wastewater treatment plants with capacities up to 60 million gallons per day. (Malibu's treatment plant would have a capacity of approximately 0.5 million gallons/day.) For example, Riverside, California is presently converting their treatment plant to include 26 million gallons/day of MBR treatment to allow unrestricted Title 22 reuse of their effluent (same goal as Malibu plant). Because the commercial properties in the City consist of dry retail (toilet and wash basin flows only) and restaurant uses, the character of the wastewater is similar to residential, differing in concentration rather than in composition. This difference in concentration has been taken into account in the design of the treatment plant. There are no industrial flows that could be high in toxicants or hard to treat compounds. Other alternative technologies were considered for Phase 1 but were rejected as infeasible and therefore were not evaluated in the EIR. A Zero-Discharge wastewater treatment system was also not considered as communications with the LARWQCB have indicated that it does not believe that these types of systems truly provide 'zero discharges' and would not accept this type of system as an option for compliance with the Prohibition.

Response to Comment 28

The No Project alternative does not address the issue of bacterial impacts to Malibu Creek and Lagoon resulting from OWDS operations in the Malibu Valley Groundwater Basin. Additionally, the nitrate and TDS concentrations discussed in Appendix G2 are for the deeper Civic Center Gravels and do not specifically address nitrate and TDS concentrations in the shallow alluvium, the location to which OWDSs are discharging. Furthermore, OWDSs cannot be retrofitted to address TDS emissions as these types of wastewater treatment systems are designed to process the nutrients in municipal wastes and do not treat the salts that compose TDS. Finally, based on recent conversations with the LARWQCB, zero discharge systems are not considered to be truly 'zero discharges' and therefore continue to constitute a OWDS discharge within the Prohibition Area and therefore not compliant with the SWRCB and LARWQCB orders.

Response to Comment 29

The pipeline length described in Section 5.3.4 would extend from the Malibu collection system to the Hyperion Wastewater Treatment Plant near the city of El Segundo, as shown in Figure 5-2. This figure is not intended to show any existing pipelines belonging to other jurisdictions as they are not considered to be part of the Project alternative. The Temescal Canyon wastewater pipeline has not been designed to accommodate City effluent flows and its use is not considered a viable option for the purpose of this analysis as the pipeline would have to be replaced to accommodate City flows. An assumption regarding the use of this pipeline, including the ability to upsize the pipeline to accommodate City flows, is speculative and therefore not considered in the EIR. This is true for all existing collection systems transporting flows to Hyperion.

Alternative D, Pipe Effluent to Hyperion Wastewater Treatment Plant, was analyzed in Section 5.3.4 of the EIR. While the pipeline to Hyperion would result in many of the impacts discussed in this section, one key concern is the ability to put the pipeline in PCH and the long-term stability of that pipeline given sea level rise, potentially increased storm surges, and the slope stability issues that commonly occur along that stretch of PCH. The assumption that one of the major benefits of building a pipeline to Hyperion is that hundreds of properties along PCH would be able to connect and share expenses is speculative. As with the proposed Project, an assessment district or some other funding mechanism would be required to finance the construction of the project and there is no reason to believe that landowners along PCH would be willing to participate (especially as these landowners, unlike the City, are not under the orders of the SWRCB and LARWQCB to cease discharges from OWDSs). The EIR is not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation.

RECEIVED
JUL 10 2014
PLANNING DEPT.

Joan C. Lavine

Attorney at Law

California State Bar No. 048169

123 North Hobart Blvd., Los Angeles, California 90004, U.S.A.

23900 Malibu Road, Malibu, California 90265

Office Phone: (213)627-3241; Fax Phone: (213)383-8811

E-mail: JCLavine@aol.com; JoanLavine@gmail.com; ADove@aol.com;

Wednesday, July 09, 2014

Ms. Lisa Pope, City Clerk for City of Malibu, lpope@malibucity.org
Mr. Jim Thorsen, City of Malibu City Manager, jthorsen@malibucity.org
Ms. Joyce Parker-Bozylinski, AICP, Planning Director for City of Malibu
JParker-Bozylinski@malibucity.org

City of Malibu
23825 Stuart Ranch Road
Malibu, California 90265

Attention: City of Malibu Planning Department, Public Works Department and Environmental & Building Department

Re: Objections to scheduling deadlines, hearings, workshops and voting during the summer months, other vacation and holiday periods.

Re: Recirculated Draft Environmental Impact Report, publish date June 12, 2014, regarding Applications: Environmental Impact Report No. 13-001, Coastal Development Permit No. 13-057, Conditional Use Permit No. 13-005, Local Coastal Program Amendment (LCPA) 13-002, Zoning Text Amendment (ZTA) No. 13-008, and Zoning Map Amendment No. 13-001.
Description of Project: The purpose of the proposed DEIR is to analyze the potential environmental impacts of the proposed development of the Civic Center Wastewater Treatment Facility Project. The City would develop the Project in response to the prohibition on onsite wastewater disposal systems (OWDSs, also known as onsite wastewater treatment systems, or OWTSS) in the Civic Center area of the City of Malibu imposed by the State Water Resources Control Board and Los Angeles Regional Water Quality Control Board in 2010.

To: Ms. Lisa Pope, City Clerk for City of Malibu, lpope@malibucity.org
To: Mr. Jim Thorsen, City of Malibu City Manager, jthorsen@malibucity.org
To: Ms. Joyce Parker-Bozylinski, AICP, Planning Director for City of Malibu
JParker-Bozylinski@malibucity.org

To: Mayor of the City of Malibu, and to the other City Council Members, City of Malibu:

Please, be advised that I object to the practice of the City of Malibu and its officials of scheduling deadlines, due dates, hearings, votes, and workshops and other official business during summer vacation and travel times, and holiday periods such as the time period from mid-November through the first week of January.

This persistent pattern of scheduling the above identified proceedings of critical importance to the ownership and potential assessments, charges and taxation of \$500,000 per residential parcel while property owners are likely to be away and unable to participate to order

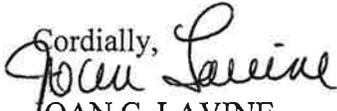


to protect their very substantial property and occupancy interests has the effect of denying the interested parties of their rights to participate in order to protect their substantial personal and property interests.

I request that you re-schedule all deadlines, due dates, comment periods, hearing dates and votes to regular business periods involved in the above referenced proceedings. This request to re-schedule includes my request that you re-schedule the pending DEIR proceeding, above referenced, with a current due date of July 28, 2014, which in the middle of the summer when property owners in the Malibu Civic Center are likely to be away on vacation and to have rented out their properties as summer rentals. I would suggest you re-schedule it to a due date of October 15, 2014.

Please, treat this objection as a preliminary objection and comment regarding the above Draft Environmental Impact Report proceeding above referenced with a pending comment period of June 12, 2014, through July 28, 2014, and with a deadline for filing comments on July 28, 2014, at 5:30 p.m. PDT.

Thank you for considering my objection and comment.

Cordially,

JOAN C. LAVINE

Property Owner, 23900 Malibu Road, Malibu, California 90265
JCLavine@aol.com; ADove@aol.com; JoanLavine@gmail.com
JoanLawCalLaw@gmail.com

Delivered via email to: lpope@malibucity.org
jthorsen@malibucity.org
JParker-Bozylinski@malibucity.org

Delivered by hand-delivery to City of Malibu office, 23525 Stuart Ranch Road, Malibu, CA 90265

Joan C. Lavine

Attorney at Law

California State Bar No. 048169

123 North Hobart Blvd., Los Angeles, California 90004, U.S.A.

23900 Malibu Road, Malibu, California 90265

Office Phone: (213)627-3241; Fax Phone: (213)383-8811

E-mail: JCLavine@aol.com; JoanLavine@gmail.com; ADove@aol.com;

RECEIVED
JUL 10 2014
PLANNING DEPT.

Thursday, July 10, 2014

Ms. Lisa Pope, City Clerk for City of Malibu, lpope@malibucity.org

Mr. Jim Thorsen, City of Malibu City Manager, jthorsen@malibucity.org

Ms. Joyce Parker-Bozylinski, AICP, Planning Director for City of Malibu

JParker-Bozylinski@malibucity.org

City of Malibu

23825 Stuart Ranch Road

Malibu, California 90265

Attention: City of Malibu Planning Department, Public Works Department and Environmental & Building Department

Re: Additional objections: objections to scheduling multiple deadlines, hearings, workshops and voting during the summer months, other vacation and holiday periods and in a short time period and overlapping and simultaneously with one another. Recirculated Draft Environmental Impact Report, publish date June 12, 2014, regarding Applications: Environmental Impact Report No. 13-001, Coastal Development Permit No. 13-057, Conditional Use Permit No. 13-005, Local Coastal Program Amendment (LCPA) 13-002, Zoning Text Amendment (ZTA) No. 13-008, and Zoning Map Amendment No. 13-001.

Description of Project: The purpose of the proposed DEIR is to analyze the potential environmental impacts of the proposed development of the Civic Center Wastewater Treatment Facility Project.

To: Ms. Lisa Pope, City Clerk for City of Malibu, lpope@malibucity.org

To: Mr. Jim Thorsen, City of Malibu City Manager, jthorsen@malibucity.org

To: Ms. Joyce Parker-Bozylinski, AICP, Planning Director for City of Malibu

JParker-Bozylinski@malibucity.org

To: Mayor of the City of Malibu, and to the other City Council Members, City of Malibu:

Please, be advised that I also object to the practice of the City of Malibu and its officials of scheduling and/or participating in setting MULTIPLE OVERLAPPING OR SIMULTANEOUS deadlines, due dates, hearings, votes, and workshops and other official business during summer vacation and travel times, and holiday periods such as the time period from mid-November through the first week of January.

Last night, July 9, 2014, I went over my schedule for deadlines, due dates and hearings regarding the Malibu Civic Center septic ban issues, sewage plant CEQA proceedings, especially the pending DEIR for the sewage plant due July 28, 2014. In addition, I the following pending, overlapping and conflicting deadlines, due dates, and hearings on my calendar:

1. Re: "Comment Letter – General Order WDRs for Small Domestic Wastewater Systems and/or Negative Declaration and Initial Study." Before the SWRCB. Comment period from June 25, 2014 to July 25, 2014.
2. **CITY OF MALIBU CIVIC CENTER WASTEWATER TREATMENT FACILITY PROJECT PUBLIC WORKSHOP AND NOTICE OF AVAILABILITY FOR RECIRCULATED DRAFT ENVIRONMENTAL IMPACT REPORT, dated June 12, 2014, due date July 28, 2014, at 5:30p PDT.**

Applications: Environmental Impact Report No. 13-001, Coastal Development Permit No. 13-057, Conditional Use Permit No. 13-005, Local Coastal Program Amendment (LCPA) 13-002, Zoning Text Amendment (ZTA) No. 13-008, and Zoning Map Amendment No. 13-001.

Description of Project: The purpose of the proposed DEIR is to analyze the potential environmental impacts of the proposed development of the Civic Center Wastewater Treatment Facility Project.

3. SWRCB Notice Of Proposed Emergency Rulemaking, notice date July 8, 2014: Prohibition of Activities and Mandatory Actions During Drought Emergency. Hearing before the SWRCB on July 15, 2014. Comments due before date/time of hearing.
4. The State Water Resources Control Board (State Water Board) is hosting a public meeting to commence the development of groundwater monitoring model criteria for oil and gas well stimulation treatments, as specified in Senate Bill 4 (Pavley, Statutes of 2013). The meeting is currently planned for Thursday August 7th, in the Kern County Supervisors Chambers, in Bakersfield, California from 8am to 5pm.

I request that you re-schedule all deadlines, due dates, comment periods, hearing dates and votes to regular business periods involved in the above referenced City of Malibu DEIR proceedings with a present comment time period of June 12, 2014, through July 28, 2014. This request to re-schedule includes my request that you re-schedule the pending DEIR proceeding, above referenced, with a current due date of July 28, 2014, which in the middle of the summer when property owners in the Malibu Civic Center are likely to be away on vacation and to have rented out their properties as summer rentals. It also overlaps with several other critical proceedings before the SWRCB. No one person, no matter how knowledge and skilled in administrative law can accomplish legal work on all these items during the times allotted. I would suggest you re-schedule it to a due date of October 15, 2014.

Please, treat this additional objection as a preliminary objection and comment regarding the above Draft Environmental Impact Report proceeding above referenced with a pending comment period of June 12, 2014, through July 28, 2014, and with a deadline for filing comments on July 28, 2014, at 5:30 p.m. PDT, and request to continue the comment due date to October 15, 2014.

Cordially,
JOAN C. LAVINE



Property Owner, 23900 Malibu Road, Malibu, California 90265
JCLavine@aol.com; ADove@aol.com; JoanLavine@gmail.com
JoanLawCalLaw@gmail.com

Delivered via email to: lpope@malibucity.org; jthorsen@malibucity.org; JParker-Bozylinski@malibucity.org

Delivered by hand-delivery to City of Malibu office, 23525 Stuart Ranch Road, Malibu, CA 90265

1. I object that, among other material, prejudicial and overriding defects in the wholly inadequate Recirculated Draft Environmental Impact Report, are the following as described in Laurel Heights etc. Assn. v Regents, U.C., 47 Cal.3d 396: 1) That it does not discuss anticipated future activities and/or the effects of those activities and uses; (2) That it does not adequately discuss feasible alternatives to the project; and (3) That there is no substantial evidence the project's adverse environmental effects, especially injection induced seismicity, destruction of the established, stable residential community and traffic flow crises, will be mitigated. These challenges are based on the California Environmental Quality Act (CEQA) (Pub.Resources Code, § 21000 et seq.).

2

2. The Recirculated Draft Environmental Impact Report (R-DEIR), City of Malibu EIR No. 13-001 (Coastal Development Permit No 13-057) is substantially incomplete and inadequate. It fails to satisfy the basic legal requirements for the preparation of a DEIR or an EIR in several fundamental ways. Laurel Heights etc. Assn. v. Regents, U.C., 47 Cal.3d 376, 396 (1988).

The Recirculated Draft Environmental Impact Report, City of Malibu EIR No. 13-001, inadequately and prejudicially narrowly defines and describes the proposed project at Section 1.2 "Proposed Project", p. 1-2, as follows:

The proposed Project consists of the Civic Center Wastewater Treatment Facility, six nine pump stations, and approximately 13.7 miles of pipeline.

3

This pending R-DEIR fails to describe, define and identify the actual scope of the proposed "project" adequately so as to include the known, expected and/or potential future adverse environmental impacts. To put it another way, the proposed "project" is myopic in being described and defined too narrowly in scope so that it fails the adequately address the future known adverse environmental impacts and consequences:

a) The proposed project, even as unapproved at this time, is catastrophically commercially growth-inducing. It is well over and violates the two-percent rule provided for in the Southern California 2008 Regional Comprehensive Plan (pdf. Page 24 "LAND USE AND HOUSING GOALS").

4

b) It is likely to destroy and eradicate between 400-500 residential single-family units and to displace about 1200-1500 individuals, violating and conflicting with the Regional comprehensive Plan as well as the Malibu LUP, which should be treated and classified as significant adverse environmental impacts as growth-inducing, violating the goal of protecting the Malibu Civic Center's present long-time stable, single-family residential community, and the cumulative effects on same and adverse environmental effects on human beings.

5

c) It fails to provide substantial evidence to support a finding that effluent injection into the groundwater is safe and will not trigger earthquakes or landslides. It provides no valid, reliable, credible evidence that injection of effluent into Malibu Civic Center groundwater will not trigger earthquakes and liquefaction.

6

d) It fails to address the cumulative effects of multiple pending commercial venture

7

permits and related construction applications waiting for the approval of this project. All of these MUST be considered in and as part of this Malibu Civic Center Waste Treatment Facility DEIR/EIR proceeding City of Malibu EIR No. 13-001, and Coastal Development Permit No. 13-057.

↑ 7

3. The separate consideration areas in CEQA, particularly in the CEQA Guidelines Appendix G checklist, and the cumulative effects of the substantial adverse, negative impacts of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057, along with other projects pending for approval and/or which are approved are not just significantly adverse. They are catastrophically destructive of the entire Malibu Civic Center residential community.

8

I do not find within this R-DEIR substantial or any evidence, evaluations or proposed findings addressing the regarding CEQA Guidelines, Appendix G Checklist, Section XVIII. MANDATORY FINDINGS OF SIGNIFICANCE, and specifically Subsection (c), impact issues covering significant adverse effects on human beings under the CEQA Guidelines Checklist. It is dismissive, perfunctory, and barely touches on considerable numbers and size, both qualitatively and quantitatively. Public Resources Code, Sec. 21083(b)(3); 14 CCR 15065(a)(4). CEQA Guidelines, Appendix G Checklist, Section XVIII. MANDATORY FINDINGS OF SIGNIFICANCE. I object to these omissions as prejudicial to the consideration of the significant adverse environmental impacts.

9

The cumulative effects of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057 and the several major proposed pending development projects, commercial and developer mega-mansions, would be to convert the Malibu Civic Center into a downtown commercial center. To put it another way, this project promotes the destruction of a long-time residential community. I respectfully submit that this effect is contrary to and violates the City of Malibu General Plan. I respectfully submit that this proposed project is materially contrary to and materially conflicts with the Southern California Regional Comprehensive Plan goals of the "2% Strategy" and of preserving the Malibu Civic Center's long-time, stable residential community of 400 to 500 single-family dwellings.

10

11

I do not find any discussion about the commercial growth-inducing anticipated future activities, as established by the extensive number of pending permit applications for them in the Malibu Civic Center and listed for a page and a half in the R-DEIR. This makes the R-DEIR legally inadequate so that the proposed project, including the future activities and uses, cannot go forward without including them in this R-DEIR.

12

What cursory references there are to growth-inducing increases in traffic are treated in a dismissive, perfunctory and casual manner, not recognizing that the Malibu Civic Center is already impassible during holiday, vacation and weekends.

What cursory references there are to growth-inducing issues of consumption of water and lack of supplies are likewise as treated in a dismissive, perfunctory and casual manner, not recognizing that the Malibu Civic Center is already. The R-DEIR appears to ignore that the Los Angeles Waterworks lacks the supplies to service these commercial ventures and that there are likely to be water wars between the long-term, established, stable single-family residential

13

↓

community and the commercial interests. Where will any increase in water supply come from?  13

4. I object that this proposal fails to support, fails to advance, and fails to implement resident-serving uses or needs. This project, alone and cumulatively with the other pending proposed projects for the Malibu Civic Center, would destroy the residential and recreational nature of the Malibu Civic Center. 14

5. I object to the catastrophic financial burden of \$41 million to \$60 million, and the projected \$500,000 per residential parcel assessment burden, and to the connection and monthly use fees. This is confiscatory taxation and cost-shifting that constitutes seizure of most of the residential properties in the Malibu Civic Center. See a copy of the City of Malibu estimates of cost at \$1000 (One-thousand dollars) per month per residential parcel for 30 (thirty) years, attached hereto and marked as Exhibits "B" and "C" hereof, at pages 0014-0019. 15

6. I object that there has been a lack of funding from the State of California for a State mandated sewer system and treatment facilities. 16

This R-DEIR fails to require the City of Malibu to seek and obtain funding for this proposed project from the State of California, which is under the California Constitution, required to pay for this state-mandated proposed project under Article 13B, Section 6, California Constitution. 17

This R-DEIR fails to require the City of Malibu to seek and obtain funding for residential property owners under Water C. § 13291.5.

7. I object to the campaign and goal of coercive, involuntarily obtained funding on the backs of residents and residential property owners by extortious, coercive threats of \$10,000 per day fines and sanctions as felonies under California law unless we tax ourselves up to \$500,000, and perhaps more, to pay for this sewage plant project. I view same as extortion, voter intimidation, and violation of federal and state civil rights. 18

8. I object that removal of a large portions or all of the residential housing in the Malibu Civic Center will displace at least about 1500 residents from about 400 to 500 dwellings. This will necessitate replacement housing having to be constructed or obtained elsewhere. Title 42 U.S.C. § 4600 et seq.

I object that this proposal is invidiously discriminatory against residential property owners. Each property and proposed project on it will have the effect of advancing an agenda or set of agendas that will likely destroy or substantially reduce the residential community. It has the substantial adverse effect of displacing and/or making homeless and destitute, several hundred residents, many of whom are seniors without resources to relocate. Replacement housing for up to 1500 residents will likely be required. What provisions will be made to mitigate this housing loss and residents' dislocation? 19

9. Placement of a sewage disposal plant in a residential community as high-profile as the Malibu Civic Center is will have the effect of deteriorating the area. 20

10. The alternative of not installing such a system should be seriously evaluated, vented and chosen chosen for safety, cost-effectiveness and reliability, plus the ability for properties outside the Malibu Civic Center to use it.

21

11. Placement of a sewage disposal plant in a residential community as high-profile as the Malibu Civic Center is will have the effect of deteriorating the area.

22

12. I dispute the safety of groundwater injection as a means of effluent and residue disposal. The proposed means of disposal by injection into the ground and groundwater. There is considerable controversy as whether injection of water into the ground is generally safe. The USGS is documenting drastically increased seismic activity where it is being done in the Mid-Western States. This means of disposal in the Malibu Civic Center is also troublesome, because shallow faults run through the Malibu Civic Center. Fluid injected into the ground is likely to increase water table levels and to create a stronger likelihood of liquefaction. As well, it is unclear whether the proposed plant can actually process and dispose of the effluent or residue safely.

23

The City of Malibu should be required to obtain impartial scientific evaluations of where Malibu Civic Center area earthquake fissures and faults exist, whether the underground areas are capable of receiving the amount of liquid currently and in the future that may be generated, and studies about whether water injection induced seismic/earthquake/liquefaction activity is likely to be the result of the injection of effluent into the ground in the Malibu Civic Center. See attached at Exhibits "D", "E", and "F" hereof, at pages 0020 through 0060. Ex. "D": USGS Earthquake Hazards Program, at <http://earthquake-usgs.gov/research/induced/>. Ex. "E" "Injection wells blamed in Oklahoma earthquakes, Science, 4 July 2014, Vol. 345, No. 6192, pp. 13-14, DOI: 10.1126/science.345.6192.13; Ex. "F" Supplementary Materials for "Sharp increase in central Oklahoma seismicity since 2008 induced by massive wastewater injection, published 3 July 2014 on Science Express, DOI: 10.1126/science.1255802.

Failure to identify properties to which the septic ban applies and which are required to cease use of their OWTS's and be burdened by installation of a sewer system, sewage/wastewater treatment plant constitutes lack of fair, reasonable or actual notice of the properties included in the ban and burdened and prejudicially violates the rights of the interested parties to due process. It is fundamentally unfair.

24

13. I object that there has a wholly deficient investigation into whether there is a need for a sewage plant or a sewer system in the Malibu Civic Center and that the City of Malibu has failed to protect and to advance the residential property owners' interests by pressing the SWRCB and LA RWQCB with substantial or any evidence that Malibu Civic Center OWTS systems are not the culprits, that contaminants and/or pollution is primarily naturally occurring, to the extent that it exists, and that cessation of the use of residential OWTS systems will not result in any improvements in groundwater quality in the Malibu Civic Center. See Izbicki et al., Annals of Environmental Science / 2012, Vol 6, 35-86 (<http://www.aes.northeastern.edu>, ISSN 1939-2621); Water Quality Report, dated April 30, 2014, of the Serra Canyon area of the Malibu Civic Center, prepared by Citadel Environmental Services, attached hereto as Exhibit "H" hereof, part at page 0065.

25

14. I have not found an "Initial Study" as required by Title 14 CCR § 15063, or an order or finding that it is not necessary. If none exists, without the waiver by order, then these R-DIER proceedings are jurisdictionally defective. The City of Malibu should be required to conduct an "Initial Study" before going any further.

26

15. Lack of adequate notice to the residential property owners within the septic ban zone is due to the failure of the City of Malibu to identify and notify those listed property owners and occupants that they, by addresses and assessor's identification numbers, are subject to the ban and the assessments.

Failure to identify properties to which the septic ban applies and which are required to cease use of their OWTS's and be burdened by installation of a sewer system, sewage/wastewater treatment plant constitutes lack of fair, reasonable or actual notice of the properties included in the ban and burdened and prejudicially violates the rights of the interested parties to due process. It is fundamentally unfair.

27

16. Lack of adequate notice and an adequate, reasonable opportunity to respond to the DEIR due November/December, 2013, holidays, scheduling of several CEQA and other proceedings related to the Malibu Civic Center, the Malibu Civic Center septic ban and amendment to the Los Angeles Regional Water Basin Plan likewise constitutes lack of fair, reasonable or actual notice of the properties included in the ban and burdened and prejudicially violates the rights of the interested parties to due process. It is fundamentally unfair.

17. I am concerned about and object to the immediate conflict of interest inherent in the City of Malibu's Planning Department staff reviewing and making determinations regarding this proposed project where the City of Malibu is the applicant. This appears to be self-dealing. It fails to provide the public with a neutral and independent staff making decisions that may make any of them destitute, displaced, homeless and unable to recover, as well as destroying them financially.

28

I urge that this proposed project and all permits and approvals be rejected.

Very truly yours,
Joan Lavine, Owner Malibu Civic Center residential property

INDEX TO ATTACHED DOCUMENTS

EXHIBIT LETTER	DESCRIPTION	PAGE
A	Lavine Comment, filed January 7, 2014	11
B	RMC Cost Estimate, dated October 5, 2009	15
C	City of Malibu News Release, dated October 12, 2009, with Assessment Cost Estimate	18
D	USGS Survey, July, 2014, of Groundwater Injection Induced Earthquakes http://earthquake-usgs.gov/research/induced/	21
E	Science, 4 July 2014, Vol. 345, No. 6192, pp. 13-14, DOI: 10.1126/science 345.6192.13	25
F	Supplementary Materials for “Sharp increase in central Oklahoma seismicity since 2008 induced by massive wastewater injection,” published 3 July 2014 on Science Express, DOI: 10.1126/science.1255802	28
G	Editorial publications in the Malibu Surfside News, Of Malibu area geologist E.D. Michael, published July 19, 2012, and August 2, 2012	62
H	Water Quality Report, dated April 30, 2014, of the Serra Canyon area of the Malibu Civic Center, prepared by Citadel Environmental Services	65

EXHIBIT "A"

Ms. Joyce Parker, Planning Director
Planning Department
Members, City of Malibu Planning Commission
Members, City of Malibu City Council
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

Re: Preparation of and scoping meeting for a draft CEQA EIR for sewage treatment plant (mailed on 11/21/2013); City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057, comment deadline December 23, 2013, extended to January 7, 2014, 5:30 p.m. PST, continued to January 7, 2014, address to City of Malibu Planner Bonnie Blue (1/7/2014 12:54:16 PM); bblue@malibucity.org. Mailing address: 23825 Stuart Ranch Road, Malibu, CA. 90265. Scoping meeting: Dec. 11, 2013, 6:30 p.m. PST, at City of Malibu Council Chambers, 23825 Stuart Ranch Road, Malibu, CA 90265.

Dear Ms. Parker, Ms. Blue, Members, of Malibu City Council, and Members, City of Malibu Planning Commission:

I hereby submit my comment regarding the preparation of a (Draft) Environmental Impact Report.

I oppose and object to the construction of the proposed City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057.

1. The separate consideration areas in CEQA, particularly in the CEQA Guidelines Appendix G checklist, and the cumulative effects of the substantial adverse, negative impacts of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057, along with other projects pending for approval and/or which are approved are not just significantly adverse. They are catastrophically destructive of the entire Malibu Civic Center residential community.

The cumulative effects of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057 and the several major proposed pending development projects, commercial and developer mega-mansions, would be to convert the Malibu Civic Center into a downtown commercial center. To put it another way,

Tuesday, January 07, 2014 12:54 PM Page 1 of 3

To: City of Malibu Senior Planner
Bonnie Blue

January 7, 2014

From the Desk of Joan C. Lavine

Attorney at Law

9000 Sunset Blvd., Suite 1115

Los Angeles, California 90069, U.S.A.

Office Phones: (213)627-3241; Fax Phone: (213)383-8811

E-mail address: JCLavine@aol.com; FoodieJoan@gmail.com

City of Malibu
RECEIVED
JAN 07 2014
PLANNING DEPT.

Tuesday, January 7, 2014

Ms. Bonnie Blue, Senior Planner
Ms. Joyce Parker, Planning Director
Planning Department
Members, City of Malibu Planning Commission
Members, City of Malibu City Council
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

Re: Preparation of and scoping meeting for a draft CEQA EIR for sewage treatment plant (mailed on 11/21/2013); City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057, comment deadline December 23, 2013, extended to January 7, 2014, 5:30 p.m. PST, continued to January 7, 2014, address to City of Malibu Planner Bonnie Blue (1/7/2014 12:54:16 PM); bblue@malibucity.org. Mailing address: 23825 Stuart Ranch Road, Malibu, CA. 90265. Scoping meeting: Dec. 11, 2013, 6:30 p.m. PST, at City of Malibu Council Chambers, 23825 Stuart Ranch Road, Malibu, CA 90265.

Dear Ms. Parker, Ms. Blue, Members, of Malibu City Council, and Members, City of Malibu Planning Commission:

I hereby submit my comment regarding the preparation of a (Draft) Environmental Impact Report.

I oppose and object to the construction of the proposed City of Malibu Civic Center Waste Treatment Facility Project. EIR No. 13-001, and Coastal Development Permit No. 13-057.

1. The separate consideration areas in CEQA, particularly in the CEQA Guidelines Appendix G checklist, and the cumulative effects of the substantial adverse, negative impacts of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057, along with other projects pending for approval and/or which are approved are not just significantly adverse. They are catastrophically destructive of the entire Malibu Civic Center residential community.

The cumulative effects of the City of Malibu Civic Center Waste Treatment Facility Project, EIR No. 13-001, and Coastal Development Permit No. 13-057 and the several major proposed pending development projects, commercial and developer mega-mansions, would be to convert the Malibu Civic Center into a downtown commercial center. To put it another way,

Tuesday, January 07, 2014 12:54 PM Page 1 of 3

this project promotes the destruction of a long-time residential community. I respectfully submit that this effect is contrary to and violates the City of Malibu General Plan.

2. The Malibu Civic Center area is dedicated to residential and recreational use. The City of Malibu Land Use Plan provides for protection of recreational and residential uses, facilities, activities and environment. I object that this proposal therefore undermines, conflicts with, runs counter to and violates the City of Malibu Local Land Use Plan and Coastal Land Use Plan.

The City of Malibu General Plan established Malibu as a rural-style residential community and requires that any commercial uses be local neighborhood-servicing and/or visitor/recreational serving. See City of Malibu General Plan, §§ 1.0, et seq.

City of Malibu General Plan, § 1.1 provides in pertinent part:

Malibu has remained a primarily residential community. Commercial areas are limited to small neighborhood serving and visitor serving uses interspersed throughout the City, but located primarily in the Civic Center area and the Point Dume area. (Emphasis added.)

City of Malibu General Plan, § 1.1.2 provides in pertinent part:

The Malibu Land Use Element is designed to provide maximum social, economic and environmental benefits for City residents through planned distribution, location and intensity of land use. (Emphasis added.)

City of Malibu General Plan, § 1.5.5 provides in pertinent part:

The CC (Community Commercial) designation is intended to provide for the resident serving needs of the community similar to the CN designation, but on parcels of land more suitable for concentrated commercial activity. The community commercial category plans for centers that offer a greater depth and range of merchandise in shopping and specialty goods than the neighborhood center although this category may include some of the uses also found in a neighborhood center.

I object that this proposal fails to support, fails to advance, and fails to implement resident-serving uses or needs. This project, alone and cumulatively with the other pending proposed projects for the Malibu Civic Center, would destroy the residential and recreational nature of the Malibu Civic Center.

3. I object to the catastrophic financial burden of \$41 million to \$60 million, and the projected \$500,000 per residential parcel assessment burden, and to the connection and monthly use fees. This is confiscatory taxation and cost-shifting that constitutes seizure of most of the residential properties in the Malibu Civic Center.

4. I object that there has been a lack of funding from the State of California for a State mandated sewer system and treatment facilities.

To: City of Malibu Senior Planner
Bonnie Blue

January 7, 2014

5. I object to the campaign and goal of coercive, involuntarily obtained funding on the backs of residents and residential property owners by extortious, coercive threats of \$10,000 per day fines and sanctions as felonies under California law unless we tax ourselves up to \$500,000, and perhaps more, to pay for this sewage plant project. I view same as extortion, voter intimidation, and violation of federal and state civil rights.

6. I object that removal of a large portions or all of the residential housing in the Malibu Civic Center will displace at least about 1500 residents from about 400 to 500 dwellings. This will necessitate replacement housing having to be constructed or obtained elsewhere.

I object that this proposal is invidiously discriminatory against residential property owners. Each property and proposed project on it will have the effect of advancing an agenda or set of agendas that will likely destroy or substantially reduce the residential community. It has the substantial adverse effect of displacing and/or making homeless and destitute, several hundred residents, many of whom are seniors without resources to relocate. Replacement housing for up to 1500 residents will likely be required. What provisions will be made to mitigate this housing loss and residents' dislocation?

7. The alternative of not installing such a system should be chosen.

8. Placement of a sewage disposal plant in a residential community as high-profile as the Malibu Civic Center is will have the effect of deteriorating the area.

9. I dispute the safety of groundwater injection as a means of effluent and residue disposal. The proposed means of disposal by injection into the ground appears to be a form of fracking. There is considerable controversy as to whether fracking is generally safe. This fracking means of disposal in the Malibu Civic Center is also troublesome, because shallow faults run through the Malibu Civic Center. Fluid injected into the ground is likely to increase water table levels and to create a stronger likelihood of liquefaction. As well, it is unclear whether the proposed plant can actually process and dispose of the effluent or residue safely.

10. Failure to identify properties to which the septic ban applies and which are required to cease use of their OWTS's and be burdened by installation of a sewer system, sewage/wastewater treatment plant constitutes lack of fair, reasonable or actual notice of the properties included in the ban and burdened and prejudicially violates the rights of the interested parties to due process. It is fundamentally unfair.

11. Lack of adequate notice and an adequate, reasonable opportunity to respond to the DEIR due November/December, 2013, holidays, scheduling of several CEQA and other proceedings related to the Malibu Civic Center, the Malibu Civic Center septic ban and amendment to the Los Angeles Regional Water Basin Plan likewise constitutes lack of fair, reasonable or actual notice of the properties included in the ban and burdened and prejudicially violates the rights of the interested parties to due process. It is fundamentally unfair.

I urge that this project be rejected.

Very truly yours,

Joan Lavine, Owner Malibu Civic Center residential property

Tuesday, January 07, 2014 12:54 PM Page 3 of 3

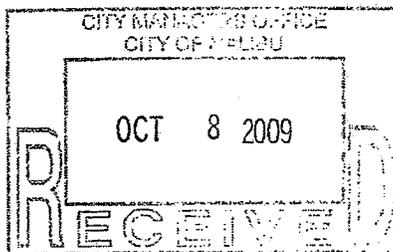
EXHIBIT "B"



Escondido
Irvine
Sacramento
San Diego
San Francisco
San Jose
Santa Monica
Walnut Creek

5 October 2009

Jim Thorsen
City Manager
City of Malibu
23815 Stuart Ranch Road
Malibu, CA 90265



Subject: Cost to Provide Centralized Wastewater Treatment and Disposal to the Prohibition Zone

Dear Mr. Thorsen:

As requested, we have estimated the cost of providing centralized wastewater treatment, disposal, and effluent recycling to the Prohibition Zone under consideration by the RWQCB. These costs have been estimated at a conceptual level, based on costs that RMC developed to provide centralized wastewater management to Civic Center 'High Priority Areas' identified in the 2004 *Risk Assessment of Decentralized Wastewater Management in High Priority Areas in the City of Malibu*. The previously developed costs have been modified to incorporate the following impacts:

- Average daily flows from the proposed Prohibition Zone would be on the order of 610,000 gallons per day versus the 400,000 gallons per day associated with the Civic Center area.
- The aerial extent of the sewer collection system area would be approximately 2.5 times greater than previously contemplated for centralized treatment in the Civic Center area.
- Previously estimated unit construction costs have been reduced by 25 percent to reflect the current economic and bidding climate.

Based on the above, the capital costs of providing centralized wastewater management to the proposed Prohibition Zone are summarized in the following table. These costs include planning, design, construction, construction management, administration and legal fees. Land purchase costs are not included.

2001 North Main Street
Suite 400
Walnut Creek, CA 94596
ph: 925.627.4100
fax: 925.627.4101
www.rmcwater.com

*Innovative Solutions for
Water and the Environment*

cc: CM; CA; ECD; LARWQCB Septic Prohibition file; orig to Legacy Park file

Wastewater Component	Capital Cost, \$millions
Treatment Plant	20
Sewer Collection System	17
Recycle Distribution	7
Percolation Area	8
Total	\$52

The treatment plant costs assume nitrification/denitrification to approximately 8 mg/l, and do not include phosphorus removal. If percolation area cannot be obtained, an outfall would be needed, which could increase these costs further. Given the cost of environmental and permitting studies associated with an outfall, and assuming that the outfall would be at least 5,000 feet long to have its plume in deep water beyond all recreational swimming, surfing and diving, an outfall could increase the above costs by \$2 or \$3 million, or more.

The estimated annual operations and maintenance costs of this system would be approximately \$1.6 million per year including power, chemicals, repair/replacement, insurance, and staffing by certified operators.

The monthly cost of this project would be on the order of \$420,000 (\$5.0 million per year) assuming a capital cost of \$52 million, annual costs of \$1.6 million, and a 20 year SRF loan at 2.7 percent. Assuming a longer loan period (30 years) would not lower the monthly costs. A longer loan period would require using municipal bond financing, which would have a higher interest rate of approximately 4.5 percent. The annual bond payment would be approximately equal to the annual SRF loan payment.

Assuming that the proposed Prohibition Zone would have approximately 400 to 450 Equivalent Dwelling Units, the above costs would result in monthly payments on the order of \$1000 per month per Equivalent Dwelling Unit.

Please call if you have questions regarding the above, or need further information.

Very truly yours,



Stephen Clary
Principal

EXHIBIT "C"



City of Malibu News

23815 Stuart Ranch Road • Malibu, California • 90265-4861
Phone (310) 456-2489 • Fax (310) 456-3356 • www.ci.malibu.ca.us

FOR IMMEDIATE RELEASE:

October 12, 2009

CONTACT:

Jim Thorsen, City Manager
(310) 456-2489 ext. 226
jthorsen@ci.malibu.ca.us

City Releases Cost Estimate for Centralized Wastewater Treatment System

*Residential Property Owners Would Pay \$1,000 per Month to Comply
with Proposed Regional Water Quality Control Board Order*

Malibu, CA – As the Los Angeles Regional Water Quality Control Board (“Regional Board”) moves forward with considering a permanent ban on septic systems in Malibu’s Civic Center area, the City of Malibu today released a conceptual cost estimate for a centralized wastewater treatment system. The capital costs of providing a centralized wastewater system for the broader Civic Center area identified by the Regional Board are estimated to total \$52 million, costing individual residential property owners approximately \$1,000 per month. The cost for commercial property owners will vary greatly depending on size and use of the property, but it is anticipated it will be significantly higher than residential costs.

The City of Malibu is moving forward with the design and environmental documents for a centralized wastewater system in response to the Regional Board’s proposed prohibition of onsite wastewater systems in the Civic Center area. A [map of the prohibition zone](#) and additional information on the proposal to ban septic systems can be obtained on the Regional Board’s website. The Regional Board will consider this issue during its upcoming November 5th Board hearing.

This new cost analysis, which reflects the Regional Board’s latest septic ban boundaries and was prepared by one of California’s preeminent environmental engineering firms, RMC Water and Environment, is in sharp contrast to the \$16.7 million cost estimate provided by the Regional Board at recent community workshops.

“The City of Malibu has consistently stated that it shares the Regional Board’s vision and mandate for improving ocean water quality,” said Malibu Mayor Andy Stern. “The health and safety of our families and visiting tourists is our top priority.”

“However, we are deeply concerned that the Regional Board has not completed its due diligence and has not considered the overwhelming monthly cost to local homeowners and landowners,” added Stern. “These are very significant costs and are certainly compounded as we experience an unprecedented economic crisis.”



Recycled Paper

Per the estimate, capital costs of a centralized wastewater system include planning, engineering design, construction, construction management, administration and legal fees. Land purchase costs are not included and could drive the costs upward. Estimated operations and maintenance costs of this system would be approximately \$1.6 million per year including power, chemicals, repair/replacement, insurance and staffing by certified operators. The monthly cost of this project would be approximately \$420,000 (\$5.0 million per year) assuming a capital cost of \$52 million, annual costs of \$1.6 million and a 20-year SRF loan at 2.7 percent.

Assuming the Regional Board's septic prohibition zone would include approximately 400-500 land parcels, the costs would result in monthly payments of approximately \$1,000 per month per parcel.

"There is no City in all of California that spends more funds per capita on water quality than Malibu," said Stern. "We need to address ocean water quality issues with sound science, thoughtful planning and fiscal responsibility, versus expensive mandates that may never address the real problem."

Emerging data and scientific studies are strongly supporting the long-held belief that cleaning up stormwater and urban runoff should be the highest priority for improving water quality and protecting public health – rather than banning existing septic systems. Five new studies on ocean water quality and bacteria levels are expected to be completed in the next six to nine months. These studies are anticipated to provide significant findings to help guide the City and Regional Board in a scientific and financially prudent manner to ensure all actions will improve water quality and protect the public's health.

"We believe the Regional Board should place the proposed prohibition on hold until it has all the information to be certain it achieves the goals we all share: protecting the public's health and improving water quality," added Stern.

Just last month, the City launched the construction of its much anticipated Legacy Park Project, the centerpiece of the City's more than \$50 million commitment to clean water. One of California's most innovative stormwater and urban runoff projects, Legacy Park is going to transform 15 acres in the heart of Malibu into a central park that will benefit the community for decades to come. This central park will capture more than two million gallons per day of stormwater and urban runoff that flow from the surrounding watershed so it can be cleaned, disinfected and recycled. The project will also restore and develop important riparian habitat and create an open space area for passive recreation and environmental education. In addition, it will provide a living learning center for six coastal habitats.

The City of Malibu was incorporated on March 28, 1991. Located in northwest Los Angeles County, the City has 21 miles of coastline along the Pacific Ocean and a population of 12,575.

For more information on the City and the Legacy Park Project, please visit <http://www.ci.malibu.ca.us/> and <http://www.malibulegacy.org/>.

###



EXHIBIT "D"



Earthquake Hazards Program

Induced Earthquakes

Within the central and eastern United States, the number of earthquakes has increased dramatically over the past few years. More than 300 earthquakes above a magnitude 3.0 occurred in the three years from 2010–2012, compared with an average rate of 21 events per year observed from 1967–2000. These earthquakes are fairly small — large enough to have been felt by many people, yet small enough to rarely have caused damage.

This increase in earthquakes prompts two important questions:

- Are they natural, or man-made?
- What should be done in the future as we address the causes and consequences of these events to reduce associated risks?



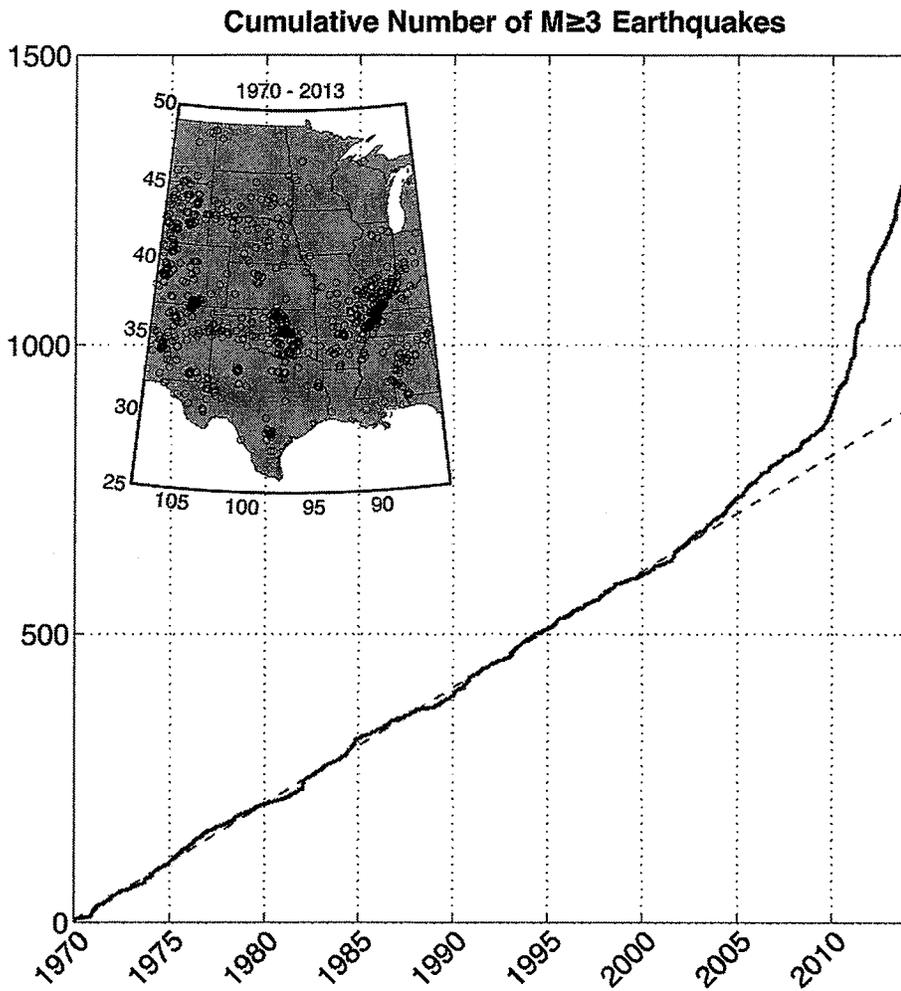
Oilfield waste arrives by tanker truck at a wastewater disposal facility near Platteville, Colo. After removal of solids and oil, the wastewater is injected into a deep well for permanent storage underground. Photo by Bill Ellsworth, USGS.

Preliminary Findings

A team of USGS scientists led by Bill Ellsworth analyzed changes in the rate of earthquake occurrence using large USGS databases of earthquakes recorded since 1970. The increase in seismicity has been found to coincide with the injection of wastewater in deep disposal wells in several locations, including [Colorado](#), [Texas](#), [Arkansas](#), [Oklahoma](#) and [Ohio](#). Much of this wastewater is a byproduct of oil and gas production and is routinely disposed of by injection into wells specifically designed and approved for this purpose.

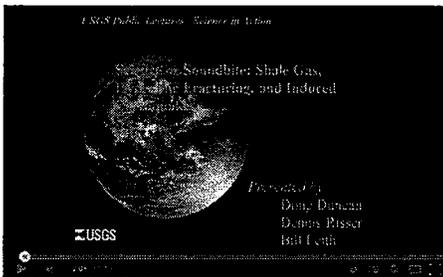
Hydraulic fracturing, commonly known as “fracking,” does not appear to be linked to the increased rate of magnitude 3 and larger earthquakes.

Although wastewater injection has not yet been linked to large earthquakes (M6+), scientists cannot eliminate the possibility. It does appear that wastewater disposal induced the [M5.3 Raton Basin, Colorado earthquake](#) in 2011 as well as the [M5.6 quake that struck Prague, Oklahoma](#) in 2011, leading to a few injuries and damage to more than a dozen homes.



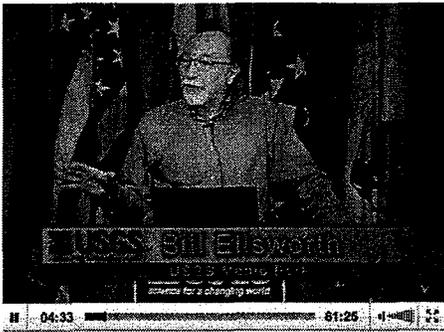
Cumulative number of earthquakes with a magnitude of 3.0 or larger in the central and eastern United States, 1970–2013. The dashed line corresponds to the long-term rate of 20.2 earthquakes per year, with an increase in the rate of earthquakes starting around 2009.

Science or Soundbite? Shale Gas, Hydraulic Fracturing, and Induced Earthquakes



USGS scientists Doug Duncan, Dennis Risser, and Bill Leith discuss the opportunities and impact associated with hydraulic fracturing in this [53-minute video](#).

Injection-Induced Seismicity



Bill Ellsworth discusses the science behind induced earthquakes.

Current and Future Research

The USGS is coordinating with other federal agencies, including the EPA and Department of Energy, to better understand the occurrence of induced seismicity through both internal research and by funding university-based research with a focus on injection-induced earthquakes from wastewater disposal technologies. For instance, USGS and its university partners have deployed seismometers at sites of known or possible injection-induced earthquakes in Arkansas, Colorado, Ohio, Oklahoma and Texas. The USGS is also monitoring seismicity associated with a geologic carbon dioxide sequestration pilot project at Decatur, Illinois, and is working with industry, academia and other government agencies to study seismicity associated with geothermal energy development and production in California and Nevada.

Evidence from some case histories suggests that the magnitude of the largest earthquake tends to increase as the total volume of injected wastewater increases. Injection pressure and rate of injection may also be factors. More research is needed to determine answers to these important questions.

See Also

- USGS Science Features: [Man-Made Earthquakes Update](#)
- FAQs: [Earthquakes Induced by Fluid Injection](#)
- Department of Energy: [About Induced Seismicity](#)
- Department of Interior: [Is the Recent Increase in Felt Earthquakes in the Central US Natural or Man-made?](#)
- USGS Energy Program: [Geologic Carbon Sequestration](#)
- [Reference List](#)

Scientific Staff

Bill Ellsworth

Art McGarr

Justin Rubinstein

Share this page: [Facebook](#) [Twitter](#) [Google](#) [Email](#)

EXHIBIT "E"

AAAS.ORG | FEEDBACK | HELP | LIBRARIANS

All Science Journals

Enter Search Term

ADVANCED

[Science Home](#) [Current Issue](#) [Previous Issues](#) [Science Express](#) [Science Products](#) [My Science](#) [About the Journal](#)[Home](#) > [Science Magazine](#) > [4 July 2014](#) > [Hand. 345 \(6192\): 13-14](#)**Science**

www.sciencemag.org
Science 4 July 2014:
Vol. 345 no. 6192 pp. 13-14
DOI: 10.1126/science.345.6192.13

[Prev](#) | [Table of Contents](#) | [Next](#)[Read Full Text to Comment \(1\)](#)• **IN DEPTH****GEOSCIENCE****Injection wells blamed in Oklahoma earthquakes**

Eric Hand

So far in 2014, Oklahoma has seen more earthquakes than California—and seismologists are increasingly blaming them on the injection of wastewater from oil and gas operations. A study published [online this week in Science](#) links four of Oklahoma's most prolific wastewater wells to a swarm of 2547 small earthquakes near Jones, Oklahoma, by showing how the wells sent a wave of water pressure coursing through the subsurface. The pressure can reduce forces acting to keep faults locked and trigger earthquakes. Although the hazard of induced earthquakes is uncertain, regulators in Oklahoma and elsewhere are starting to limit well operations and require more frequent reporting of well data.

[Read the Full Text](#)

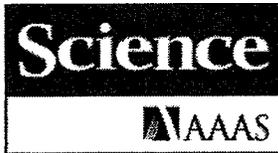
The editors suggest the following **Related Resources on Science sites**

In *Science Magazine***REPORT****Sharp increase in central Oklahoma seismicity since 2008 induced by massive wastewater injection**

K. M. Keranen, M. Weingarten, G. A. Abers, B. A. Bekins, and S. Ge

Science 25 July 2014: 448-451. Published online 3 July 2014[Abstract](#) [Full Text](#) [Full Text \(PDF\)](#) [Supplementary Materials](#)

EXHIBIT "F"



Supplementary Materials for

Sharp increase in central Oklahoma seismicity since 2008 induced by massive wastewater injection

K. M. Keranen,* M. Weingarten, G. A. Abers, B. A. Bekins, S. Ge

*Corresponding author. E-mail: keranen@cornell.edu

Published 3 July 2014 on *Science Express*
DOI: 10.1126/science.1255802

This PDF file includes:

Materials and Methods
Figs. S1 to S10
Tables S1, S3, and S4
Captions for tables S2 and S5 to S9
References

Other Supplementary Material for this manuscript includes the following:
(available at www.sciencemag.org/cgi/content/full/science.1255802/DC1)

Tables S2 and S5 to S9 (Excel)

Materials and Methods

Methods: Earthquake relocation

A local velocity model was inverted from a subset of well-recorded earthquakes (≥ 10 local phase picks within 50 km, predominantly within 20 km). These data sample many ray paths < 10 km long, providing upgoing rays that constrain earthquake depth (Figs. S2, S6). Earthquakes in our catalog (Table S2) have an average root-mean-squared (RMS) misfit of ~ 0.07 seconds to arrival times. By comparing locations for a suite of best-fitting velocity models (Figs. S3, S6), we find that the horizontal RMS difference between models is 65 m. The RMS difference in depth is 258 m. Locations corresponding to Fig. S6e were excluded from this analysis because the Poisson's ratio for that model is physically unreasonable.

The program Velest (30) was used to calculate a minimum one-dimensional model and to relocate earthquakes using single-event mode. In Velest, we used a subset of 740 earthquakes from our full earthquake catalog with at least ten associations (P or S phases) identified within 50 km of each earthquake, with the majority of phases on NetQuake seismometers within 20 km. An *a priori* velocity model was constructed from the well-constrained seismic velocity model near Prague, Oklahoma, with two layers in sedimentary units (2). We adjusted the depths of interfaces in the Prague model to account for increasing depth near Jones using formation tops from the nearest wells.

The sedimentary velocities in the Prague model were constrained using sonic logs for the top sedimentary layer from nearby wells while the deeper sedimentary layer was well-constrained in the inversion by the numerous shallow seismic raypaths (2). For this deeper layer, sonic logs are available in two wells regionally. The P-wave velocity varies between ~ 5.8 - 6.5 km/sec at the nearest well (the Ruby SWD #1 well). Across the Nemaha fault to the west, the deeper seismic velocity in the OKC 219 well decreases in thin layers to nearly 4 km/sec as porosity increases up to $\sim 30\%$. Because of the weak constraint from sonic logs, their lack of shear velocity information, and the well-constrained shallow velocity model near Prague, we used the Prague model for the *a priori* velocity of the deeper sedimentary unit.

Our first inversion used this *a priori* velocity model with two sedimentary layers as input. The modeling consisted of the following sets of iterations, sequentially. Each step used the results from the prior step as inputs.

Inversion steps:

1. An initial iteration to locate earthquakes within the initial input velocity model; no velocity inversion.
2. Five pairs of iterations (ten total iterations), each with a joint inversion for the updated velocity model and hypocenter locations followed by relocation of earthquakes within that new velocity model. In this set of iterations no station corrections were used and no low-velocity zones were allowed.
3. A set of ten iterations alternating as described in Step 2. This set of iterations calculated and used station corrections.

4. A set of ten iterations, alternating as in Steps 2-3, using the station corrections from the prior step and allowing low-velocity zones.

Output velocity models and final RMS misfit values are provided in **Figure S2** and in **Table S3**, respectively.

To test the sensitivity of the output velocity model to interface depth (which is not a parameter in the Velest program) we ran models with decreased and increased depth to the intra-sediment interface and to top of basement. The maximum interface depths tested corresponded to depths in wells in SE Oklahoma City on the southwest edge of our study area. The minimum interface depths corresponded to depths in wells near Luther on the northeast side of our study area (2.1 km depth). Velocity models and RMS misfit values are provided in **Figure S2** and **Table S3**. The results indicate that earthquake depth is sensitive to the depth of the interface within sedimentary units. To minimize this sensitivity, we ran all subsequent models using only one sedimentary layer with an appropriate bulk velocity corresponding to the time-averaged velocities of the two units in the Prague model (considered the preferred output model). We tested depth to basement in the one-sedimentary layer model, and below basement the layer velocities converged to the preferred output model.

To test the sensitivity of the results to the *a priori* velocities, we ran the same set of inversion steps using input models with initially low and high velocities, within geologically reasonable bounds. Initial and resulting velocity models and RMS misfit values are provided in **Figure S2** and **Table S3**. Within basement, the model converges to the preferred output model. In laboratory measurements on sedimentary rocks, Poisson's ratio ranges from 0.2-0.44 (31-32).

Histograms of earthquake depth for the subset of 740 earthquakes, using all 8 models, are shown in **Fig. S6**. In each model, the majority of earthquakes are located between 2-5 km depth, in sediment and upper basement. The models differ in the percentage of earthquakes in sediment relative to basement, from 22% to 42%, but are nearly identical between 2.7-13 km depth. The main difference between models is the seismic velocity of sedimentary units. With the limited local network, seismic raypaths do not sufficiently constrain the sediment velocity to distinguish between these models, although the earthquakes used for velocity inversion have a large number of rays with horizontal path lengths of less than 10 km.

The primary earthquake catalog uses the final Velest locations (**Table S2**). However, HypoDD (18) was used to further define fault planes for individual earthquake clusters near two of the largest earthquakes in the Jones swarm (**Fig. 2 insets**). In the initial step for the HypoDD relocations, using the program ph2dt to create differential travel time pairs from the phase picks, the following parameters (18) were used: MINWGHT 0.0; MAXDIST 60 km; MAXSEP 2 km, MAXNGH 100, MINLNK 8, MINOBS 8, and MAXOBS 100. For the HypoDD relocations, the following parameters were used: OBSCT 10 and MAXDS 60 km. Four sets of five iterations were used with the final velocity model from Velest inversions (**Table S3**). The HypoDD parameters for each set

of iterations are provided in **Table S4**. Earthquake locations from HypoDD for these clusters are provided in **Table S5**. To calculate the difference in location between results from Velest and HypoDD we calculated the RMS location difference. We removed outliers using a difference threshold of 2 standard deviations from the mean difference. The horizontal RMS difference between the HypoDD locations and Velest locations is 100 m; the RMS difference in depth is 196 m.

Methods: Hydrogeological Model

To study pore pressure changes at earthquake hypocenters and the apparent diffusion in seismicity, we developed a three-dimensional hydrogeological model of pore pressure diffusion from injection wells. Our MODFLOW-2000 (33) model captures the primary geological features of the region without attempting to include all geological detail, much of which is unknown (e.g., three-dimensional permeability distribution).

MODFLOW is a modular finite-difference code developed at the USGS, and solves the groundwater flow equation in three dimensions for a fluid of constant density and dynamic viscosity in a heterogeneous and anisotropic aquifer with sources and sinks (34):

$$\frac{\partial}{\partial x} \left(K_{xx} \frac{\partial h}{\partial x} \right) + \frac{\partial}{\partial y} \left(K_{yy} \frac{\partial h}{\partial y} \right) + \frac{\partial}{\partial z} \left(K_{zz} \frac{\partial h}{\partial z} \right) = S_s \frac{\partial h}{\partial t} - Q_i(t) \delta(x - x_i) \delta(y - y_i) \delta(z - z_i)$$

where K_{xx} , K_{yy} , K_{zz} are the principal components of the hydraulic conductivity tensor [L/T], S_s is the specific storage coefficient [L⁻¹], Q_i is the volumetric injection rate at the i -th point source [L³/T], h is the hydraulic head [L] and δ is the kronecker delta.

Hydraulic head change can be converted to pore pressure change by:

$$\Delta P = \gamma(\Delta h)$$

where γ is the specific weight of water [M L⁻²T⁻²] and ΔP is the pressure change [M L⁻¹T⁻²]. Hydraulic conductivity is related to permeability by the specific weight and dynamic viscosity of water:

$$K_{ij} = k_{ij} \frac{\gamma}{\mu}$$

where k_{ij} is the permeability tensor [L²] and μ is the dynamic viscosity of the fluid [M/(LT)]. Dynamic viscosity is a function of temperature. At the base of the Arbuckle Group temperature is ~100°C and μ is 28% of the value at 20°C.

Hydraulic diffusivity is defined as the relationship of the hydraulic conductivity and specific storage of the medium:

$$D_{ij} = \frac{K_{ij}}{S_s}$$

where D_{ij} is the hydraulic diffusivity tensor [L²/T]. Higher permeabilities allow faster fluid movement and, in turn, faster dissipation of fluid pressure. A higher storage capacity allows more fluid to be stored or released under a given pressure change, thus, slows dissipation of fluid pressure.

Our model domain is 200 km by 130 km by 6 km, including, from top to bottom, the 1-km-thick Arbuckle Group, the 30-m-thick Reagan Sandstone, and the granitic basement (Fig. S10). We assumed that all the formations are flat because the structural dip is less than 1% over the model domain. The model is bounded on the west by the Nemaha fault, approximated as a no-flow boundary as the fault juxtaposes the Arbuckle Group on the east with low-permeability granitic basement to the west. The distant north, south, and east boundaries of the model were set to no-flow, as is the top boundary, to represent the overlying low-permeability Oil Creek Formation (predominantly shale). The bottom boundary, within basement at 8 km deep, is also assumed to be no-flow. All no-flow boundaries, except the Nemaha fault and the Oil Creek Formation, are sufficiently far from the area of interest such that they will have little influence on the modeled pore pressure distribution. Reported permeabilities in the repeated carbonate and brecciated facies within the Arbuckle Group reach values up to $1.5 \times 10^{-12} \text{ m}^2$ (35). If specific storage is assumed to be 1.0×10^{-5} (m^{-1}) this permeability corresponds to a diffusivity range of 1.5 to 4.5 m^2/s for temperatures ranging from 20-100°C. In our model we use 2 m^2/s for the horizontal hydraulic diffusivity of the Arbuckle Group, with vertical diffusivity one order of magnitude smaller to account for layering. We ran sensitivity tests using hydraulic diffusivity values of 1 m^2/s and 4 m^2/s (Fig. S7). Basement is assumed to be isotropic with a depth-decreasing hydraulic diffusivity from 0.01 m^2/s at the top to 0.0001 m^2/s at the base (36).

All injection wells within 50 km of the swarm, with yearly injection volume over 1 million barrels in any year since 1995, were included in the model (Fig. S5, Table S6). The models covered the time periods of 1995-2012 for models including all 89 wells, and the time period of 2005-2012 for models of only the four southeast Oklahoma City (SE OKC) wells. Injection volumes were not yet available beyond 2012 for wells others than the SE OKC wells.

The reported monthly wellhead pressures collected by the Oklahoma Corporation Commission do not contain enough temporal resolution to allow a detailed calibration of the hydrogeological model. The hydraulic diffusivity used in the model is tested through sensitivity analysis. For the Arbuckle Group the diffusivity was varied over three orders of magnitude from $D_{xx} = D_{yy} = 0.1 \text{ m}^2/\text{s}$ to $D_{xx} = D_{yy} = 10 \text{ m}^2/\text{s}$. In each simulation, the Arbuckle Group's vertical diffusivity (D_{zz}) was set one order of magnitude below the horizontal diffusivity to account for layering. The sensitivity of basement diffusivity was tested over two orders of magnitude, ranging from $D_{xx} = D_{yy} = D_{zz} = 0.1 \text{ m}^2/\text{s}$ to $D_{xx} = D_{yy} = D_{zz} = 0.01 \text{ m}^2/\text{s}$. In all sensitivity analyses, the specific storage coefficient was held constant while the hydraulic conductivity was varied. The specific storage coefficient used for the Arbuckle Group, $S_s = 10^{-5} \text{ m}^{-1}$, is typical of dolomitic rock. The specific storage coefficient for the basement formation, $S_s = 10^{-6} \text{ m}^{-1}$, is typical of less-compressible crystalline rock.

In sensitivity analysis, we used the reported maximum wellhead pressure at the four high-rate wells near the Nemaha fault (Fig. 3) as constraints. The reported maximum wellhead pressure at the four high-rate wells reached ~4 MPa by the end of the 2012. In the low

Arbuckle Group diffusivity case, the modeled maximum wellhead pressure at the four high-rate wells all exceed 10 MPa by the end of 2012. In the high Arbuckle Group diffusivity case, the modeled maximum wellhead pressure at the four high-rate wells do not reach 1 MPa. Using an Arbuckle Group diffusivity of $2.0 \text{ m}^2/\text{s}$ provided the best fit to the general trend of reported maximum wellhead pressure and matches locally reported values of Arbuckle Group permeability, e.g. in the Mary Unsell #7 well (15). The hydraulic diffusivities modeled, between $1\text{-}4 \text{ m}^2/\text{s}$ (Fig. S7), are also consistent with the migration rate of seismicity (e.g., 37; Fig. 2c). The basement diffusivity did not have a large effect on the maximum wellhead pressure at the high-rate wells, but did affect the radial distance to which pore pressure propagated in the Arbuckle Group. The higher basement diffusivity case decreased the radial distance to which pore pressure propagates in the Arbuckle Group, allowing more pressure to be accommodated by the basement formation.

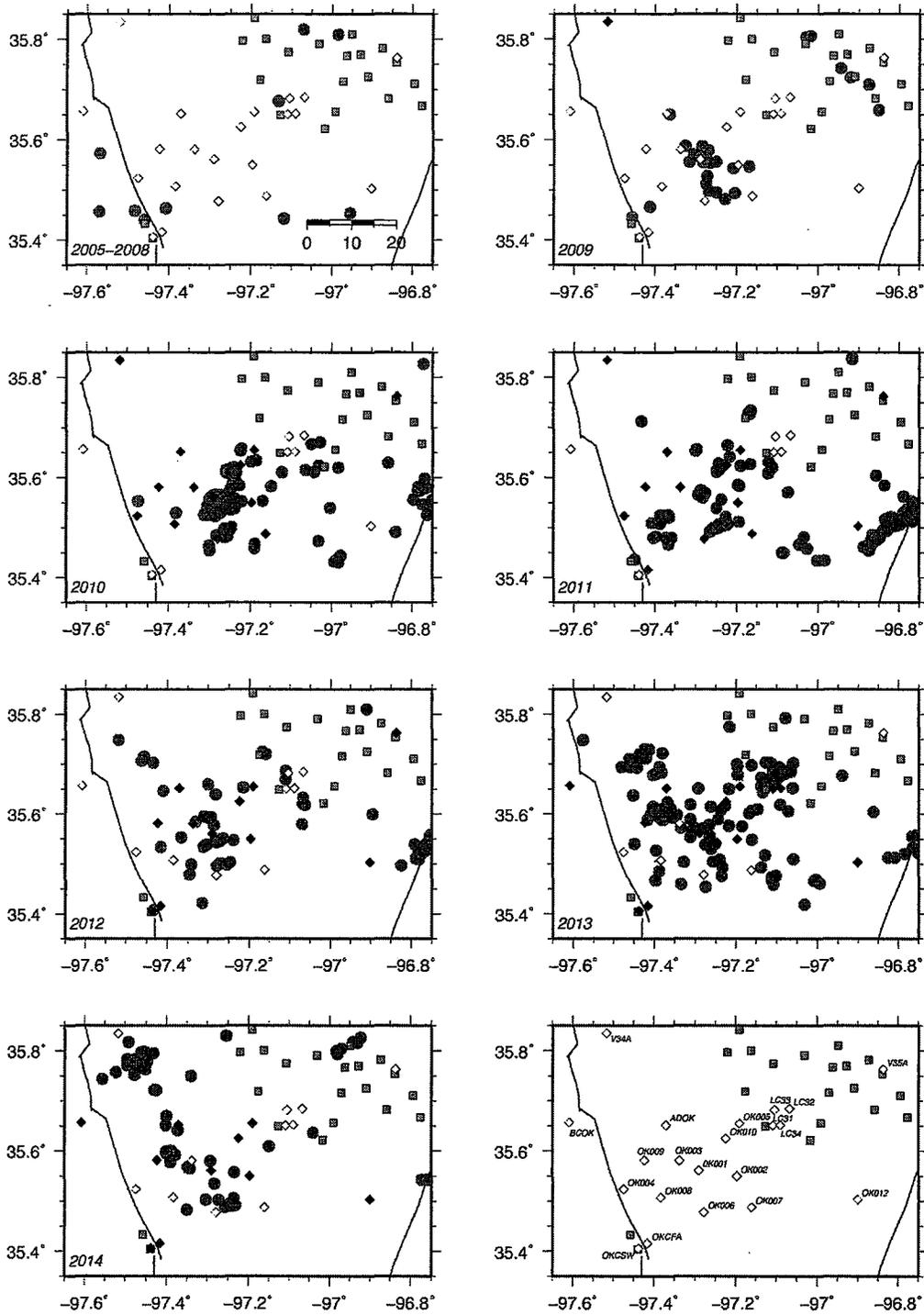


Fig. S1.
 Earthquakes and active seismometers (Table S7) in the region of the Jones swarm, by year. Red circles are earthquakes, black lines are faults, diamonds are stations, and gray squares are large injection wells. Stations are blue if active at some time during that year. Station coverage is best in 2010-2011.

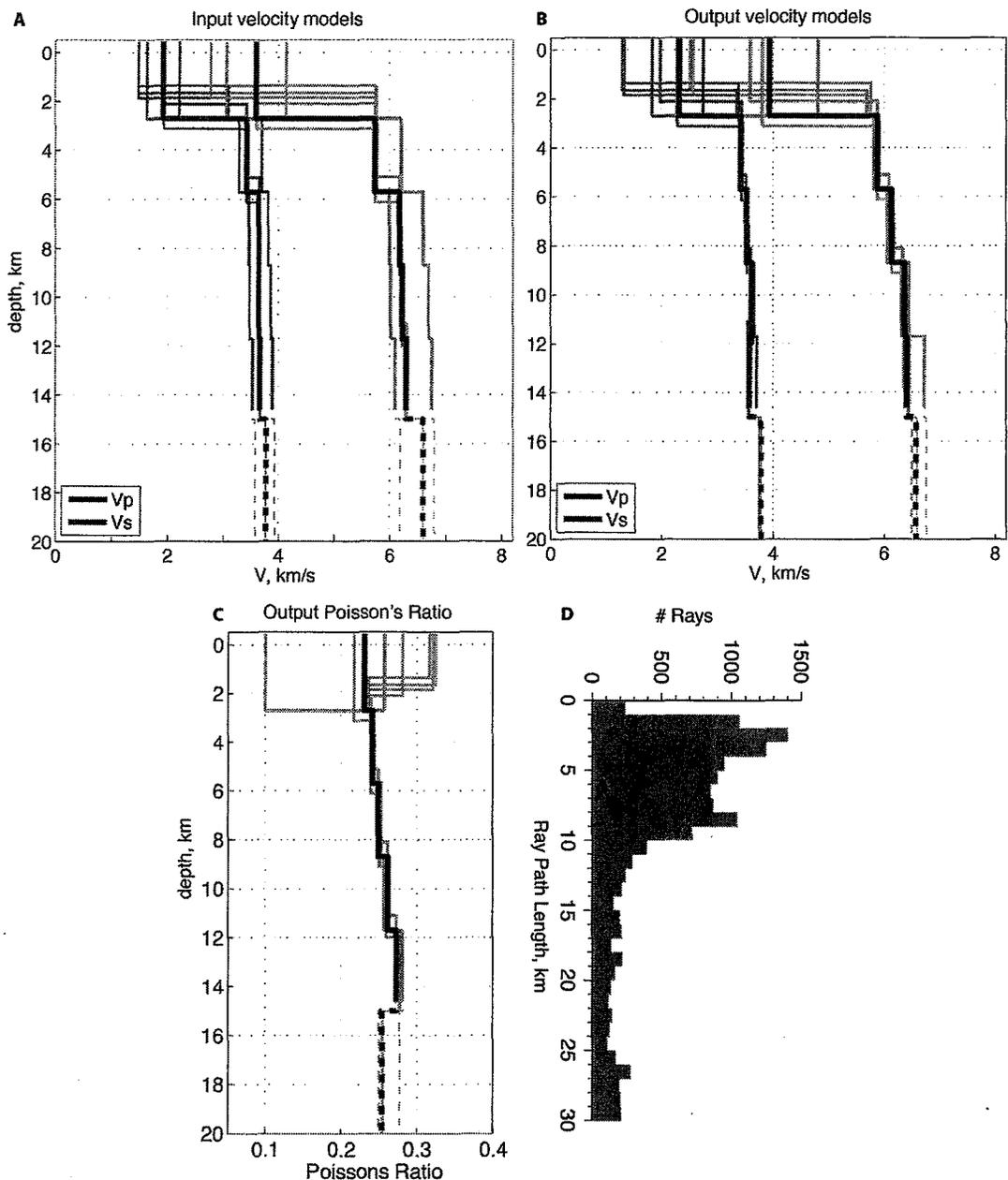


Fig. S2.

Velocity models from Velest inversions. (a) Input 1D velocity models and (b) 1D velocity model results from input velocity models. Bold red and blue lines are preferred Vs and Vp, respectively. Thin magenta and cyan lines represent other input models and output from these models. Lines are dashed in layers that contain no hypocenters. The output velocity model is well-constrained between ~2.7 km depth and ~15 km depth. The

sedimentary layer velocity is not well-constrained by available data. (c) V_p/V_s ratio for the results in (b). The bold blue line corresponds to the preferred V_p and V_s results. In laboratory measurements on sedimentary rocks, Poisson's ratio ranges from 0.2-0.44 (31-32), hence the model with Poisson's ratio of 0.1, corresponding to the input model with initially low velocities, is physically unrealistic. (d) Raypath length for earthquakes used in the velocity inversion.

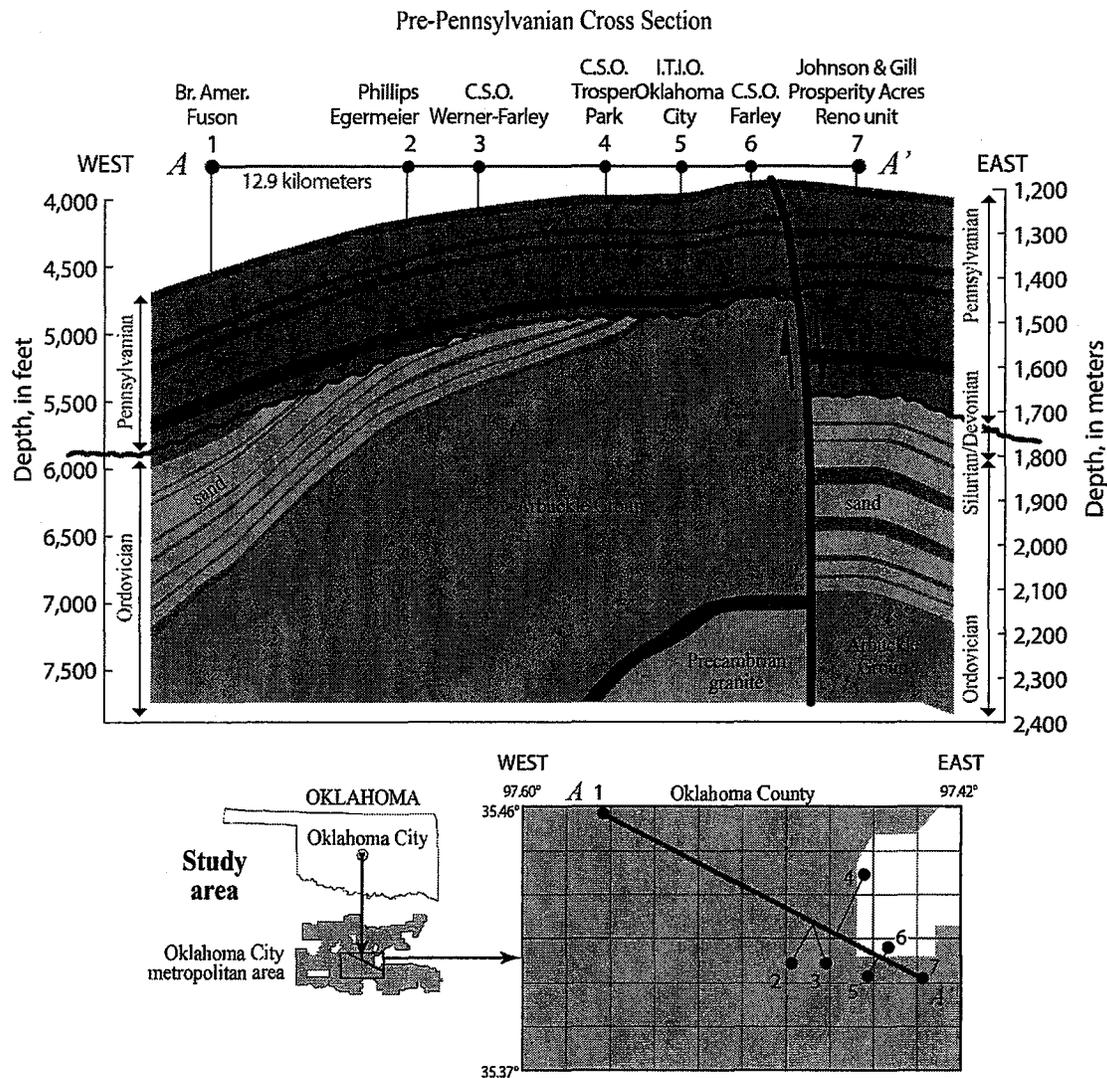


Fig. S3.

Cross section across the Nemaha fault. Cross section is modified from (28, Fig. 6). The thin brown layer at the base of the Arbuckle Group is the Reagan Sandstone. The fault crosses approximately north-south through the Oklahoma City metro area (Inset map). In the SE OKC wells, fluid is extracted from the Arbuckle Group on the west side of the fault and injected within the Arbuckle Group and basement on the east, downthrown side of the fault. The wavy red line marks the major pre-Pennsylvanian unconformity. Wells noted were used in construction of the cross section in (28). Production and disposal wells are within hundreds of meters of the fault. Metro area from the University of Oklahoma Center for Spatial Analysis.

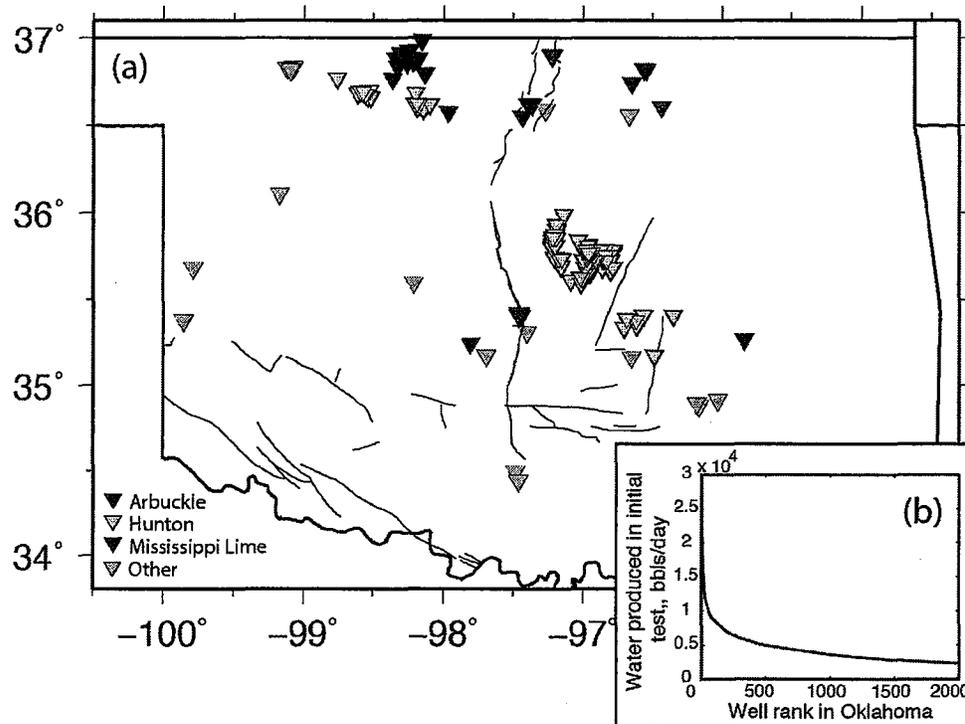


Fig. S4.

High water production wells in Oklahoma. (a) The 200 highest-rate water production wells within Oklahoma, as measured in initial tests, outline the primary dewatering plays in central (Hunton Group, Arbuckle Group) and northern (Mississippi Lime) Oklahoma. 70% of top Hunton Group wells were completed in 2006-2009, 94% of top Arbuckle Group wells between 2005-2010, and 94% of top Mississippi Lime wells between 2011-2013. Wells are the top 200 within the entire IHS well database in Oklahoma for all years (**Table S8**). (b) Water production in initial tests for top 2000 wells. The subset of the top 200 wells are much larger than the average Oklahoma well. Bbls: barrels.

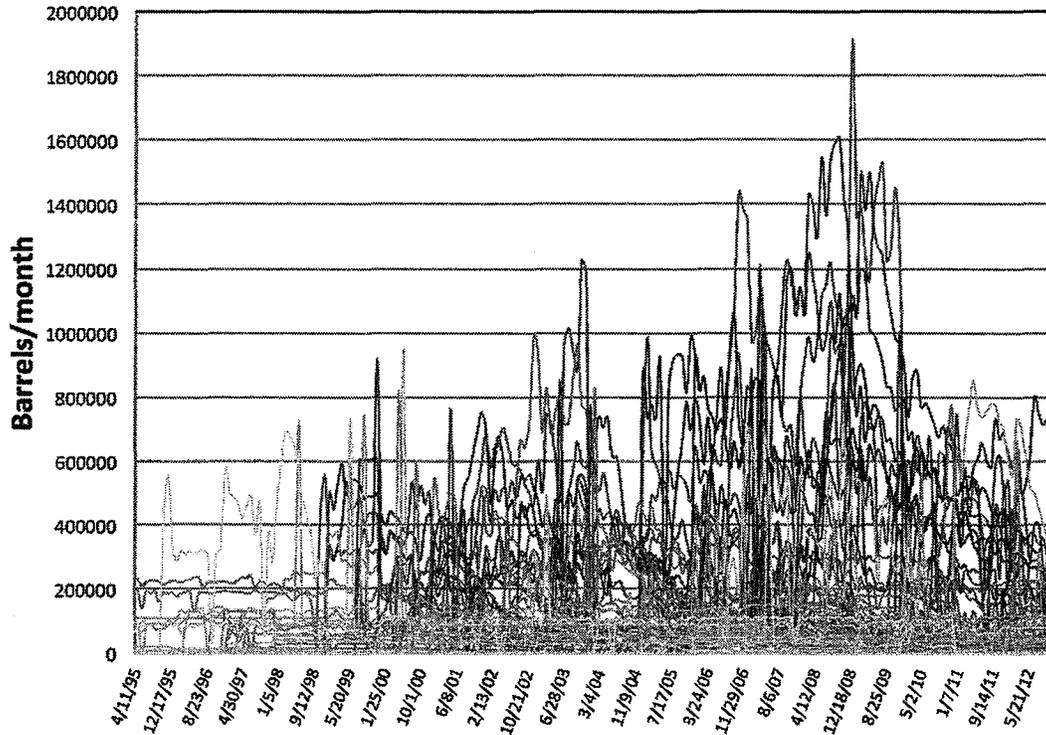


Fig. S5.

Injection rates at wells included in hydrogeological model northeast of the Jones swarm. All wells within ~50 km of the center of the Jones swarm that injected more than 1,000,000 barrels in any year of operation from 1995-2012 were modeled. The entire lifetime of the well was modeled even if the well only operated for one year above 1,000,000 barrels/year. Rates in this figure do not include the SE OKC wells (Fig. 3).

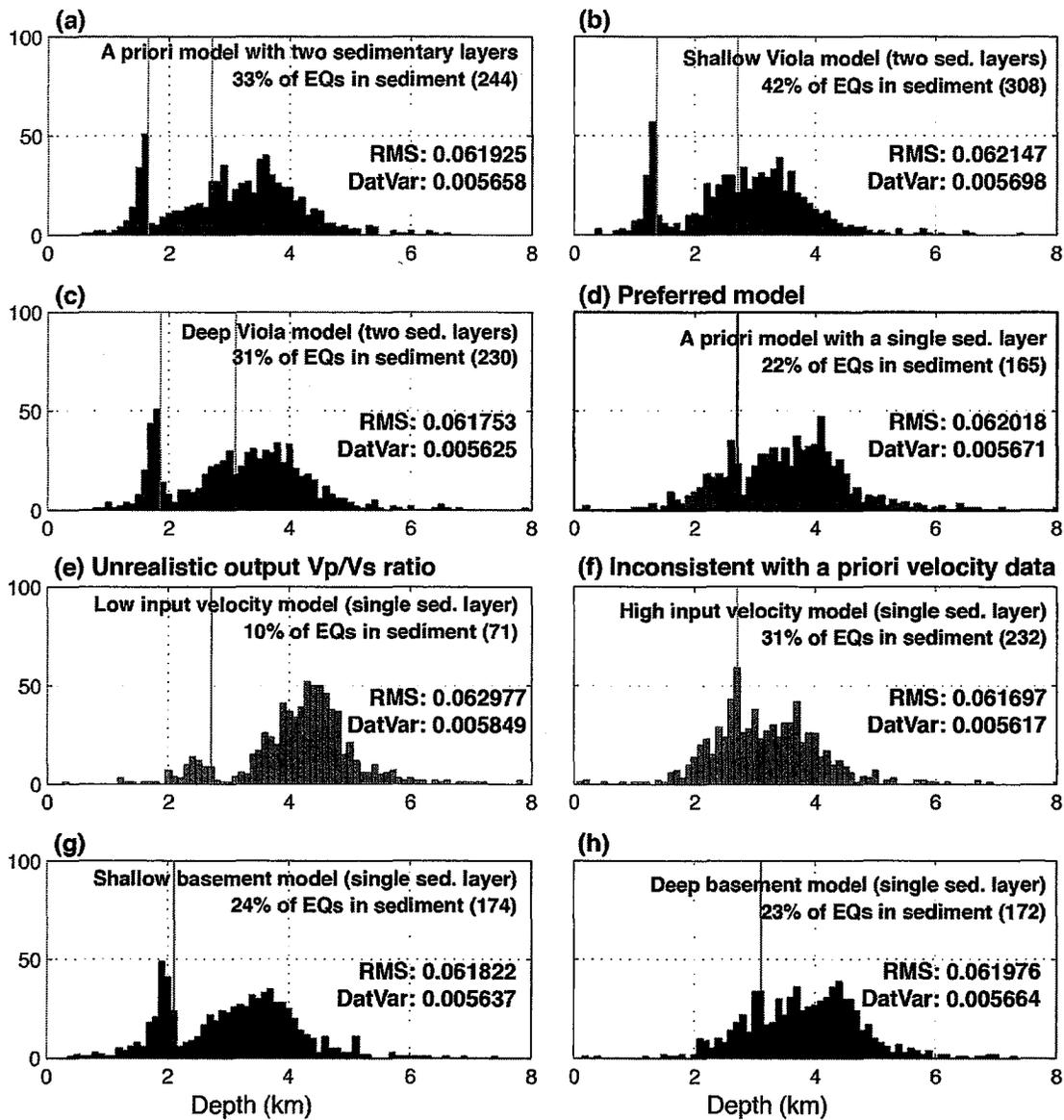
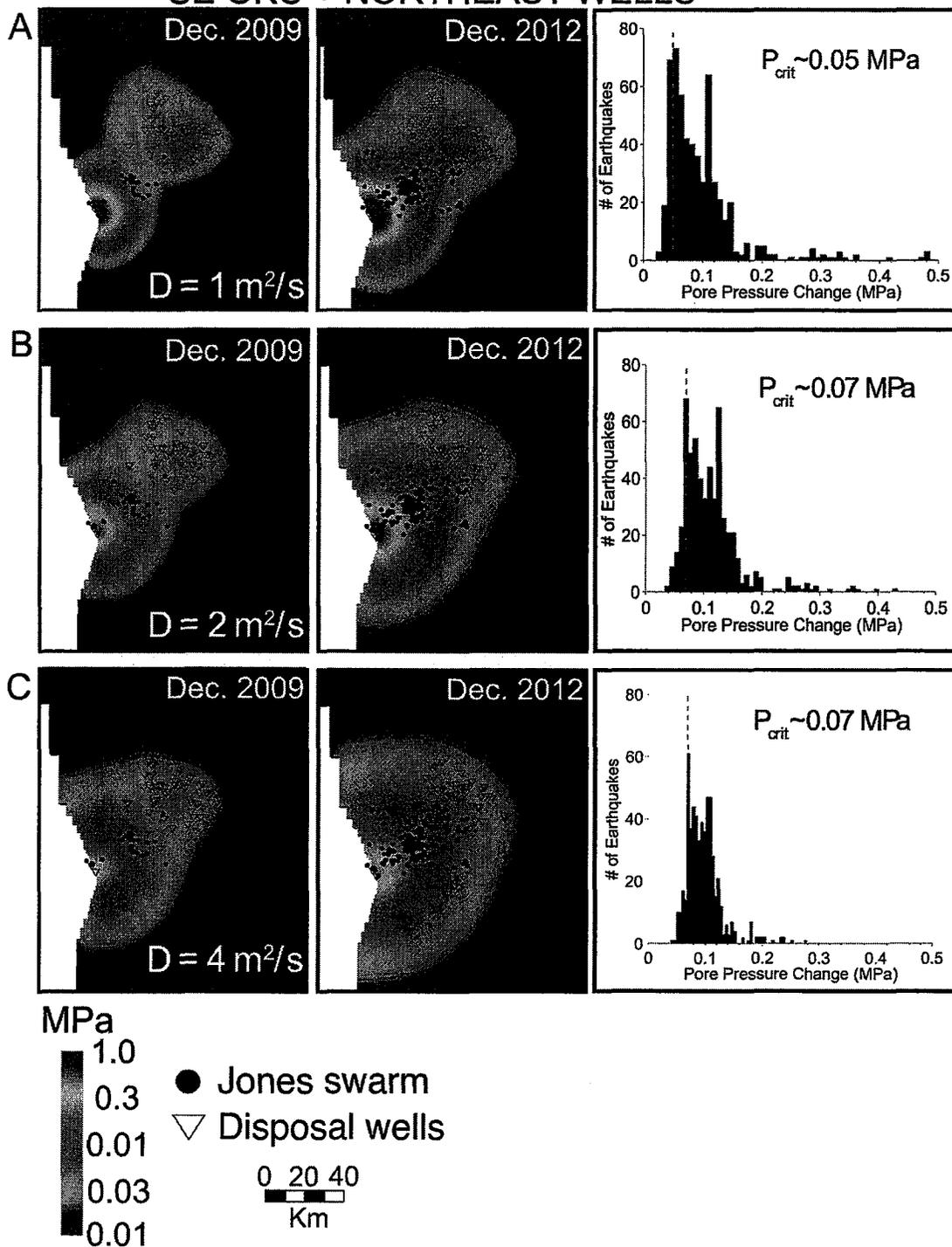


Fig. S6.

Depth histograms of 740 well-constrained earthquakes from multiple velocity inversions. Red vertical line is depth to basement in each model, green line represents depth to primary intra-sediment velocity boundary (top of Viola limestone) for models with two sedimentary layers. (a) A priori model with two velocity layers in sedimentary section, using initial velocities from earlier studies (2) with layer thickness adjusted to local area, (b-c) tests of sensitivity of location to depth of main intra-sedimentary boundary, (d) simplified model with one velocity layer in sedimentary section, (e-f) tests of initially low (e) and high (f) input velocities, (g-h) tests of sensitivity to shallow (g) and deep (h) basement depth. In (a-c), earthquake depth in sedimentary section is sensitive to the intra-sedimentary boundary. The depth to this boundary and layer velocity below the boundary are not well-constrained in the Jones area, hence model (d) with a priori input velocities

from (2) and only one sedimentary layer (using a thickness-weighted average of the two initial layers) is our preferred model. Input and/or output models for (e-f) are inconsistent with known constraints on velocity or Poisson's ratio (Fig. S2) and the (e-f) depth histograms are not reliable. In models (a-d) and (g-h), between 22-42% of earthquakes occur within the sedimentary section.

SE OKC + NORTHEAST WELLS



4 SE OKC WELLS

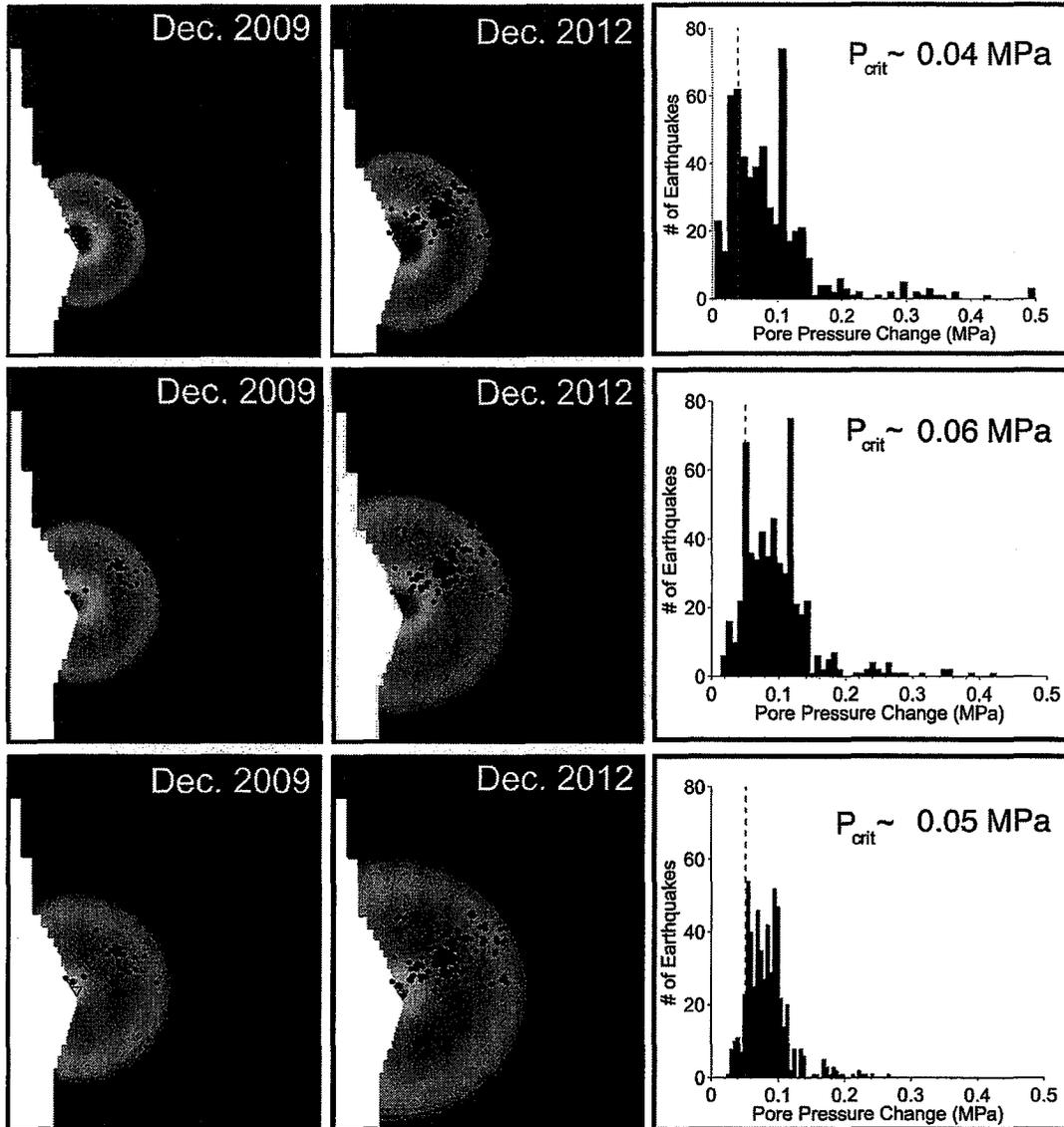


Figure S7.

Hydrogeologic models of pore pressure perturbation in December 2009 and December 2012 for hydraulic diffusivities (D) of 1, 2, and $4 \text{ m}^2/\text{s}$. (A-C) Models including 4 SE OKC wells plus 85 wells to the northeast of Jones. (D-F) Models including only 4 SE OKC wells. Earthquakes from 2008-2009 for 2009 plots and 2008-2012 for 2012 plots (10). The pore pressure perturbation required for triggering ranges from 0.04 MPa to 0.07 MPa. In the model using hydraulic diffusivity of $D=1 \text{ m}^2/\text{s}$, the wells to the NE are required to explain triggering of earthquakes outside the region of increased pressure from the 4 SE OKC wells. In other models, the wells to the NE contribute to the regional pressure increase but fluid injected at the wells to the SW in SE OKC is sufficient to trigger earthquakes throughout the swarm.

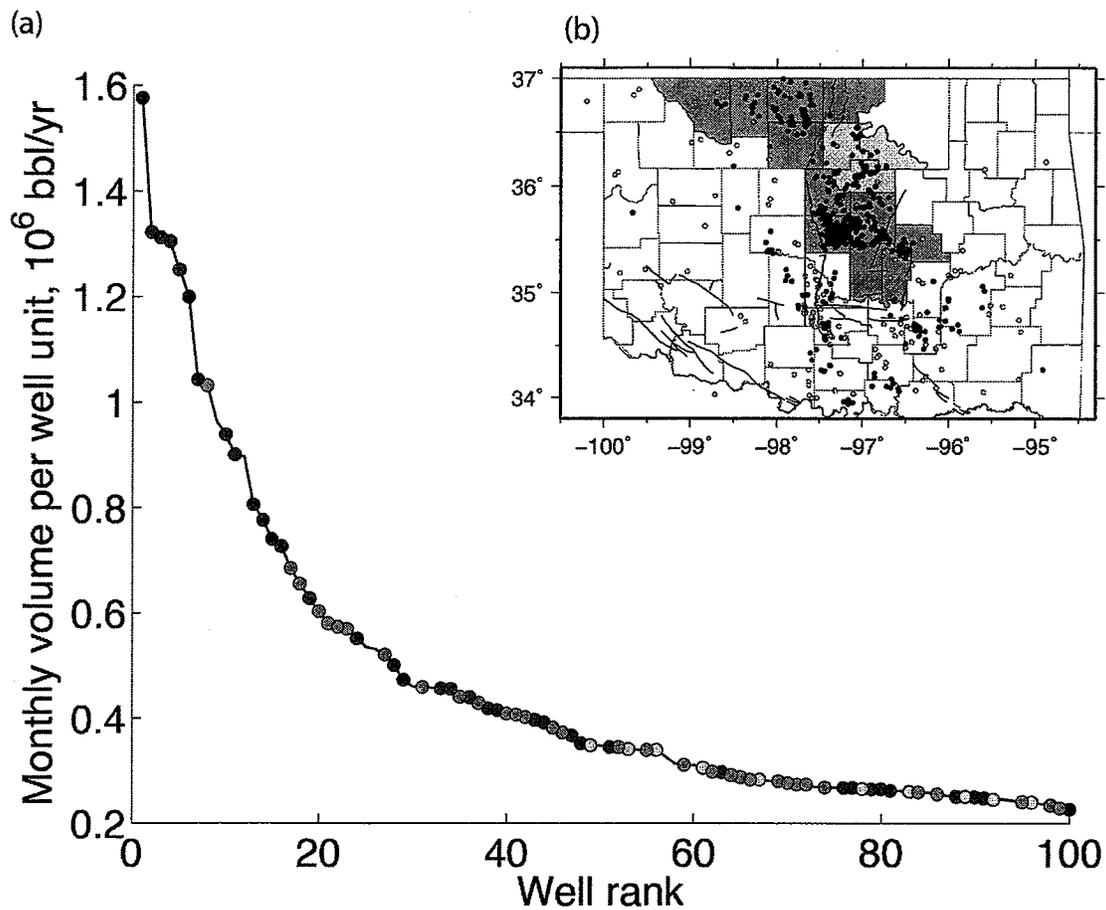


Fig. S8.

(a) Largest 100 disposal wells in Oklahoma from 2004-2012, ranked by average monthly volume when in operation (Table S9). The four large wells in SE OKC are indicated by blue circles. Red circles: Wells north of Enid, Oklahoma; Green circles: Wells in counties within central Oklahoma; Yellow circles: Wells near Guthrie, Oklahoma. (b) Map showing definition of well regions in (a). Entire counties are used for definition of well regions rather than coordinates because latitude and longitude coordinates are not yet available for all 2011-2012 wells. Nearly all large wells are associated with dewatering plays.

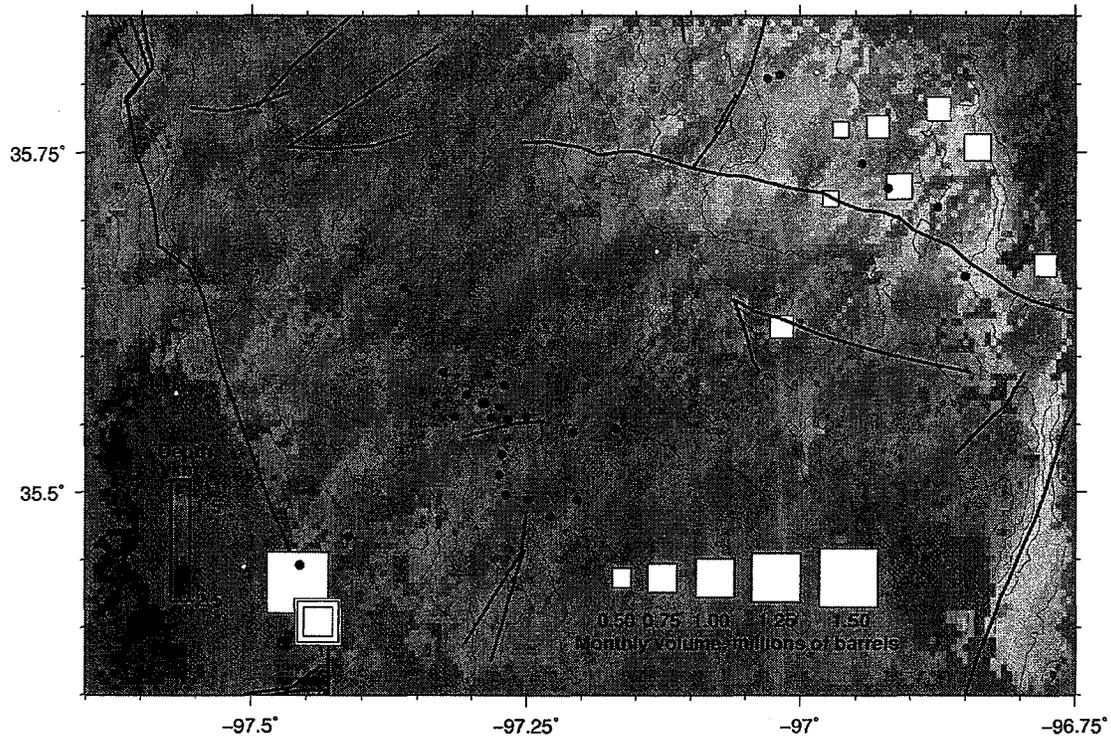


Fig. S9.

Earthquakes in 2009 in central Oklahoma at the onset of the Jones swarm. Earthquake locations are from (10). Red circles denote earthquakes, white squares are injection wells, and black lines are mapped faults (26-28). Most earthquakes occur near mapped faults or near the injection wells. The average horizontal location uncertainty for the earthquakes in 2009 is over 8 km (38).

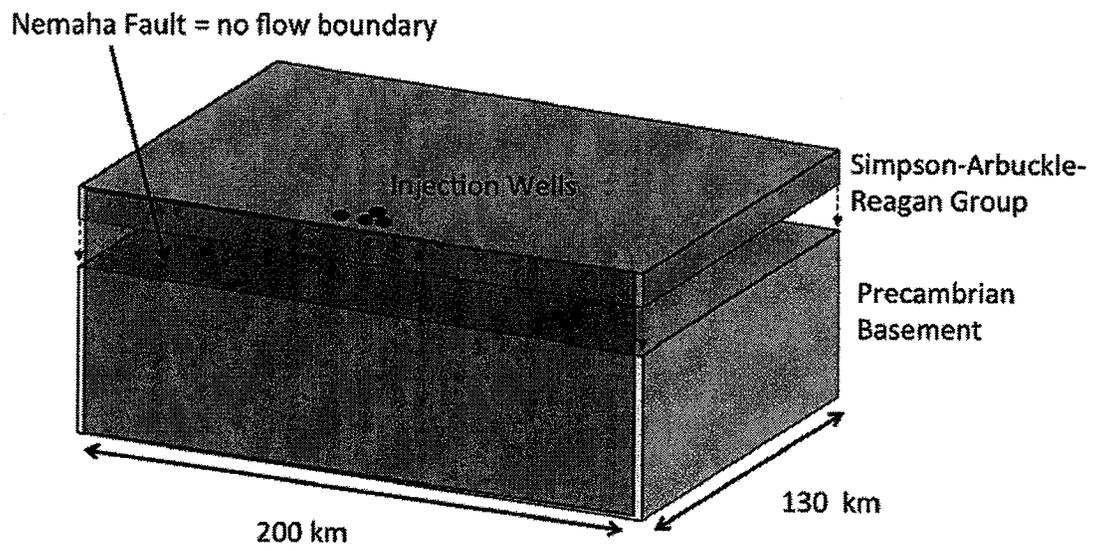


Fig. S10.
Set-up of the hydrogeological model.

Table S1.

Injection rates at other wastewater disposal sites.

Location (<i>reference number</i>)	Disposal volume (millions of barrels per month)
Dallas-Fort Worth, TX (7)	0.300
Cleburne, TX (6)	0.600
Rocky Mountain Arsenal, CO (39)	0.214
Paradox Valley, UT (40)	0.356
Guy, Arkansas (4)	0.394
Youngstown, OH (3)	0.077
Ashtabula, OH (41)	0.314

Table S2.

Earthquake locations from Velest output.

Table S3.

Output velocity models from Velest.

A priori model, two sedimentary layers

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	2.53	1.29	1.96	3
1.65	5.69	3.35	1.7	1
2.7	5.9	3.45	1.71	1
5.7	6.15	3.54	1.74	1
8.7	6.4	3.65	1.75	1
11.7	6.44	3.56	1.81	1
15	6.6	3.78	1.75	1
20.7	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Shallow interface depths, two sedimentary layers

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	2.53	1.31	1.93	3
1.36	5.77	3.39	1.7	1
2.7	5.9	3.44	1.72	1
5.7	6.18	3.55	1.74	1
8.7	6.45	3.66	1.76	1
11.7	6.44	3.55	1.81	1
15	6.58	3.78	1.74	1
20.7	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Deep interface depths, two sedimentary layers

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	2.57	1.32	1.95	3
1.85	5.71	3.37	1.69	1
2.7	5.89	3.45	1.71	1
5.7	6.15	3.54	1.74	1
8.7	6.39	3.64	1.76	1
11.7	6.4	3.55	1.8	1
15	6.6	3.78	1.75	1
20.7	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

A priori model, one sedimentary layer

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	3.94	2.33	1.69	1
2.7	5.88	3.43	1.71	1

5.7	6.13	3.54	1.73	1
8.7	6.37	3.62	1.76	1
11.7	6.41	3.58	1.79	1
15	6.58	3.78	1.74	1
20.7	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Low input velocity, one sedimentary layer

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	2.76	1.84	1.5	3
2.7	5.81	3.39	1.71	2
5.7	6.06	3.5	1.73	1
8.7	6.31	3.61	1.75	1
11.7	6.46	3.6	1.79	1
15	6.5	3.75	1.73	1
20.7	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

High input velocity, one sedimentary layer

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	4.81	2.75	1.75	3
2.7	5.91	3.45	1.71	1
5.7	6.17	3.55	1.74	1
8.7	6.39	3.65	1.75	1
11.7	6.73	3.71	1.81	1
15	6.76	3.75	1.8	1
20.7	7	4.05	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Shallow basement, one sedimentary layer

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
-0.44	3.59	1.98	1.81	3
2.1	5.88	3.44	1.71	1
5.1	6.09	3.52	1.73	1
8.1	6.33	3.6	1.76	1
11.1	6.36	3.55	1.79	1
15	6.53	3.76	1.74	1
21	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Deep basement, one sedimentary layer

Depth (km)	P-velocity	S-velocity	Vp/Vs	Damping
------------	------------	------------	-------	---------

-0.44	3.81	2.29	1.66	3
3.12	5.88	3.44	1.71	1
6.12	6.14	3.54	1.73	1
9.1	6.39	3.64	1.76	1
12	6.44	3.57	1.8	1
15	6.6	3.78	1.75	1
21	6.8	3.93	1.73	1
40	8.1	4.62	1.75	1
60	8.2	4.74	1.73	1

Table S4.

HypoDD2 parameters used for relocations of Jones clusters.

Iteration	WTCTP	WTCTS	WRCT	WDCT	DAMP
1-5	1.0	0.6	-999	-999	-999
6-10	1.0	0.7	2	3	80
11-15	1.0	0.9	2	2	90
16-20	1.0	0.9	2	1	90

Table S5.
Earthquake locations from HypoDD.

Table S6.

API numbers for the 89 wells modeled in the hydrogeological model.

Table S7.

Seismic station names and locations used in generation of local earthquake catalogs.

Table S8.

Locations of highest water-producing wells in initial production tests within Oklahoma.
Data from the IHS database.

Table S9.

Locations of high-rate disposal wells in Oklahoma and average monthly volume. Average monthly injection volume, in millions of barrels, was calculated using reported volume for all months between 1995-2012 when the injection volume was greater than zero. Data are from the Oklahoma Corporation Commission and the IHS database.

References and Notes

1. W. L. Ellsworth, W.L. *Science* **341**, 1225942 (2013).
2. K. Keranen, H. Savage, G. Abers, E. Cochran, Potentially induced earthquakes in Oklahoma, USA: Links between wastewater injection and the 2011 M_w 5.7 earthquake. *Geology* **41**, 699–702 (2013). doi:10.1130/G34045.1
3. W.-Y., Kim. *J. Geophys. Res.* **118**, 3506–3518 (2013).
4. S. Horton, Disposal of hydrofracking waste fluid by injection into subsurface aquifers triggers earthquake swarm in central Arkansas with potential for damaging earthquake. *Seismol. Res. Lett.* **83**, 250–260 (2012). doi:10.1785/gssrl.83.2.250
5. C. Frohlich, C. Hayward, B. Stump, E. Potter, The Dallas-Fort Worth Earthquake Sequence: October 2008 through May 2009 *Bull. Seismol. Soc. Am.* **101**, 327–340 (2011). doi:10.1785/0120100131
6. A. H. Justinic, B. Stump, C. Hayward, C. Frohlich, Analysis of the Cleburne, Texas, earthquake sequence from June 2009 to June 2010. *Bull. Seismol. Soc. Am.* **103**, 3083–3093 (2013). doi:10.1785/0120120336
7. C. Frohlich, Two-year survey comparing earthquake activity and injection-well locations in the Barnett Shale, Texas. *Proc. Natl. Acad. Sci. U.S.A.* **109**, 13934–13938 (2012). doi:10.1073/pnas.1207728109
8. A. McGarr, Maximum magnitude earthquakes induced by fluid injection. *J. Geophys. Res.* **119**, 1008–1019 (2014). doi:10.1002/2013JB010597
9. The Central and Eastern United States is considered the portion of the contiguous United States east of 109° W.
10. ANSS catalog, United States Geological Survey, <http://earthquake.usgs.gov/earthquakes/search/>, accessed 4/1/2014.
11. N. J. van der Elst, H. M. Savage, K. M. Keranen, G. A. Abers, Enhanced remote earthquake triggering at fluid-injection sites in the midwestern United States. *Science* **341**, 164–167 (2013). Medline doi:10.1126/science.1238948
12. D. F. Sumy, E. S. Cochran, K. M. Keranen, M. Wei, G. A. Abers, Observations of static Coulomb stress triggering of the November 2011 $M_{5.7}$ Oklahoma earthquake sequence. *J. Geophys. Res.* **119**, 1904–1923 (2014). doi:10.1002/2013JB010612
13. S. D. Davis, C. Frohlich, *Seismol. Res. Lett.* **64**, 207–224 (1993).
14. Information on materials and methods is available on *Science Online*.
15. Oklahoma Corporation Commission Imaging Web Application, <http://imaging.occeweb.com/>
- 16 D. Chernicky, *World Oil* (2000).
17. K. E. Murray, State-scale perspective on water use and production associated with oil and gas operations, Oklahoma, U.S. *Environ. Sci. Technol.* **47**, 4918–4925 (2013). Medline doi:10.1021/es4000593

18. F. Waldhauser, W. L. Ellsworth, A Double-difference earthquake location algorithm: Method and application to the Northern Hayward Fault, California. *Bull. Seismol. Soc. Am.* **90**, 1353–1368 (2000). [doi:10.1785/0120000006](https://doi.org/10.1785/0120000006)
19. A. A. Holland, Optimal fault orientations within Oklahoma. *Seismol. Res. Lett.* **84**, 876–890 (2013). [doi:10.1785/0220120153](https://doi.org/10.1785/0220120153)
20. D. L. Wells, K. J. Coppersmith, *Bull. Seismol. Soc. Am.* **84**, 974–1002 (1994).
21. P. A. Reasenber, R. W. Simpson, Response of regional seismicity to the static stress change produced by the loma prieta earthquake. *Science* **255**, 1687–1690 (1992). [Medline doi:10.1126/science.255.5052.1687](https://doi.org/10.1126/science.255.5052.1687)
22. L. Seeber, J. G. Armbruster, Earthquakes as beacons of stress change. *Nature* **407**, 69–72 (2000). [10.1038/35024055](https://doi.org/10.1038/35024055) [Medline doi:10.1038/35024055](https://doi.org/10.1038/35024055)
23. R. Stein, The role of stress transfer in earthquake occurrence. *Nature* **402**, 605–609 (1999). [doi:10.1038/45144](https://doi.org/10.1038/45144)
24. M. D. Zoback, J. Townend, B. Grollimund, Steady-state failure equilibrium and deformation of intraplate lithosphere. *Int. Geol. Rev.* **44**, 383–401 (2002). [doi:10.2747/0020-6814.44.5.383](https://doi.org/10.2747/0020-6814.44.5.383)
25. M. L. Zoback, First- and second-order patterns of stress in the lithosphere: The World Stress Map Project. *J. Geophys. Res.* **97**, 11703–11728 (1992). [doi:10.1029/92JB00132](https://doi.org/10.1029/92JB00132)
26. K. V. Luza, J. E. Lawson, *Oklahoma Geological Survey Spec. Pub.* **81-3**, 1–67 (1981).
27. S. P. Gay, *Shale Shaker* **54**, 39–49 (2003).
28. L. E. Gatewood, in *Geology of giant petroleum fields*, AAPG Memoir **14**, M. T. Halbouty, Ed. (American Association of Petroleum Geologists Tulsa, OK, 1970).
29. Monthly average volume was calculated using reported volumes for any month with nonzero volume (15). Injection rates over 90% larger than the median monthly value in a given year for each well were removed from calculations to remove data entry errors.
30. E. Kissling, W. L. Ellsworth, D. Eberhart-Phillips, U. Kradolfer, Initial reference models in local earthquake tomography. *J. Geophys. Res.* **99**, 19635–19646 (1994). [doi:10.1029/93JB03138](https://doi.org/10.1029/93JB03138)
31. V. Jambunathan, thesis, Univ. of Oklahoma (2008).
32. T. Brocher, Empirical relations between elastic wavespeeds and density in the Earth's crust. *Bull. Seismol. Soc. Am.* **95**, 2081–2092 (2005). [doi:10.1785/0120050077](https://doi.org/10.1785/0120050077)
33. A. W. Harbaugh, E. R. Banta, M. C. Hill, M. G. McDonald, *U.S. Geological Survey Open-File Report* **00-92** (2000).
34. M. G. McDonald, A. W. Harbaugh, *U.S. Geol. Survey Open-File Report* **83-875** (1984).
35. E. K. Franseen, A. P. Byrnes, in J. R. Derby, R. D. Fritz, S. A. Longacre, W. A. Morgan, C. A. Sternbach, Eds., *AAPG Memoir* **98**, 1031–1047 (2012).
36. B. C. Haimson, T. W. Doe, State of stress, permeability, and fractures in the Precambrian granite of northern Illinois. *J. Geophys. Res.* **88**, 7355–7371 (1983). [doi:10.1029/JB088iB09p07355](https://doi.org/10.1029/JB088iB09p07355)

37. S. A. Shapiro, E. Rothery, V. Rath, J. Rindschwentner, Characterization of fluid transport properties of reservoirs using induced microseismicity. *Geophysics* **67**, 212–220 (2002).
38. International Seismological Centre, *On-line Bulletin*, International Seismological Centre, Thatcham, UK, 2011; <http://www.isc.ac.uk>.
39. J. H. Healy, W. W. Rubey, D. T. Griggs, C. B. Raleigh, The Denver Earthquakes. *Science* **161**, 1301–1310 (1968). [Medline doi:10.1126/science.161.3848.1301](https://doi.org/10.1126/science.161.3848.1301)
40. J. Ake, K. Mahrer, D. O’Connell, L. Block, Deep-injection and closely monitored induced seismicity at Paradox Valley, Colorado. *Bull. Seismol. Soc. Am.* **95**, 664–683 (2005). [doi:10.1785/0120040072](https://doi.org/10.1785/0120040072)
41. L. Seeber, J. G. Armbruster, W.-Y. Kim, A fluid-injection-triggered earthquake sequence in Ashtabula, Ohio: Implications for seismogenesis in stable continental regions. *Bull. Seismol. Soc. Am.* **94**, 76–87 (2004). [doi:10.1785/0120020091](https://doi.org/10.1785/0120020091)

EXHIBIT "G"

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 permits in case we decide based on experience that 61 nights of these particular lights needs to be scaled back or in any way altered, and instead they necessitate giving the school vested rights. This is such a huge thing to do to western Malibu without any test experience and without any community discussion. Jeff Jennings argued that we shouldn't want Coastal controlling local decisions, but the same argument says we shouldn't give the school permanent irrevocable controls.

One council member said correspondence to the city was 3-to-1 in favor. But about 40 people wrote in favor and about 40 in opposition to the project at hand. There was also one letter saying 600 people wanted this project, but without providing evidence, such as names plus signatures to what they wanted. I called one donor named on the school's website and was told they were pressured by the school to donate and not proud to see their name there. I called another who said that sport lights were important but was happy with the temporary poles we had in the past and had no knowledge of the permanent poles, and their financial contribution didn't represent a vote favoring them.

Lynn Norton

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 *fit* 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 those 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

Alcohol CUP Appeal

(Continued from page 3) self-imposed conditions were then reiterated by the appellant in his presentation to the planning commission, however the commission determined that these measures were simply not enough to ensure that the sale of beer and wine would be compatible with the existing surrounding uses in the neighborhood."

The appellant also insists the planning commission's finding that the proposed use would be detrimental to the public interest, health, safety, convenience or welfare "was not supported by substantial evidence in the record."

The staff response is that the planning commission heard the matter twice and the commission "consid-

ered all evidence presented 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 in 2007 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."

The appellant also contends the planning commission's finding under Section 4 of the resolution (inconsistency with General Plan Land Use Plan Policy 4.1.5) and its basis for denial on such grounds is

(Continued on page 15)

A Matter of PUBLIC RECORD

PUBLIC NOTICE - FILE NO. PS014405 ORDER TO SHOW CAUSE FOR CHANGE OF NAME

TO ALL INTERESTED PERSONS:

Michelle Goodwine filed a petition with this court for a decree changing names as follows:

Present name
Grant William Goodwine
Proposed name
Grant William Joyce

2. THE COURT ORDERS that all persons interested in this matter appear before this court at the hearing indicated below to show cause, if any, why the petition for change of name should not be granted. Any person objecting to the name changes described above must file a written objection that includes the reasons for the objection at least two court days before the matter is scheduled to be heard and must appear at the hearing to show cause why the petition should not be granted. If no written objection is timely filed, the court may grant the petition without a hearing.

NOTICE OF HEARING

Date: 8-16-12, Time: 8:30 a. m. Dept. F47
Chatsworth Courthouse
9425 Penfield Ave.
Chatsworth, CA 91311

A copy of this Order to Show Cause shall be published at least once each week for four consecutive successive weeks prior to the date set for hearing on the petition in the following newspaper of general circulation, printed in this county.

JUDGE OF THE SUPERIOR COURT:

Charlaine F. Olmedo
May 7, 2012

Publish in The Malibu Surfside News, July 5, 12, 18, 26, 2012.

PUBLIC NOTICE - FILE NO. 12134152 FICTITIOUS BUSINESS NAME STATEMENT

The following person is doing business as:
Malibu Mediation Center
5783 Busch Drive
Malibu, Ca 90265
Jennifer W. Pietro
5783 Busch Drive
Malibu, Ca 90265
This business is conducted by an individual.

The Registrant commenced to transact business under the fictitious business name or names listed above on: June 24, 2012.

This statement was filed with the County Clerk of Los Angeles County on July 3, 2012.

I declare that all information in this statement is true and correct. (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
s/Jennifer W. Pietro

NOTICE - In accordance with Subdivision (a) of Section 17920, a fictitious name statement generally expires at the end of five years from the date on which it was filed in the office of the county clerk, except as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new fictitious business name statement must be filed before the expiration.
Publish date: July 19, 26 and August 2, 9, 2012.

PUBLIC NOTICE - FILE NO. 12140882 FICTITIOUS BUSINESS NAME STATEMENT

The following person is doing business as:
Bank of Books
29189 Heatherdell # 109
Malibu, Ca 90265
Clarence Rudd III
2047 Almsenor
Orland, CA 95098
This business is conducted by an individual.

The Registrant commenced to transact business under the fictitious business name or names listed above on: N/A.

This statement was filed with the County Clerk of Los Angeles County on July 12, 2012.

I declare that all information in this statement is true and correct. (A registrant who declares as true information which he or she knows to be false is guilty of a crime.)
s/Clarence Rudd III

NOTICE - In accordance with Subdivision (a) of Section 17920, a fictitious name statement generally expires at the end of five years from the date on which it was filed in the office of the county clerk, except as provided in Subdivision (b) of Section 17920, where it expires 40 days after any change in the facts set forth in the statement pursuant to Section 17913 other than a change in the residence address of a registered owner. A new fictitious business name statement must be filed before the expiration.
Publish date: July 16, 23 and August 2, 9, 2012.



CITY OF MALIBU PUBLIC NOTICE INVITING APPLICATIONS FOR COUNCIL APPOINTMENT TO THE CULTURAL ARTS COMMISSION

PLEASE TAKE NOTICE that the City of Malibu is accepting applications for Council appointment to the following commissions and committees:

CULTURAL ARTS COMMISSION

The commission makes recommendations to the City Council with respect to matters concerning the cultural arts policy, facility rental fee policies for local cultural arts organizations, cultural arts related general fund grant applications, use of City parks for cultural arts related events, purchase of art by the City, cultural arts programs sponsored by the City, outreach to Malibu artists and cultural arts organizations, use of cultural spaces at Malibu City Hall, and such other matters as directed by the City Council.

The five member cultural arts commission shall consist of residents of the City. Members shall not be officers or employees of the City. The City Council may appoint one ex-officio member who lives outside the City limits but within the 90265 zip code area, who shall not have a vote on the commission and is appointed at large by the City Council.

The deadline to submit a City Commission / Committee Member Application Form is Friday, August 17, 2012, by 4:30 p.m.

Application forms are on the City's website at www.malibucity.org (on the City Clerk page) or by emailing Lisa Pope, City Clerk, at lpope@malibucity.org. Following an interview process, said applications will be presented to the City Council for consideration at a Regular City Council meeting.

Applications must be received by Lisa Pope, City Clerk, City of Malibu, 23825 Stuart Ranch Road, Malibu, CA 90265 or lpope@malibucity.org by 4:30 p.m. on August 17, 2012. No late applications or postmarks will be accepted.

Publish: July 19, 2012

Joyce Parker-Bozylnski, AICP, Planning Director

BE INFORMED

READ THE PUBLIC

NOTICES

TOWN FORUM

LETTERS to the EDITOR

INJECTION CLARIFICATION

Editor:

Hans Laetz, in his letter to the Malibu Surfside News (07/26/12, p. 15), is right when he says that I'm right, but otherwise, most of his ideas and terminology need clarification to be treated appropriately elsewhere.

As to his concern that injecting treated sewage plant effluent would cause an earthquake, everyone should relax. It is not the weight of the injected water that Hans decries but rather the increase in pressure it would cause that might induce seismicity.

Pressure depends on the increase in hydrostatic head, which in the case of the Malibu Creek floodplain, where the injection is proposed, could be no more than about 10 feet over what the pressure is that the head there now exerts.

By way of comparison, when the Hoover Dam was filled, Richter magnitude earthquakes on the order of 4-5 were induced, because the water collecting behind the dam—to some 700 feet in depth—increased pressure at the dam base in excess about 22 tons per square foot.

Injection in the Malibu Creek floodplain alluvium could increase the pressure a maximum of about 0.03 tons per square foot before, as I have explained previously (Malibu Surfside News, 07/19/12, p. 10), everyone would have to get out the galoshes.

Of course, much of the Civic Center area would then become a wetland, which, from the RWQCB's point of view, might not be all that bad.

Don Michael

FISH REEF PROJECT SEEKS LOCAL FINANCIAL SUPPORT

Editor:

The Fish Reef Project is proud to announce the deployment of its first two test reef balls off Santa Barbara. In the water for just five weeks, the small reefs are already covered with young life, including starfish, barnacles, green algae, dozens of crabs and best of all, the reefs are already home to rockfish and the small halibut who love to nestle right up to the reef's edge. We invite all of Malibu to check out the monthly video logs of the reefs' progress on www.fishreef.org. The future Malibu reef will be for the entire local community benefit from, learn from and enjoy.

This is a ground breaking, cutting edge ocean enhance-

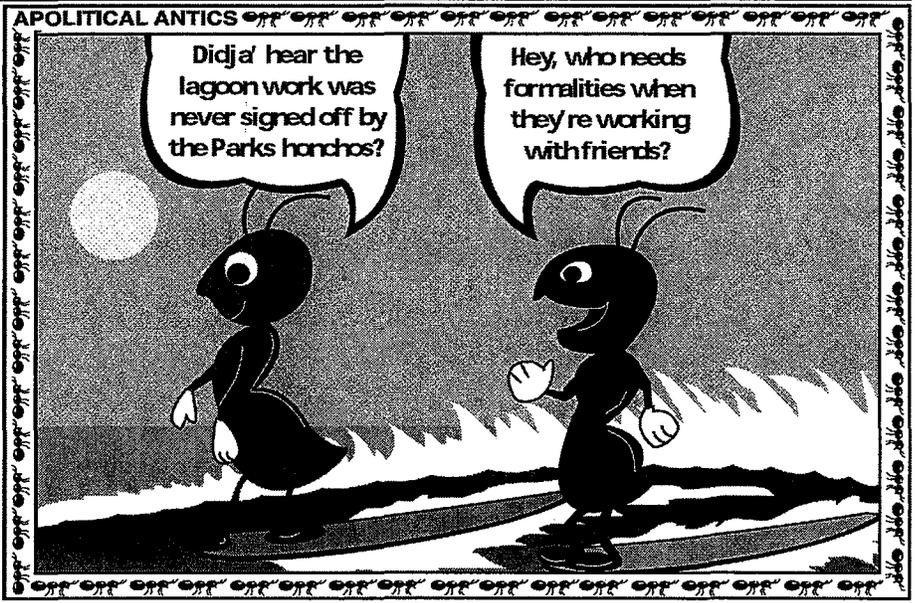


The fish reef crew hopes to undertake new projects.

ment project that requires broad-based support and interest from all sides. As such, I have reached across to people who may not share my strong feelings that man has the right to harvest his protein sustainably from mother ocean. I have met with the Environmental Defense Center, folks related to the Monterey Bay Aquarium, and soon I will speak in front the Santa Barbara Surfrider Foundation, all where there is some common ground.

Despite the vitriolic MPA process, we all agree that the ocean and society will be healthier if we find projects to cooperate on and creation of new fish reefs is stage center. We have also spoken in front of the Channel Islands Sanctuary Board where all the government and agency heads had a chance to vet any concerns. Everyone was there,

(Letters to the Editor are continued on page 9)



Publisher's NOTEBOOK

Finding a Better Way

The newspaper has received more hostile communication about the Malibu High School lighting debate than any other local controversy in decades. I have saved all of it in a file as a reminder of what transpires when humans cannot differ civilly. The negativity, which was not all one-sided, was so unpleasant that one might think we wouldn't touch the subject with a 70-foot pole.

The worst of the nastiness was an expletive-riddled and barely literate "anonymous" email sent in response to a question about whether high school football is being affected by the growing controversy and thousands of lawsuits over undiagnosed brain injuries to pro players. The puerile vulgarity notwithstanding, I was more astounded that the sender wasn't savvy enough about the Web to realize that it would take me less than five minutes to track down his identity from his email address.

I reflect on this unpleasantry to try to forestall a recurrence when I express the opinion that the litigation recently initiated over the issue of high school field lighting is less about bright lights and nighttime sports than it is about politics, process and precedent. When they operate in conjunction, these three elements have the ability to upend the way of life anywhere in Malibu.

If local officials can be marshaled by constituents with vested interests (whether personal preference or long-term objective) and get support from state officials influenced by supporters, friends or family, that collective power may be able to put pressure on agencies reliant on either or both for legitimacy and funding.

The steamrolling that precluded consideration of telescoping light poles that might have allowed a full schedule of nighttime sports and averted a legal clash between Malibuites, was never given a chance. This was not good public policymaking. What ensued appeared to be a fortress mentality that trumped transparency and regarded process as unimportant in its own right.

For example, several specialists in state conflict-of-interest law indicate the two planning commissioners who made school contributions were not required to recuse themselves, and even the third member who was recused was a borderline call. The additional panel hearing might have reduced the surprise factor.

In addition, the alternative of telescoping poles was downplayed by the vendor pitching the school district and this appears to be a clearer example of conflict of interest, as the vendor knew that his client and its sup-

porters on the city council wanted approval quickly and, of course, the company wanted a plum contract.

Similarly, there still is not a thorough cost-benefit analysis of the project. How much will be covered by donations—including those from contributors who soon will go before the city with their own projects—and how much by the taxpayers? There are some numbers for the lights themselves, but what about ongoing costs to be covered by district taxpayers?

If Malibuites are going to be impacted by public need, the final proposal—as opposed to its early narrower variants—should receive thorough processing. It's not transparency if a proposal calls for 10 of something and final approval is granted for 100 of them.

Even when a community issue is such that there are going to be winners and losers, however defined, those who lose will accept the loss more readily if they think they have been treated fairly, have been kept informed and were able to offer input every step of the way. Not only is there greater civility in the ongoing dialogue, there are fewer grounds for heading to the courtroom.

ANNE SOBLE

The Malibu Surfside News

(ISSN—0191-7307)

The Malibu Surfside News (Malibu News) is a weekly community newspaper and related website serving the greater Malibu, Los Angeles County area that is published by Malibu News Enterprises, Inc. It has been adjudicated a newspaper of general circulation, qualified to publish legal notices by the Superior Court of Los Angeles County, Decree No. C149989, May 9, 1976. The newspaper and website are copyrighted. All rights reserved. No reproduction or use of contents is permitted without express written authorization and negotiation of terms. The annual print subscription rate for Malibu ZIP codes is \$25. Other U.S. area subscriptions are \$85 a year, and out-of-the-country subscriptions are \$150 a year.

EDITOR and PUBLISHER—ANNE C.S. SOBLE

CITY BUREAU—BILL KOENEKER

FEATURE SECTIONS—SUZANNE GULDWMANN

PRODUCTION—GEORGE HALPTMAN

Editorial/Production Contributors—Beverly Coenell,

Frank Lamonea, Kayla Brown, Ralfee Finn

Proofreader—Lauren Burnham

Newspaper Offices:

28990 Pacific Coast Highway

Malibu, CA 90265

Mailing Address: P.O. Box 903, Malibu, CA 90265

Telephone: 310-457-2112-457-4225-457-NEWS

FAX: 310-457-9908

Website: <http://www.malibusurfsideneews.com>

Email: Editor—editor@malibusurfsideneews.com

News—news@malibusurfsideneews.com

Advertising—ads@malibusurfsideneews.com

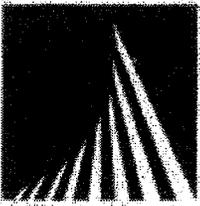
Print and Online Edition Copyright © 2012 All Rights Reserved

Postmaster: Please Print at Malibu, CA 90265. Postmaster: Send address changes to: The Malibu Surfside News, P.O. Box 903, Malibu, CA 90265

LETTERS POLICY

The Malibu Surfside News welcomes expressions of opinion and other commentary on communitywide concerns for consideration as letters to the editor. These communications should, ideally speaking, not exceed 250 words in length. Email transmission is preferred. All communications must be signed and include a return address and daytime telephone number, but the author may request that his or her name be withheld and indicate the reason for the request. Priority is given to exclusive communications that substantively address key local public policy issues. All communications may be edited to meet space or other publication constraints. Letters selected for printing do not necessarily reflect the opinion of the publisher or others associated with this newspaper.

EXHIBIT "H"



ASSURE
RESOLVE
STRENGTHEN

CITADEL ENVIRONMENTAL SERVICES, INC.

PRIVILEGED AND CONFIDENTIAL

April 30, 2014

Jeff Follert, President
Serra Canyon Property Owners Association
23247 Palm Canyon Lane
Malibu, California 90265

Re: **CITADEL Project No. 0551.1001.0**
Water Quality Report
Malibu Creek Watershed
Serra Canyon
Malibu, California

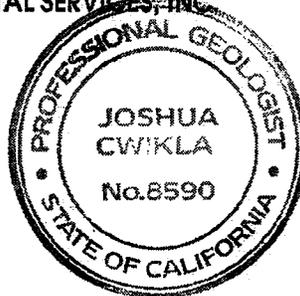
Dear Mr. Follert:

Citadel Environmental Services, Inc. is pleased to provide you with this Water Quality Report for the above-referenced location.

If, after your review, you have any questions or require additional information, please do not hesitate to telephone me at (818) 246-2707.

Sincerely,
CITADEL ENVIRONMENTAL SERVICES, INC.


Joshua Cwikla, P.G.
Project Geologist



Enclosure

Expires September 30, 20 15



CITADEL ENVIRONMENTAL SERVICES, INC.

assess
resolve
strengthen

Serra Canyon Property Owners Association
23247 Palm Canyon Lane
Malibu, California 90265

Water Quality Report

April 30, 2014

Citadel Project Number 0551.1001.0

Malibu Creek Watershed
Serra Canyon
Malibu, California

www.citadelenvironmental.com



Table of Contents

1.0	INTRODUCTION.....	1
2.0	BACKGROUND.....	1
3.0	EXISTING MONITORING WELLS.....	2
4.0	GEOLOGY AND HYDROLOGY OF THE STUDY AREA.....	2
	4.1 GEOLOGY.....	2
	4.2 HYDROLOGY.....	3
	4.3 GROUNDWATER.....	3
	4.4 GROUNDWATER QUALITY CRITERIA.....	4
5.0	WATER QUALITY SAMPLING.....	4
	5.1 WELL LOCATIONS AND DESCRIPTIONS.....	4
	5.2 MALIBU CREEK SAMPLING.....	7
	5.3 CROSS CREEK PLAZA SHOPPING CENTER.....	8
	5.4 GROUNDWATER QUALITY.....	8
6.0	FINDINGS.....	10
	6.1 MONITORING WELL DEPTHS.....	10
	6.2 GROUNDWATER QUALITY.....	10
7.0	CONCLUSIONS & RECOMMENDATIONS.....	11
8.0	REFERENCES CITED.....	12
9.0	LIMITATIONS.....	12
10.0	SIGNATURES.....	13

FIGURES

Figure 1	Map of Study Area
Figure 2	Well and Creek Sample Location Map
Figure 3	Geologic Vicinity Map
Figure 4	Geologic Vicinity Map Legend
Figure 5	Malibu Creek Watershed Boundaries and Groundwater Flow Direction
Figure 6	Well Location Map
Figure 7	Creek Sampling Map

APPENDICES

Appendix A	Chain-of-Custody and Laboratory Documentation
Appendix B	Summary of Water Well Descriptions



1.0 INTRODUCTION

Citadel Environmental Services, Inc (Citadel) is pleased to present this report summarizing the scope of services and water quality results from surface waters in Malibu Creek and groundwater at individual home sites within the Serra Canyon Property Owners Association (SCPOA), Malibu, Los Angeles County, California (Study Area) (Figure 1).

Citadel understands that residential sanitary systems in Serra Canyon consist of individual on-Site wastewater treatment disposal systems (OWDS). At this time, the Los Angeles Regional Water Quality Control Board (LARWQCB) is proposing the prohibition of subsurface disposal of wastewater, requiring that property owners within the SCPOA connect to a planned city sewer and wastewater treatment facility. The LARWQCB has alleged that OWDS discharges relating to Nitrates may be contributing to water quality deterioration of the Malibu Creek Watershed. This investigation was intended to provide preliminary screening and independent water quality data within the SCPOA boundaries using existing non-potable groundwater supply wells to determine if OWDS are contributing to deterioration of the Malibu Creek Watershed. Laboratory results of groundwater obtained from sampled wells were compared to regulatory levels established by LARWQCB. Malibu Creek water samples were also compared to the established levels and used to help characterize the water flowing through the area from natural sources and discharge of treated effluent into the creek from the Tapia Water Reclamation Facility (WRF).

2.0 BACKGROUND

The Study Area lies within the Malibu Valley Groundwater Basin (Basin). According to the LARWQCB, groundwater from the Basin was a source of drinking water for the Study Area until the 1960s. Potable groundwater production in the area gradually ceased when the Los Angeles County Waterworks District No. 29, Malibu was formed to deliver imported water to the Malibu area in the early 1960s. In the event of a disruption of imported water, groundwater in the Basin is still considered an important local resource for potable water.

According to the US Environmental Protection Agency (EPA) Region 9 the Total Maximum Daily Loads (TMDL) for Nutrients of the Malibu Creek Watershed, Malibu Creek and three of its tributaries (Las Virgenes Creek, Medea Creek, and Lindero Creek) exceed the water quality objectives (WQOs) for nuisance effects such as algae, odors, and scum. The TMDLs identify the amounts of nitrogen and phosphorous that can be discharged to the water bodies in the Malibu Creek Watershed without causing violations of applicable water quality standards, and allocate allowable nutrient loads among different discharge sources.

Section 303(d) of the Clean Water Act (CWA) requires that each State "shall identify those waters within its boundaries for which the effluent limitations are not stringent enough to implement any water quality standard applicable to such waters." The CWA also requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and establish TMDLs for such waters. The State of California identified over 700 water body-pollutant combinations in the Los Angeles Region where TMDLs would be required. These TMDLs address Malibu Lagoon, segments of the Malibu Creek and tributaries, and urban lakes impaired by nutrient compounds and effects that appear to be caused by those compounds. The nutrient impairments include ammonia and nutrients (nitrogen and phosphorus) and nuisance effects (dissolved oxygen, algae, scum, and odor). The TMDLs are expressed differently for summer and winter conditions because flows, nutrient loads, and nutrient effects vary substantially in different seasons. (RWQCBLA, 2009).



3.0 EXISTING MONITORING WELLS

Three existing groundwater monitoring wells owned by the City of Malibu were observed throughout the study area. According to a report by Stone Environmental (Stone, 2004), 14 groundwater-level observation and monitoring wells were installed throughout Malibu Creek and lagoon area between December 26, 2002 and March 25, 2003. The wells were observed in the study area and are described in this report. Groundwater analysis from these three wells was extracted from reports prepared by others to use as additional data (Izbicki et al., 2012 and Stone, 2004).

In the Stone Report, wells were sampled on a monthly basis between April 2003 and March 2004. Sampling included analysis for bacteriological (total coliform, fecal coliform and Enterococcus) and nitrogen (NH₃, NO₂, NO₃, and total Kjeldahl nitrogen or TKN) constituents, along with chloride. The average concentrations reported at the three monitoring wells are shown in Table 1. Stone interpreted the result of their study to show that shallow groundwater in the area is significantly influenced by bacteria from sources other than OWDS. Stone noted that storm water infiltration and direct percolation from the land surface in sandy soil areas are likely to be significant potential sources of contamination.

It should be noted that drinking water standards were not addressed in this report.

4.0 GEOLOGY AND HYDROLOGY OF THE STUDY AREA

4.1 GEOLOGY

The SCPOA residential boundaries, as well as the sampling locations for this study, are located on the Malibu Beach Quadrangle 7.5 Minute Topographic Map produced by the United States Geological Survey (USGS, 2012) (Figure 2). The Malibu Beach Quadrangle is dominated by steep and rugged terrain of the central Santa Monica Mountains. The main crest of the mountain range trends generally east-west across the center of the quadrangle, although the actual drainage divide is located north of the quadrangle boundary in the Simi Hills. Numerous south-trending broad-crested ridges and canyons with narrow channels extend from the range crest to Santa Monica Bay. According to the Seismic Hazard Zone Report by the California Department of Conservation, Division of Mines and Geology dated 2001 (DMG, 2001) the east-west-trending Malibu Coast Fault Zone forms the southern boundary of the mainland portion of the mountain range. The Malibu Coast Fault Zone is an east-west zone of transpressive faulting along the southern front of the western Santa Monica Mountains in the western Transverse Ranges geomorphic province.

The Study Area is described on the Geologic Map of the Malibu Beach Quadrangle, is made up of a sequence of laterally gradational and interfingering nonmarine, transitional, and marine clastic sedimentary rocks assigned to the Sespe, Vaqueros, and Topanga Canyon formations (Dibblee, 1993) (Figures 3 and 4). East of Malibu Canyon, the Sespe Formation and Piuma Member are overlain by three intertonguing marine and nonmarine members of the lower to middle Miocene Topanga Canyon Formation, which represents the lowest division of the Topanga Group. West of Malibu Canyon, the Vaqueros Formation is conformably overlain by the undivided Topanga Canyon Formation (Tf), which is composed of alternating thick and thin sequences of medium to coarse-grained silty biotitic sandstone, sandy siltstone, and pebbly sandstone. Overlying the Miocene strata are the middle Miocene Conejo Volcanics and Calabasas Formation, which constitute the middle and upper parts of the Topanga Group. The Monterey Formation (Tm) intertongues with and overlies the Trancas Formation and Zuma Volcanics and is composed of marine clay shale, laminated to platy siltstone, and interbedded



altered vitric tuffs and fine to medium grained sandstone. The Monterey Formation and older bedrock units are unconformably overlain by upper Pleistocene marine and nonmarine coastal terrace deposits (Q_{tm} and Q_t) in the southern part of the quadrangle. Quaternary alluvial deposits made up of gravel, sand and clay of flood plains unconformably overlie bedrock in the canyons and valleys, with mapped recent and ancient landslides within steep to gradual hill sides (DMG, 2001).

4.2 HYDROLOGY

The Malibu Creek Watershed is the second largest watershed draining into Santa Monica Bay. The 110 square miles of watershed includes the cities of Agoura Hills, Westlake Village, Calabasas, Thousand Oaks, Hidden Hills and portions of Malibu and Simi Valley. The most important drainage system in the Malibu Beach Quadrangle includes Malibu Creek and its tributaries. Major tributaries of Malibu Creek include, Cold Creek, Las Virgenes Creek, Medea Creek, Stokes Canyon, and Liberty Canyon, which drain a large area south of the Simi Hills and flow via Triunfo Canyon - Malibu Canyon through the entire mountain range to Santa Monica Bay. The larger canyons in this drainage area are wide and flat-bottomed and form gently sloping to flat-lying terrain near their confluence with Malibu Creek. Malibu Creek flows southeast and then south in Triunfo Canyon-Malibu Canyon through a deeply incised channel near the center of the quadrangle. The Malibu Creek floodplain and delta form a gently sloping to flat-lying surface underlying the Malibu Civic Center near the coast (DMG, 2001).

The Serra Retreat is situated on a topographic knoll, formed at the bend of an incised cut-off meander of Malibu Creek. The meander originally directed flows south of the knoll in a westerly direction, and it is undoubtedly responsible for embaying the western side of the Malibu Creek floodplain. The extreme eastern set of the meander at Serra Retreat suggests that left-lateral offset in the Malibu Coast fault Zone also may have contributed to the configuration (Keene and Slosson, 1986).

The SCPOA properties make up a very small portion of the Malibu Creek watershed. It is assumed by interpreting the regional topography and geologic subsurface, that groundwater generally flows from north to south and southwest toward Malibu Creek (Figure 5). Due to the cut-off meander of surface flow as described above, groundwater flow, potentially can flow east and then to the southwest around the Serra Retreat knoll.

Malibu Creek is known to transfer from overland flow to subsurface flow from approximately 1,500 feet north of the Cross Creek Bridge and back to overland flow approximately 1,500 feet south of the bridge in summertime or lower flow conditions.

4.3 GROUNDWATER

Groundwater in the study area is part of the Basin as determined by Department of Water Resources (DWR Bulletin 118, 2004). The Basin is bounded by the Pacific Ocean on the south and by non-water-bearing Tertiary age rocks on all remaining sides. The valley is drained by Malibu Creek to the Pacific Ocean. Average annual precipitation ranges from 14 to 16 inches. Groundwater is found principally in Holocene alluvium which consists of clays, silts, sands, and gravels. Thickness of the alluvium ranges from 90 feet at the upper end of the basin to more than 140 feet at the lower end. Recharge of the basin is from percolation of precipitation, surface runoff, and effluent from domestic septic systems.



4.4 GROUNDWATER QUALITY CRITERIA

The following water quality constituents were analyzed as part of this investigation based on the Regional Water Quality Control Board Final Technical Staff Report findings (RWQCB, 2009):

Total Nitrogen:

While nitrogen is an essential nutrient for plants, excessive levels in surface waters can have detrimental ecological effects, such as large algae blooms and proliferation of nuisance rooted aquatic plants.

The US EPA TMDL for total nitrogen, that includes nitrates (NO_3) and nitrite (NO_2), has different waste load allocations for the summer, defined as April 15 through November 15, and winter, November 16 through April 14. The summer season regulatory limit for total nitrogen is 1.0 milligrams per liter (mg/L) and 8.0 mg/L for the winter season. These two seasonal periods are distinguished in order to account for:

- The winter period in which the Tapia WRF is authorized to discharge most of its treated effluent, which results in substantial differences in flows and nutrient loads between summer and winter, and
- Rainfall and runoff patterns (most rainfall and precipitation-related nutrient loading occurs during the winter period).

Nitrate in well water can come from animal waste, private septic systems, wastewater, flooded sewers, polluted storm water runoff, fertilizers, agricultural runoff, and decaying plants. Although high nitrate levels are usually due to human activities, nitrates can also occur naturally in ground water.

Ammonia:

Ammonia (NH_3) is a nutrient that contains nitrogen and hydrogen. The Basin Plan establishes numeric objectives for NH_3 which are protective of fish and wildlife.

Malibu Creek has an EPA target level for NH_3 at 1.75 mg/L for chronic effects and 2.59 mg/L for an acute exposure. These levels are also dependent on pH and temperature.

It should be noted that pH and temperature were not obtained for this sampling report.

5.0 WATER QUALITY SAMPLING

On January 20, January 23, and February 24, 2014 available non-potable water wells were sampled to test for the previously described criteria pollutants. The privately held water wells are used for irrigation purposes. Wells were sampled in accordance by standard industry practices. The location of wells used in this study along with analytical results is shown on Figure 6.

5.1 WELL LOCATIONS AND DESCRIPTIONS

The following are descriptions and locations of the irrigation pumping wells and groundwater monitoring wells, with brief descriptions of each identified well. It should be noted that not all wells identified in the field and on Figure 6 were sampled. Where accessible, the well casing and



water depths were measured with an electronic water level meter with an accuracy of 0.01 feet. Measured groundwater depths are shown in Table 1 in Section 5.5. All groundwater samples were collected in disposable bailers and placed in preserved 120 milliliter (mL) plastic containers and 250 ml non-preserved plastic containers.

Serra Canyon - 1 (SC-1)

SC-1 is located at 23301 Palm Canyon Lane. The homeowner was interviewed as to the history of the well. To the best of the owners' knowledge, the well had not been used in approximately 15 years. The well is located approximately 100 feet south and up gradient of the septic leachfield. The well was not operational and not sampled due to a sealed cover on the conductor casing. Specific well details are included in Appendix B.

SC-2

SC-2 is located at 23447 Palm Canyon Lane. The well is north of the residence on a terraced slope approximately thirty feet higher in elevation above the residence. The location of the septic leachfield is located on the south side of the residence, approximately 200 feet down gradient of the well. However the adjacent property to the north has a leachfield approximately 70 northwest and upgradient of the well. At the time of the site visit, SC-2 was not in use. The well cover was removed to allow access. The water elevation was measured to be at 65.15 feet below the ground surface (bgs) and the well total depth was measured to be at 140 feet bgs. ~~Approximately 10 gallons of water was manually purged using a decontaminated PVC Bailer.~~ Samples were then collected using a disposable polyethylene bailer and placed into the sample containers.

SC-3

SC-3 is located at 23344 Palm Canyon Lane. The well is used for irrigation and drinking water for the animals. The nearest septic leachfield is several hundred feet away. Pumped groundwater is filtered prior to discharging to the on-site storage tank. Water samples were taken from a spigot between the well head and water pressure chambers. Well purging was not necessary as irrigation was taking place at the time of arrival and the well pump was operating.

SC-4

SC-4 is located 3611 Serra Road. The well is active and used for irrigation purposes. The well head cover was not accessible for measurements. The homeowner was interviewed as to the history of the well. To the best of the owners' knowledge, the total well depth was 35 feet bgs and the groundwater elevation at that time was encountered at approximately 20 feet bgs when constructed 35 years ago. The well is located approximately 100 feet south and down gradient of the septic system leachfield. Prior to sampling from a spigot directly attached to the well head, the pump was allowed to run for approximately 10 minutes.

SC-5, SC-6, and SC-7 (SMBRP-6)

SC-5, 6 and 7 are located at 3515 Cross Creek Road. SC-5 is used as a backup well to well SC-6. Both wells are used for irrigation purposes. SC-5 was not able to be sampled due a non-functioning pump and the well head was not accessible.

The wellhead for SC-6 was not accessible for water depth measurement, however, the well had recently been replaced and the former well casing was stored adjacent to the area. The pvc



casing segments were measured at 69 feet. The well is located approximately 100 feet south and slightly down gradient of the septic system leachfield. At the time of sampling, the well was in use, so purging was not necessary. A sample was taken from a bleed valve directly above the well head.

SC-7 is a monitoring well installed by the City of Malibu identified as SMBRP-6. Previous testing data was also used in this report, as described in the background section of this report.

SC-8

SC-8 is located at 3434 Serra Road. The well is active and used for irrigation purposes. The wellhead had an opening available to be used for measuring. The total well depth was measured at 71.75 feet bgs, with groundwater being encountered at 37.39 feet bgs. The well is located approximately 100 feet west and down gradient of the septic system leachfield for the residence. The well is actively used for irrigation purposes. The well was allowed to run for approximately 10 minutes and allowed to re-charge prior to sampling. Samples were collected using a disposable polyethylene bailer and then placed in containers.

SC-9 and SC-10

SC-9 and SC-10 are located at 3314/3328 Serra Road.

Well SC-9 is active and used for irrigation purposes. The SC-9 well is located approximately 270 feet southeast and down gradient of the septic system for the residence and 250 feet south and down gradient of the septic system leachfield for the residence at the adjacent property to the north. The well head was not removed for measuring. Water samples were taken from a valve directly connected to the well head. Purging was not necessary as irrigation was taking place at the time of arrival and the pump was observed to be on. The property, historically, was used as a commercial nursery, wherein succulents and cacti were raised from 1970 to 2007. At the time of our Site visit, the plants were in the process of being placed in pots and removed from the Site.

SC-10 is situated on a gently sloping valley floor east of the Serra Retreat knoll feature in the northwestern portion of the property. The well head was removed to allow measurements to be taken. The well was found to be dry at the time of sampling. The total depth of the well was measured at 59.32 feet bgs.

SC-11 (SMBRP-3C) and SC-12

SC-11 and 12 are located at 3415 Cross Creek Road. SC-11 is a monitoring well installed by the City of Malibu identified as SMBRP-3C. The monitoring well is located approximately 70 feet east of Malibu Creek and approximately 150 feet south and slightly down gradient of the septic system leachfield. Previous testing data was also used in this report, as described in the background section of this report.

SC-12 is actively used for irrigation purposes and is located approximately 230 feet northeast of Malibu Creek and approximately 150 feet southeast and cross gradient of the septic system leachfield. Purging was not necessary as the well pump was in use at the time of sampling. Prior to water storage within tanks at the Site, water is filtered. Water samples were taken from a spigot between the well head and water pressure chambers.



SC-13

SC-13 is located at 3811 Serra Road. The well is used for irrigation purposes. At the time of sampling the well was not active due to maintenance requirements. The wellhead did not have an opening available to be used for measuring the ground water elevation. The well is located approximately 200 feet west and approximately cross gradient of the septic system leachfield for the residence located in the driveway area. The pump was not operational at the time of the Site visit.

SC-14 (SMBRP-2)

SC-14 is a monitoring well installed by the City of Malibu identified as SMBRP-2, located within the floodplain area, approximately 300 feet east of Malibu Creek. The area is also known as the "Picnic Grounds". Previous testing data was also used in this report, as described in the background section of this report.

5.2 MALIBU CREEK SAMPLING

Malibu Creek was sampled at four locations on October 28, 2013 and February 26, 2014 (Figure 7). Sampling for the October 28, 2013 event was collected prior to the Tapia WRF discharge of treated effluent into the creek. The February 26, 2014 sampling event was conducted during discharging of treated effluent into the creek from the Tapia WRF. The following are locations and brief descriptions of Malibu Creek sampling locations and conditions.

Malibu Creek-1

This location is located 0.15 mile upstream of the nearest home in the SCPOA area and is considered representative of the water that is discharged from the Tapia Facility mixed with base flow from springs or seeps. There is no contribution from sources in the SCPOA area either in volume or water characteristics. At the time of sampling on October 28, 2013, water was flowing at an estimated rate of 20 gallons per minute. The water samples were taken using a bailer and placed in a refrigerated container. At the time of the February 26, 2014 sampling event, water flow at all locations was estimated to be on the order of 100 gallons per minute.

Malibu Creek-2

Samples were taken approximately 150 feet upstream of the Cross Creek Bridge. This location is down gradient of some of the homes in the SCPOA. During the October 28 sampling event, the creek bottom was dry approximately 50 feet north of the sampling location and again beyond the bridge. The presence of flowing water suggested the water is subsurface flow in the creek alluvium that breached the ground surface. At the time of the February 26, 2014 sampling event, water flow at all locations was estimated to be on the order of 100 gallons per minute and continuously flowing through the area.

Malibu Creek-3

Located approximately 400 feet south of the Cross Creek Bridge, this location is down gradient of several homes located on the east bank of Malibu Creek. The sampling location is not affected by the waters of the Malibu lagoon. This location contained stagnant water at the time of the October 28, sampling event. At the time of the February 26, 2014 sampling event, water flow at all location was estimated to be on the order of 100 gallons per minute.



Malibu Creek-4

This location is at the upstream end of the Malibu Lagoon and represents a mix of the incoming water from Malibu Creek and the Malibu Lagoon. At the time of the October 28, 2013 sampling event, no water was observed flowing from the creek at this location. During the February 26, 2014 event, water was observed in the lagoon and flowing from the creek at a rate of approximately 100 gallons per minute.

5.3 CROSS CREEK PLAZA SHOPPING CENTER

A commercial grade OWDS was observed directly west of Malibu Creek in the lagoon area within the Cross Creek Plaza Shopping Center parking lot. The effluent from this system likely percolates as subsurface flow into the lagoon water. Construction details of that system were not provided to Citadel.

5.4 GROUNDWATER QUALITY

The collected water samples were delivered to American Environmental Testing Laboratory, Inc. (AETL) located in Burbank, California in an iced cooler using proper chain of custody documentation and within all required holding times. All samples were analyzed for nitrates and nitrites by EPA Method 300.0, and total ammonia as N by EPA Method 350.3.

~~The laboratory data including chain of custody, respective method detection limits and laboratory quality control and assurance programs are presented in Appendix A.~~



Table 1 Laboratory results from sampled wells. Bold where analytes detected in excess of Water Body Regulatory Levels.

<u>Sample ID</u>	<u>Approx Groundwater Depth (feet)</u>	<u>Approx Distance and Orientation From Nearest Septic Leachfield (feet)</u>	<u>Nitrate (mg/L)</u>	<u>Nitrite (mg/L)</u>	<u>Ammonia (mg/L)</u>
MalibuCreek-1 10/28/2013	-	-	0.698	ND ¹	ND
MalibuCreek-1 2/26/2014	-	-	2.39	ND	ND
MalibuCreek-2 10/28/2013	-	-	ND	ND	ND
MalibuCreek-2 2/26/2014	-	-	2.33	ND	ND
MalibuCreek-3 10/28/2013	-	-	ND	ND	0.088
MalibuCreek-3 2/26/2014	-	-	2.27	ND	ND
MalibuCreek-4 10/28/2013	-	-	0.334	ND	0.133
MalibuCreek-4 2/26/2014	-	-	1.24	ND	ND
SC-2	65'	70' down gradient	5.33	ND	ND
SC-3	unknown	unknown	ND	ND	ND
SC-4	20'	100' down gradient	ND	ND	ND
SC-6	15'	100' down gradient	ND	ND	ND
SC-7	15'	150' down gradient	2.84	ND	ND
SC-8	37'	100' down gradient	7.93	ND	ND
SC-9	unknown	250' down gradient	23.5	ND	ND
SC-11	19'	200' down gradient	1.66	ND	ND
SC-12	unknown	100' down gradient	0.673	ND	ND
SC-14	9'	unknown	ND	ND	0.146
SMBRP-3C	18' ²	200' down gradient	1.79 ²	0.020 ¹	0.16 ¹
SMBRP-6	15' ³	150' down gradient	1.79 ¹	0.030 ¹	0.15 ¹
SMBRP-2	9' ⁴	unknown	0.10 ¹	0.020 ¹	0.74 ¹

¹ ND=Non-Detect laboratory Result

² Extracted from Stone (2004), monitoring well sampling, average result from 12 separate events (4/03-3/04)



Table 2 Water Body Regulatory Levels established by the LARWQCB and Drinking Water Maximum Contaminant Levels (MCL) established by the EPA

<p><u>Water Body Regulatory Levels (LARWQCB)</u> Nitrate + Nitrite – 1.0 mg/L (summer), 8.0 mg/L (winter) Ammonia – 1.75 mg/L</p> <p><u>EPA National Primary Drinking Water Maximum Contaminant Level</u> Nitrate - 10 mg/L Nitrite – 1 mg/L Ammonia – NA</p>

6.0 FINDINGS

6.1 MONITORING WELL DEPTHS

Depth to groundwater encountered in the analyzed wells ranged from nine (9) feet (SMBRP-2)¹ at the most southern point and nearest to the ocean to as much as 65 feet (SC-2) in the most northern well, the furthest location from the ocean. The average depth to groundwater excluding the most shallow and deepest wells was 19.8 feet.

6.2 GROUNDWATER QUALITY

Groundwater quality analysis results are summarized in Table 1 as well as on Figures 6 and 7.

All analytes detected in sampled wells were below Water Body Regulatory Levels (WBRLs) established by the LARWCB with the exception of well SC-9, which had Nitrate (NO³) concentrations detected at 23.5 mg/L, which are above the total nitrogen concentrations of 8.0 mg/L for winter sampling events.

Nitrates were detected in wells SC-2, SC-7, SC-8, SC-11, and SC-12 all below WBRLs for the winter sampling times, however elevated concentrations of Nitrates were slightly higher in Wells SC-2 and SC-8.

All Malibu Creek samples obtained during the summer and winter sampling events showed analyte concentrations below the selected WBRLs for single samples.

Nitrates were detected in Malibu Creek samples 1 and 4 during the summer sampling event and all samples during the winter sampling event.

Nitrites were not detected in any well or Malibu Creek samples.

Ammonia was detected in Malibu Creek sample locations 3 and 4 during the summer sampling event below WBRLs, but not detected in the winter sampling event samples.



7.0 CONCLUSIONS & RECOMMENDATIONS

The following conclusions have been reached based on the results of this sampling study:

1. Well SC-9 shows Nitrate concentrations of 23.5 mg/L, which are above WBRS. While water from this well is used strictly for irrigation purposes, it should be closely monitored. Despite the location of the well SC-9 being farthest from the onsite water treatment system of all wells in the study, the water sample from this well had the highest Nitrate concentration. High nitrate concentrations may be influenced by the historical use of the Site as a commercial nursery, which typically involves the use of nitrogen concentrated fertilizers. Nitrate can pass through the soil and potentially contaminate ground water. Nitrate comes from nitrogen, a plant nutrient supplied by inorganic fertilizer and animal manure. Assumed sand and gravel based soils potentially provided an easy pathway to contribute high nitrate concentrations to groundwater. The subsurface groundwater flow (Figure 5) through the area is directed to the southwest. Well SC-8 and SC-4 are good monitoring locations down gradient as to the affect nitrate concentrations may be affecting Malibu Creek. Well SC-8 is located approximately 580 feet south of SC-9. At this location, Nitrates were detected at elevated concentrations (7.93 mg/L), however approximately 2/3 less than detected in SC-9. Well SC-4, located approximately 1,200 feet southwest of SC-8, and within the subsurface groundwater flow before reaching Malibu Creek, did not detect any concentrations of Nitrates. From this limited data, the non-detect results of this well indicate that observed Nitrate concentrations up gradient have not affected the Malibu Creek water quality deterioration.
2. Elevated Nitrate concentrations detected in Well SC-2 (5.33 mg/L) could be a result of the close proximity (approximately 70 northwest and upgradient) of the adjoining property leachfield. The subsurface groundwater flow through the area is directed to the south. Well SC-3 and SC-12 are good monitoring locations down gradient as to the affect nitrate concentrations may be affecting Malibu Creek. Well SC-3, located approximately 850 feet south and down gradient, did not detect the presence of Nitrates in the sample obtained. Well SC-12, located approximately 800 feet southwest and down gradient detected Nitrates at a concentration of 0.673 mg/L, assumed to be natural levels.
3. Based on the results of water tests from the wells, SCPOA is not contributing to the degradation of waters within Malibu Creek with regard to the tested constituents, Nitrates, Nitrites and Ammonia.
4. Water flowing in Malibu Creek through the boundaries of the SCPOA meets Water Body Regulatory Standards (WBRS) established by the LARWQCB for total nitrogen (Nitrates + Nitrites), and ammonia as nitrogen, which are typical nutrients associated with wastewater treatment systems.
5. The Tapia WRF discharge of treated effluent into the creek during winter months potentially has an influence on Malibu Creek water quality as shown in the overall increase of Nitrates and Ammonia as Nitrogen from summer and winter sampling events. Additional creek testing directly above and below the Tapia confluence with Malibu Creek is recommended.
6. The very close proximity of the Cross Creek Plaza Shopping Center OWDS to Malibu Creek could potentially influence water quality. Additional research on the facility and Creek testing in this area is recommended.



8.0 REFERENCES CITED

- DMG, 2001, Seismic Hazard Zone Report for the Malibu Beach 7.5 Minute Quadrangle, Los Angeles County, California, Department of Conservation, Division of Mines and Geology.
http://gwm.consrv.ca.gov/shmp/download/quad/MALIBU_BEACH/reports/malib_ev_al.pdf
- DWR, 2004, Malibu Valley Groundwater Basin, Department of Water Resources, California Groundwater Bulletin 118
http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/4-22.pdf
- Dibblee, T.W., Ehrenspeck, H.E ed. and Bartlett, Wendy, ed., 1993, Geologic map of the Malibu Beach quadrangle, Los Angeles County, California, Dibblee Geological Foundation Map DF-47, Scale 1:24,000 http://ngmdb.usgs.gov/Prodesc/proddesc_231.htm
- Keene, A.G., and Slosson, J., Field Trip Roadlog: Active Landslides Along the Pacific Coast Highway in The Pacific Palisades-Malibu Area, Los Angeles City/County, in Landslides and Landslides Mitigation in Southern California, Prepared for the 82nd Annual Meeting of the Cordilleran Section of the Geological Society of America, Los Angeles, California, March 25-28, 1986, Field Trip Number 13.
- Izbicki, J.A., Swarzenski, P.W., Burton, C.A., Van De Werfjorst, L.C., Holden, P.A., and Dubinsky, E.A., 2012, Sources Of Fecal Indicator Bacteria To Groundwater, Malibu Lagoon And The Near-shore Ocean, Malibu, California, USA, Northeastern University, Annals of Environmental Science, Volume 6, 35-86.
- Regional Water Quality Control Board (RWQCB), 2009, State of California, Los Angeles Region, Undated, Final Technical Staff Report, Evidence in support of an Amendment to the Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties to Prohibit On-site Wastewater Disposal Systems in the Malibu Civic Center Area, November 5, 2009
- Stone Environmental, Inc., 2004, Risk Assessment of Decentralized Wastewater Treatment Systems in High Priority Areas in the City of Malibu, California, Project Number 011269-W, dated August 30, 2004.
- US EPA Region 9, Undated, Total Maximum Daily Loads for Nutrients, Malibu Creek Watershed. Available at: http://www.epa.gov/region9/water/tmdl/malibu/final_nutrients.pdf
- US EPA, 1986. Ambient Water Quality for Bacteria. Available at: http://water.epa.gov/scitech/swguidance/standards/upload/2001_10_12_criteria_ambientwqc_bacteria1986.pdf

9.0 LIMITATIONS

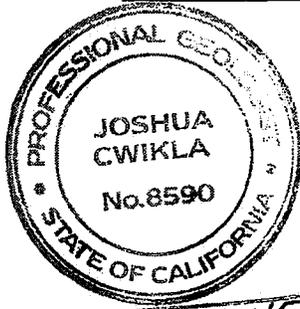
This groundwater monitoring report was performed in accordance with generally and currently accepted engineering practices and principles. Although the data in this report is indicative of groundwater conditions in areas investigated, no further conclusions regarding the absence or presence of subsurface contamination at the site should be construed or inferred other than those expressly stated in this report. The conclusions made are based on information obtained from field observations, independent laboratory analytical results, and from relevant Federal, State, regional, and local agencies.



10.0 SIGNATURES

Report Prepared by:

Joshua Cwikla, PG # 8590
Project Geologist



Expires September 30, 2015

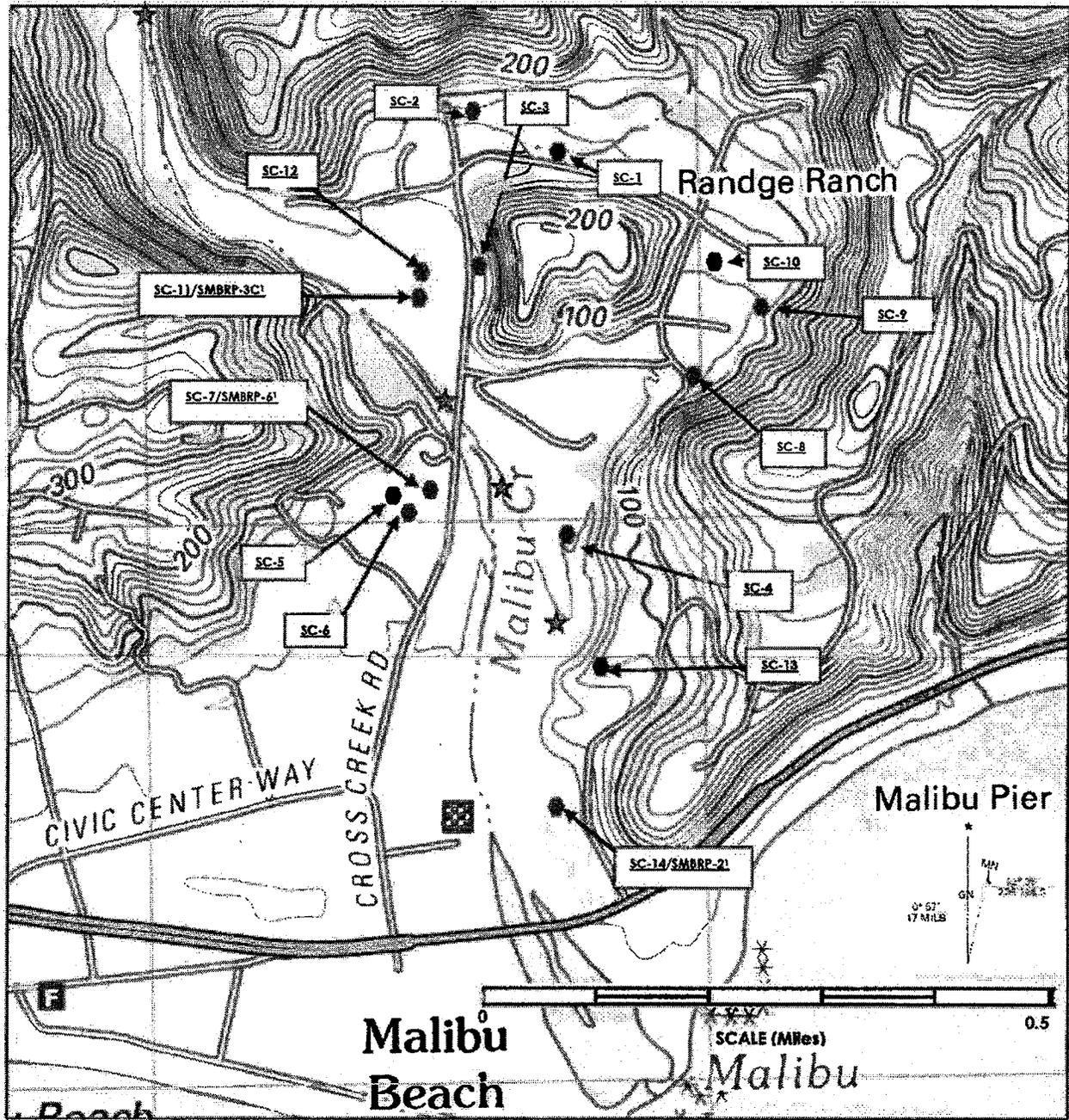
Report Reviewed By:

Mark Drollinger, M.Eng, CSP, CHMM, EIT
Director Environmental Geology and Engineering



CITADEL
ENVIRONMENTAL SERVICES, INC.

Figures



- = Sampled Well Location
- = Well Location (Not Sampled)
- ★ = Creek Sample Location
- ☒ = Cross Creek Plaza OWDS

¹Extracted from Stone (2004), monitoring well sampling, average result from 12 separate events (4/03-3/04)

Source: USGS 7.5 Minute Malibu Beach Quadrangle Topographic Map (2012)

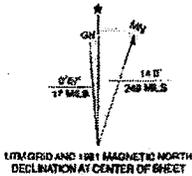
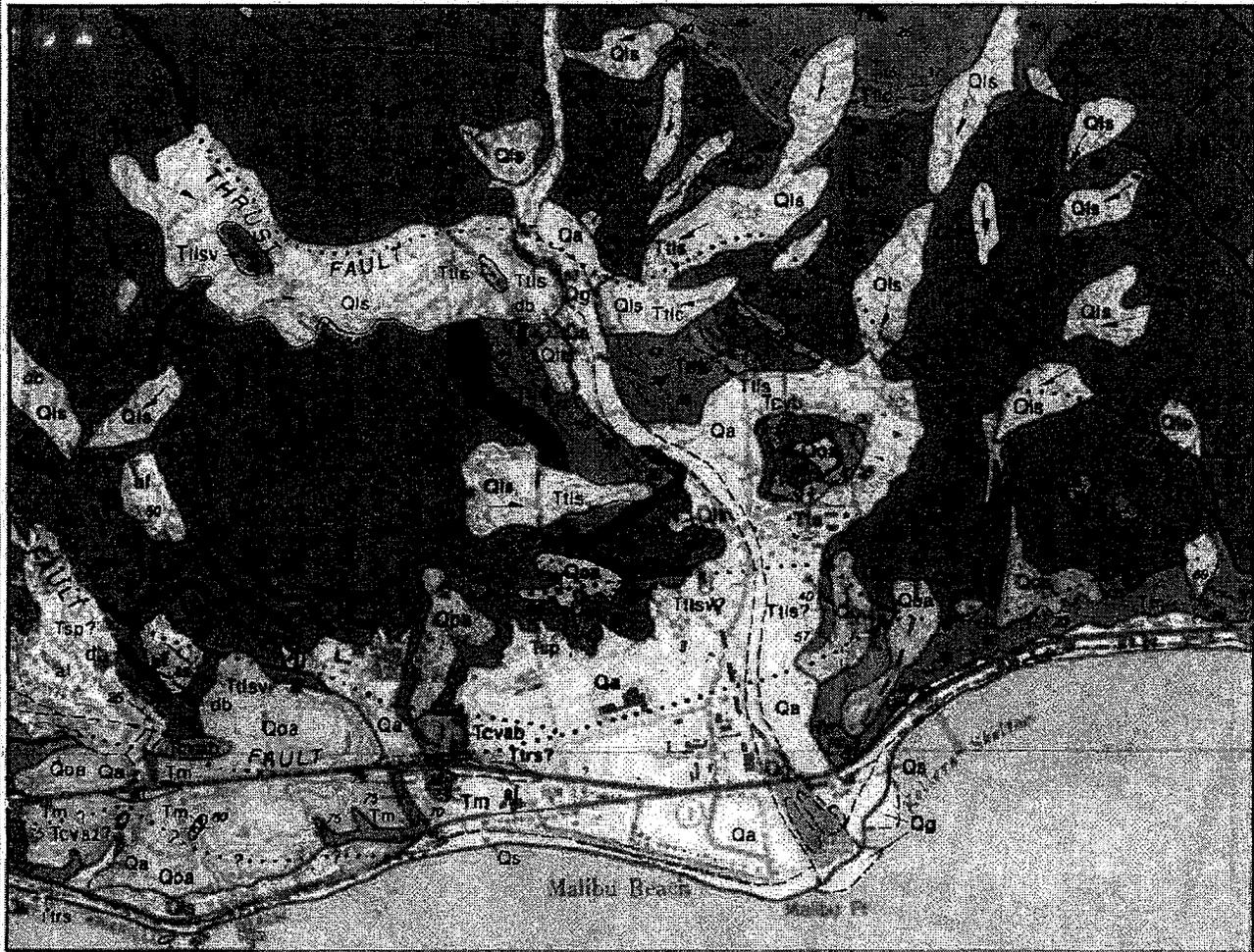


Serra Canyon Property Owners Association
Serra Canyon
Malibu, California

Figure 2

PROJECT NO.: 0551.1001.0
DATE: April 2014

Well and Creek Sample Location Map



MALIBU BEACH QUADRANGLE
 CONTOUR INTERVAL 25 FEET
 NATIONAL GEODEIC VERTICAL DATUM OF 1929



=Approximate Study Area

**GEOLOGIC MAP OF THE
 MALIBU BEACH QUADRANGLE**
 LOS ANGELES COUNTY, CALIFORNIA

BY THOMAS W. DIBBLEE, JR., 1993
 EDITED BY HELMUT E. EHRENSPECK AND WENDY L. BARTLETT, 1993
 EDITED BY JOHN A. MINCH, 2009

For Complete Legend See Figure 5

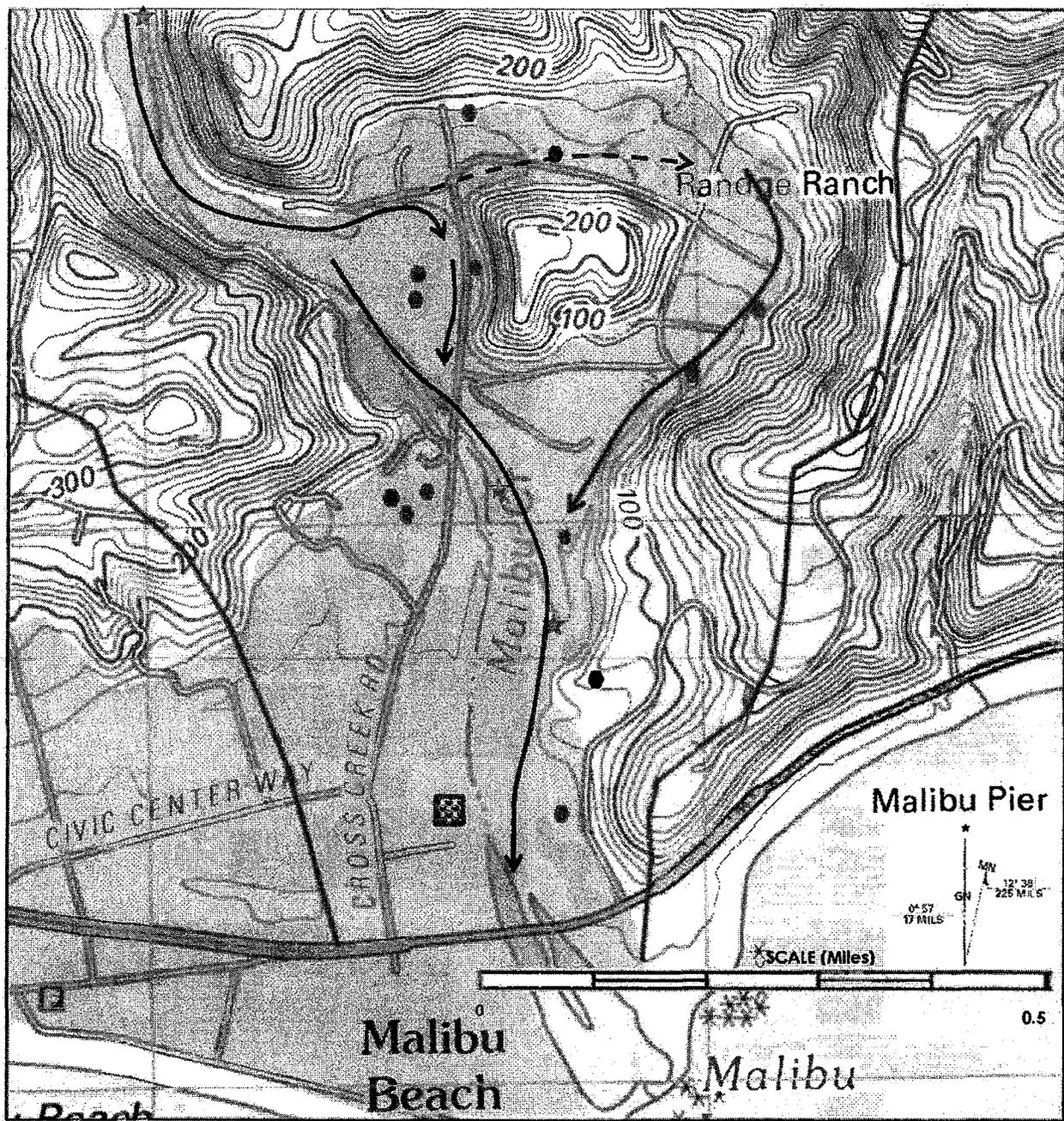


Serra Canyon Property Owners
 Association
 Serra Canyon
 Malibu, California

Figure 3

PROJECT NO.: 0551.1001.0
 DATE: April 2014

Geologic Vicinity Map



- = Sampled Well Location
- = Well Location (Not Sampled)
- ★ = Creek Sample Location
- ☒ = Cross Creek Plaza OWDS
- = Quaternary and Recent Alluvium (Dibblee 1993)
- ~ = Approximate Malibu Creek Watershed Boundaries
- = Inferred Groundwater Flow Direction, dashed for potential flow direction

Source: USGS 7.5 Minute Malibu Beach Quadrangle Topographic Map (2012)



CITADEL
ENVIRONMENTAL SERVICES, INC.

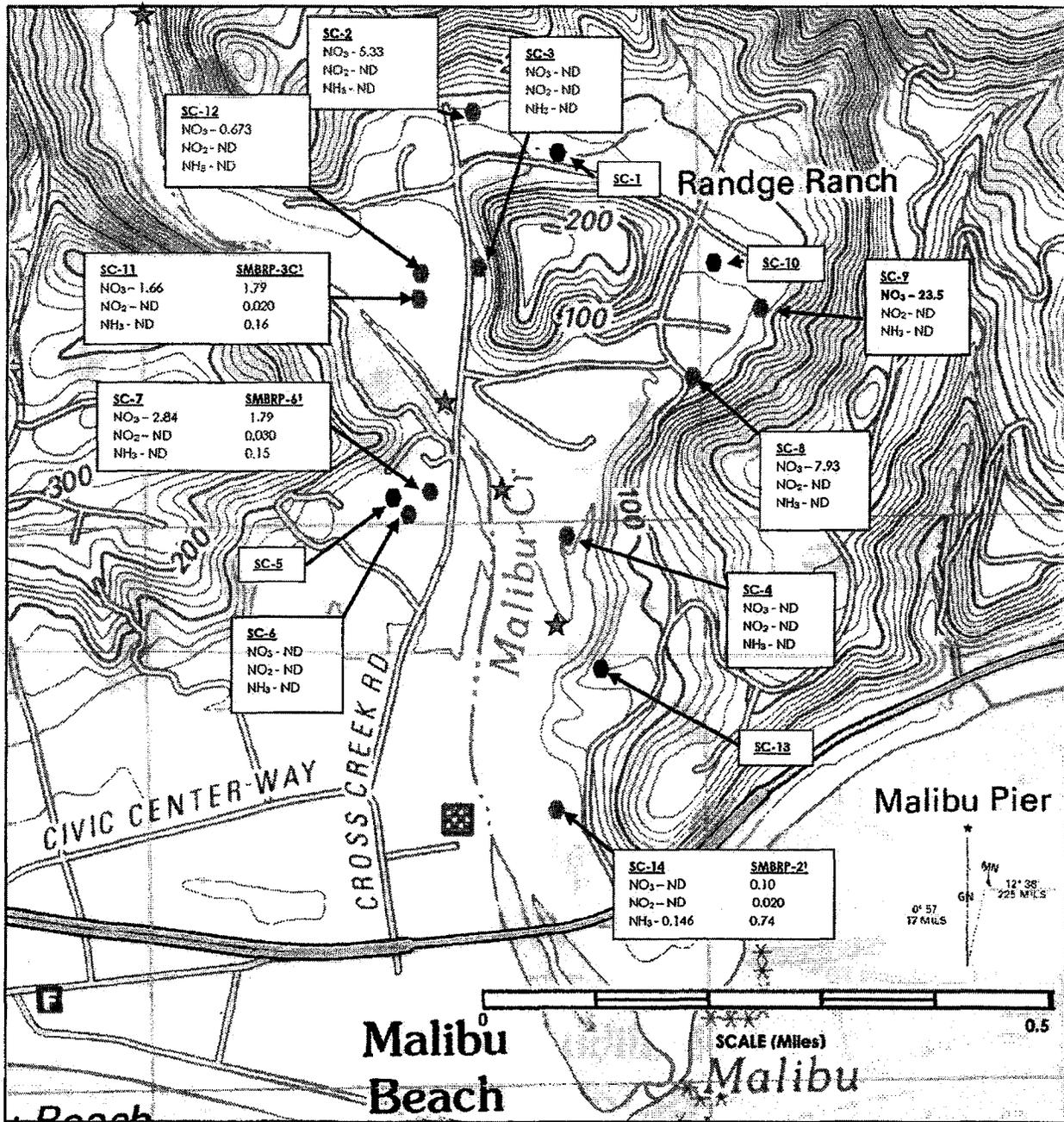
Serra Canyon Property Owners Association
Serra Canyon
Malibu, California

Figure 5

PROJECT NO.: 0551.1001.0

DATE: April 2014

Malibu Creek Watershed Boundaries and Groundwater Flow Direction



- = Sampled Well Location
- = Well Location (Not Sampled)
- ★ = Creek Sample Location
- ☒ = Cross Creek Plaza OWDS

Well ID - SC-2
 NO₃ - Nitrate - mg/L
 NO₂ - Nitrite - mg/L
 NH₃ - Ammonia - mg/L
 ND = Non Detect
¹Extracted from Stone (2004), monitoring well sampling, average result from 12 separate events (4/03-3/04)

Water Body Regulatory Levels (LARWQCB)
 Nitrate + Nitrite - 1.0 mg/L (summer), 8.0 mg/L (winter)
 Ammonia - 1.75 mg/L

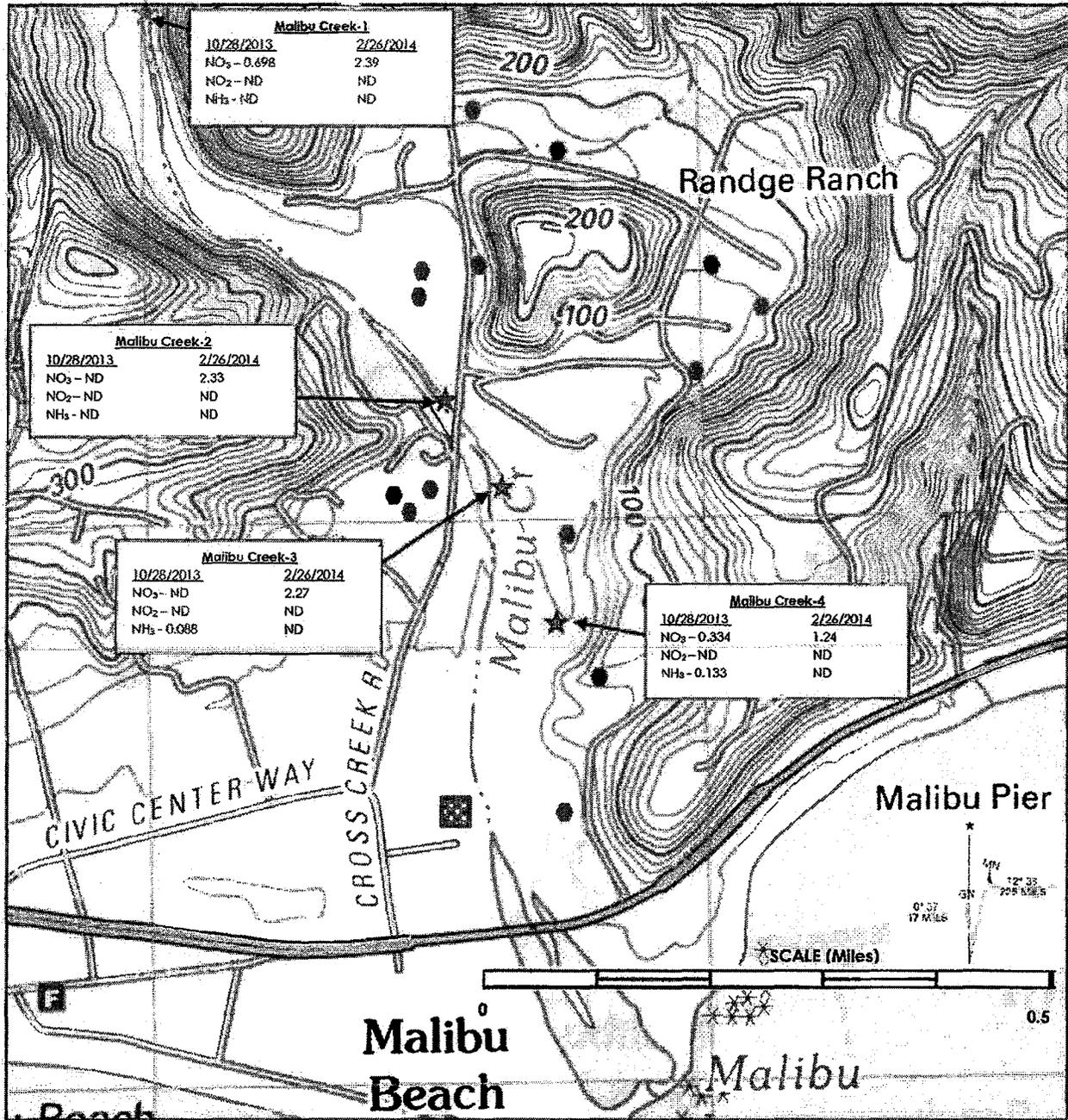
Source: USGS 7.5 Minute Malibu Beach Quadrangle Topographic Map (2012)



Serra Canyon Property Owners Association
 Serra Canyon
 Malibu, California

Figure 6
 PROJECT NO.: 0551.1001.0
 DATE: April 2014

Well Location Map



- = Sampled Well Location
- = Well Location (Not Sampled)
- ★ = Creek Sample Location
- ☒ = Cross Creek Plaza OWDS

NO ₃ - Nitrate - mg/L
NO ₂ - Nitrite - mg/L
NH ₃ - Ammonia - mg/L
ND = Non Detect

Nitrate + Nitrite - 1.0 mg/L (summer), 8.0 mg/L (winter)
Ammonia - mg/L

Source: USGS 7.5 Minute Malibu Beach Quadrangle Topographic Map (2012)



Serra Canyon Property Owners Association
Serra Canyon
Malibu, California

Figure 7

PROJECT NO.: 0551.1001.0
DATE: April 2014

Creek Sampling Location Map



CITADEL
ENVIRONMENTAL SERVICES, INC.

Appendix A Chain-of-Custody and Laboratory Documentation



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Number of Pages 5
Date Received 01/20/2014
Date Reported 01/27/2014

Telephone: (818)246-2707
Attention: Mark Drollinger

Job Number	Order Date	Client
71989	01/20/2014	CES

Project ID: 0551.1001.0
Project Name: SCHOA
Site: Malibu, CA

Enclosed please find results of analyses of 3 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____

Approved By: _____

C. Razmara
Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

CHAIN OF CUSTODY RECORD

No 86776

SM9221

AETL JOB NO. 71989

Page 1 of 1

COMPANY <i>Citadel Environmental</i>	PROJECT MANAGER <i>Mark Drilling</i>
COMPANY ADDRESS <i>1225 Victory Blvd Glendale</i>	PHONE <i>(818) 246 2707</i>
PROJECT NAME <i>SC HO A</i>	PROJECT # <i>0551.1001.0</i>
SITE NAME AND ADDRESS <i>Malibu CA</i>	PO #

ANALYSIS REQUESTED				TEST INSTRUCTIONS & COMMENTS
ANALYSIS	UNIT	CONC.	REMARKS	
<i>X</i>	<i>Total Hard Col.</i>			
<i>X</i>	<i>Nitrites - 300.0</i>			
<i>X</i>	<i>Nitrites 300.0</i>			
<i>X</i>	<i>Ammonia 350.3</i>			

SAMPLE ID	LAB ID	DATE	TIME	MATRIX	CONTAINER NUMBER/SIZE	PRES.
<i>SC-3</i>	<i>71989.01</i>	<i>1/20/14</i>	<i>1035</i>	<i>Water</i>	<i>20ml 250ml</i>	
<i>SC-4</i>	<i>71989.02</i>		<i>1140</i>			
<i>SC-6</i>	<i>71989.03</i>		<i>1335</i>			

SAMPLE RECEIPT - TO BE FILLED BY LABORATORY		RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
TOTAL NUMBER OF CONTAINERS <i>6</i>	PROPERLY COOLED Y/N/NA <i>Y</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
CUSTODY SEALS Y/N/NA <i>Y</i>	SAMPLES INTACT Y/N/NA <i>Y</i>	Printed Name: <i>1035 Cwikla</i>	Printed Name: <i>Renard Kove</i>	Printed Name: <i>[Signature]</i>
RECEIVED IN GOOD COND. <i>Y/N</i>	SAMPLES ACCEPTED Y/N <i>Y</i>	Date: <i>1/20/14</i> Time: <i>1400</i>	Date: <i>1/20/14</i> Time: <i>1523</i>	Date: _____ Time: _____
TURN AROUND TIME	DATA DELIVERABLE REQUIRED	RECEIVED BY: 1.	RECEIVED BY: AETL	RECEIVED BY LABORATORY: 3.
<input checked="" type="checkbox"/> NORMAL <input type="checkbox"/> RUSH <input type="checkbox"/> SAME DAY <input type="checkbox"/> NEXT DAY <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 3 DAYS	<input type="checkbox"/> HARD COPY <input type="checkbox"/> PDF <input type="checkbox"/> GEOTRACKER (GLOBAL ID) <input type="checkbox"/> OTHER (PLEASE SPECIFY) _____	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
		Printed Name: <i>Renard Kove</i>	Printed Name: <i>Stacy Plante</i>	Printed Name: <i>[Signature]</i>
		Date: <i>1/20/14</i> Time: <i>14:00</i>	Date: <i>01/20/14</i> Time: <i>1523</i>	Date: _____ Time: _____

DISTRIBUTION: WHITE - Laboratory, CANARY - Laboratory, PINK - Project/Account Manager, YELLOW - Sampler/Originator
JOAN LAVINE COMMENT ON R-DEIR CIVIC CTR WASTE TREAT. PLANT



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Page: 1 A

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Project ID: 0551.1001.0
Date Received 01/20/2014
Date Reported 01/27/2014

Telephone: (818) 246-2707
Attention: Mark Drollinger

Job Number	Order Date	Client
71989	01/20/2014	CES

CERTIFICATE OF ANALYSIS CASE NARRATIVE

AETL received 3 samples with the following specification on 01/20/2014.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
71989.01	SC-3	01/20/2014	Aqueous	2
71989.02	SC-4	01/20/2014	Aqueous	2
71989.03	SC-6	01/20/2014	Aqueous	2

Method	Submethod	Req Date	Priority	TAT	Units
300.0	NO3-NO2-N	01/27/2014	2	Normal	mg/L
350.3		01/27/2014	2	Normal	mg/L
SM-9221A-D		01/27/2014	2	Normal	MPN/100 mL
SM-9221A-E		01/27/2014	2	Normal	MPN/100 mL

The samples were analyzed as specified on the enclosed chain of custody.
Analytical non-conformances have been noted on the report.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201-

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 2

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
71989	01/20/2014	CES

Method: 300.0, Nitrate & Nitrite as N in water by IC

QC Batch No: 012114-1

Our Lab I.D.		Method Blank	71989.01	71989.02	71989.03	
Client Sample I.D.			SC-3	SC-4	SC-6	
Date Sampled			01/20/2014	01/20/2014	01/20/2014	
Date Prepared		01/21/2014	01/21/2014	01/21/2014	01/21/2014	
Preparation Method		300.0	300.0	300.0	300.0	
Date Analyzed		01/21/2014	01/21/2014	01/21/2014	01/21/2014	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	
Units		mg/L	mg/L	mg/L	mg/L	
Dilution Factor		1	1	1	1	
Analytes	MDL	PQL	Results	Results	Results	Results
Nitrate as Nitrogen	0.01	0.05	ND	ND	ND	ND
Nitrite as Nitrogen	0.01	0.05	ND	ND	ND	ND

QC Batch No: 012114-1; Dup or Spiked Sample: B012114; LCS: Clean Water; QC Prepared: 01/21/2014; QC Analyzed: 01/21/2014;
 Units: mg/L

Analytes	Sample Result	MS Concn	MS Recov	MS % REC	MS DUP Concn	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Nitrate as Nitrogen	0.00	1.00	1.16 X	116	1.00	1.18 X	118	1.7	80-120	<15
Nitrite as Nitrogen	0.00	1.00	1.03 X	103	1.00	1.00 X	100	3.0	80-120	<15

QC Batch No: 012114-1; Dup or Spiked Sample: B012114; LCS: Clean Water; QC Prepared: 01/21/2014; QC Analyzed: 01/21/2014;
 Units: mg/L

Analytes	SM Result	SM DUP Result	RPD %	SM RPD % Limit
Nitrate as Nitrogen	ND	ND	<1	<15
Nitrite as Nitrogen	ND	ND	<1	<15



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201-

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 3

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
71989	01/20/2014	CES

Method: 350.3, Ammonia as N, Potentiometric, ISE (EPA/600/4-79-020)

QC Batch No: 012114-1

Our Lab I.D.		Method Blank	71989.01	71989.02	71989.03	
Client Sample I.D.			SC-3	SC-4	SC-6	
Date Sampled			01/20/2014	01/20/2014	01/20/2014	
Date Prepared		01/21/2014	01/21/2014	01/21/2014	01/21/2014	
Preparation Method		350.3	350.3	350.3	350.3	
Date Analyzed		01/21/2014	01/21/2014	01/21/2014	01/21/2014	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	
Units		mg/L	mg/L	mg/L	mg/L	
Dilution Factor		1	1	1	1	
Analytes	MDL	PQL	Results	Results	Results	Results
Ammonia as Nitrogen	0.05	0.10	ND	ND	ND	ND

QC Batch No: 012114-1; Dup or Spiked Sample: 71989.01; LCS: Clean Water; QC Prepared: 01/21/2014; QC Analyzed: 01/21/2014;
 Units: mg/L

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Ammonia as Nitrogen	0.00	0.500	0.488	97.6	0.500	0.480	96.0	1.7	80-120	<15

QC Batch No: 012114-1; Dup or Spiked Sample: 71989.01; LCS: Clean Water; QC Prepared: 01/21/2014; QC Analyzed: 01/21/2014;
 Units: mg/L

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS/LCSD % Limit
Ammonia as Nitrogen	0.500	0.495	99.0	80-120



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors.

Data Qualifier:

- #: Recovery is not within acceptable control limits.
- *: In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
- B: Analyte was present in the Method Blank.
- D: Result is from a diluted analysis.
- E: Result is beyond calibration limits and is estimated.
- H: Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
- J: Analyte was detected. However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
- M: Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
- MCL: Maximum Contaminant Level
- NS: No Standard Available
- S6: Surrogate recovery is outside control limits due to matrix interference.
- S8: The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
- X: Results represent LCS and LCSD data.

Definition:

- %Limi: Percent acceptable limits.
- %REC: Percent recovery.
- Con.L: Acceptable Control Limits
- Conce: Added concentration to the sample.
- LCS: Laboratory Control Sample
- MDL: Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

- MS: Matrix Spike
- MS DU: Matrix Spike Duplicate
- ND: Analyte was not detected in the sample at or above MDL.
- PQL: Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
- Recov: Recovered concentration in the sample.
- RPD: Relative Percent Difference
-



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Ordered By

Geotechnologies, Inc.
439 Western Avenue
Glendale, CA 91201-2837

Number of Pages 5
Date Received 10/28/2013
Date Reported 11/07/2013

Telephone: (818) 240-9600
Attention: Reinard Knur

Job Number	Order Date	Client
71120	10/28/2013	GEOINC

Project ID: 20651
Project Name: SCPOA
Site: Malibu Creek Surface Water

Enclosed please find results of analyses of 4 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181

Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Page: 1 A

Ordered By

Geotechnologies, Inc.
439 Western Avenue
Glendale, CA 91201-2837

Project ID: 20651
Date Received 10/28/2013
Date Reported 11/07/2013

Telephone: (818) 240-9600
Attention: Reinard Knur

Job Number	Order Date	Client
71120	10/28/2013	GEOINC

CERTIFICATE OF ANALYSIS CASE NARRATIVE

AETL received 4 samples with the following specification on 10/28/2013.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
71120.01	1	10/28/2013	Aqueous	3
71120.02	2	10/28/2013	Aqueous	3
71120.03	3	10/28/2013	Aqueous	3
71120.04	4	10/28/2013	Aqueous	3

Method	Submethod	Req Date	Priority	TAT	Units
300.0	NO3-NO2-N	11/04/2013	2	Normal	mg/L
350.3		11/04/2013	2	Normal	mg/L
SM-9221A-D		11/04/2013	2	Normal	MPN/100 mL
SM-9221A-E		11/04/2013	2	Normal	MPN/100 mL

The samples were analyzed as specified on the enclosed chain of custody. Analytical non-conformances have been noted on the report.

Checked By: 

Approved By: 

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Geotechnologies, Inc.
 439 Western Avenue
 Glendale, CA 91201-2837

Telephone: (818)240-9600

Attn: Reinard Knur

Page: 2

Project ID: 20651

Project Name: SCPOA

Site

Malibu Creek Surface Water

AETL Job Number	Submitted	Client
71120	10/28/2013	GEOINC

Method: 300.0, Phosphorus, Dissolved, Colorimetric, Ascorbic Acid

QC Batch No: 102813-1

Our Lab I.D.		Method Blank	71120.01	71120.02	71120.03	71120.04	
Client Sample I.D.			1	2	3	4	
Date Sampled			10/28/2013	10/28/2013	10/28/2013	10/28/2013	
Date Prepared		10/28/2013	10/28/2013	10/28/2013	10/28/2013	10/28/2013	
Preparation Method		300.0	300.0	300.0	300.0	300.0	
Date Analyzed		10/28/2013	10/28/2013	10/28/2013	10/28/2013	10/28/2013	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Units		mg/L	mg/L	mg/L	mg/L	mg/L	
Dilution Factor		1	1	1	1	1	
Analytes	MDL	PQL	Results	Results	Results	Results	Results
Nitrate as Nitrogen	0.01	0.05	ND	0.698	ND	ND	0.334
Nitrite as Nitrogen	0.01	0.05	ND	ND	ND	ND	ND

QC Batch No: 102813-1; Dup or Spiked Sample: B102813; LCS: Clean Water; QC Prepared: 10/28/2013; QC Analyzed: 10/28/2013;
 Units: mg/L

Analytes	Sample Result	MS Concn	MS Recov	MS % REC	MS DUP Concn	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Nitrate as Nitrogen	0.00	2.00	2.08 X	104	2.00	2.10 X	105	<1	80-120	<15
Nitrite as Nitrogen	0.00	2.00	2.00 X	100	2.00	2.00 X	100	<1	80-120	<15

QC Batch No: 102813-1; Dup or Spiked Sample: B102813; LCS: Clean Water; QC Prepared: 10/28/2013; QC Analyzed: 10/28/2013;
 Units: mg/L

Analytes	SM Result	SM DUP Result	RPD %						
Nitrate as Nitrogen	0.698	0.680	2.6						
Nitrite as Nitrogen	ND	ND	<1						



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Geotechnologies, Inc.
 439 Western Avenue
 Glendale, CA 91201-2837

Site

Malibu Creek Surface Water

Telephone: (818)240-9600

Attn: Reinard Knur

Page: 3

Project ID: 20651

Project Name: SCPOA

AETL Job Number	Submitted	Client
71120	10/28/2013	GEOINC

Method: 350.3, Ammonia as N, Potentiometric, ISE (EPA/600/4-79-020)

QC Batch No: 102813-1

Our Lab I.D.		Method Blank	71120.01	71120.02	71120.03	71120.04
Client Sample I.D.			1	2	3	4
Date Sampled			10/28/2013	10/28/2013	10/28/2013	10/28/2013
Date Prepared		10/28/2013	10/28/2013	10/28/2013	10/28/2013	10/28/2013
Preparation Method		350.3	350.3	350.3	350.3	350.3
Date Analyzed		10/28/2013	10/28/2013	10/28/2013	10/28/2013	10/28/2013
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Units		mg/L	mg/L	mg/L	mg/L	mg/L
Dilution Factor		1	1	1	1	1
Analytes	MDL	PQL	Results	Results	Results	Results
Ammonia as Nitrogen	0.05	0.10	ND	ND	ND	0.0885

QC Batch No: 102813-1; Dup or Spiked Sample: 71120.01; LCS: Clean Water; QC Prepared: 10/28/2013; QC Analyzed: 10/28/2013;
 Units: mg/L

Analytes	Sample Result	MS Concn	MS Recov	MS % REC	MS DUP Concn	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Ammonia as Nitrogen	0.00	0.500	0.458	91.6	0.500	0.471	94.2	2.8	80-120	<15

QC Batch No: 102813-1; Dup or Spiked Sample: 71120.01; LCS: Clean Water; QC Prepared: 10/28/2013; QC Analyzed: 10/28/2013;
 Units: mg/L

Analytes	LCS Concn	LCS Recov	LCS % REC	LCS/LCSD % Limit
Ammonia as Nitrogen	0.500	0.481	96.2	80-120



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

Data Qualifier:

- #: Recovery is not within acceptable control limits.
- *: In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
- B: Analyte was present in the Method Blank.
- D: Result is from a diluted analysis.
- E: Result is beyond calibration limits and is estimated.
- H: Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
- J: Analyte was detected. However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
- M: Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
- MCL: Maximum Contaminant Level
- NS: No Standard Available
- S6: Surrogate recovery is outside control limits due to matrix interference.
- S8: The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
- X: Results represent LCS and LCSD data.

Definition:

- %Limi: Percent acceptable limits.
- %REC: Percent recovery.
- Con.L: Acceptable Control Limits
- Conce: Added concentration to the sample.
- LCS: Laboratory Control Sample
- MDL: Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

- MS:** Matrix Spike
- MS DU:** Matrix Spike Duplicate
- ND:** Analyte was not detected in the sample at or above MDL.
- PQL:** Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
- Recov:** Recovered concentration in the sample.
- RPD:** Relative Percent Difference
-



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Number of Pages 5
Date Received 01/23/2014
Date Reported 02/03/2014

Telephone: (818) 246-2707
Attention: Mark Drollinger

Job Number	Order Date	Client
72024	01/23/2014	CES

Project ID: 0551.1001.0
Project Name: SCHOA
Site: Malibu, CA

Enclosed please find results of analyses of 4 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

CHAIN OF CUSTODY RECORD

No 86775

Colfax

AETL JOB No. 72024

Page 1 of 1

COMPANY <u>Citadel Environmental</u>		PROJECT MANAGER <u>Mark Proffers</u>		ANALYSIS REQUESTED		TEST INSTRUCTIONS & COMMENTS				
COMPANY ADDRESS <u>1725 Victory Blvd Glendale</u>		PHONE <u>818-246-2207</u>		<table border="1" style="width:100%; height:100%;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">5m922/Total + Feed</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">300.0 Nitrate</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">300.0 Nitrite</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">350.3 Ammonia</td> </tr> </table>			5m922/Total + Feed	300.0 Nitrate	300.0 Nitrite	350.3 Ammonia
5m922/Total + Feed	300.0 Nitrate	300.0 Nitrite	350.3 Ammonia							
PROJECT NAME <u>SCHOA</u>		PROJECT # <u>0551.1001.0</u>								
SITE NAME AND ADDRESS <u>Malibu CA</u>		PO #								

SAMPLE ID	LAB ID	DATE	TIME	MATRIX	CONTAINER NUMBER/SIZE	PRES.
SC-2	72024.01	1/23/14	0835	Water	120ml 250ml	ICE
SC-8	72024.02	↓	0935	↓	↓	↓
SC-9	72024.03	↓	1030	↓	↓	↓
SC-7	72024.04	↓	1150	↓	↓	↓

SAMPLE RECEIPT - TO BE FILLED BY LABORATORY				RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
TOTAL NUMBER OF CONTAINERS <u>8</u>	PROPERLY COOLED <u>Y</u> / N / NA	SAMPLER: <u>[Signature]</u>		Signature:	Signature:	Signature:
CUSTODY SEALS <u>Y</u> / N / NA	SAMPLES INTACT <u>Y</u> / N / NA	Printed Name: <u>Josh Cwiklo</u>		Printed Name:	Printed Name:	Printed Name:
RECEIVED IN GOOD COND. <u>Y</u> / N	SAMPLES ACCEPTED <u>Y</u> / N	Date: <u>1/23/14</u>	Time: <u>1200</u>	Date:	Time:	Date: <u>1-23-14</u> Time: <u>1410</u>
TURN AROUND TIME		DATA DELIVERABLE REQUIRED		RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY LABORATORY: 3.
<input checked="" type="checkbox"/> NORMAL	<input type="checkbox"/> RUSH	<input type="checkbox"/> SAME DAY	<input type="checkbox"/> HARD COPY	Signature: <u>[Signature]</u>	Signature:	Signature:
<input type="checkbox"/> NEXT DAY	<input type="checkbox"/> 2 DAYS	<input type="checkbox"/> 3 DAYS	<input type="checkbox"/> PDF	Printed Name: <u>Josh Cwiklo</u>	Printed Name:	Printed Name: <u>Jean Claude</u>
			<input type="checkbox"/> GEOTRACKER (GLOBAL ID):	Date: <u>1-23-14</u>	Time: <u>1200</u>	Date: <u>01/23/14</u> Time: <u>1410</u>
			<input type="checkbox"/> OTHER (PLEASE SPECIFY):			



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541. LACSD NO: 10181

Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Page: 1 A

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Project ID: 0551.1001.0
Date Received 01/23/2014
Date Reported 02/03/2014

Telephone: (818) 246-2707
Attention: Mark Drollinger

Job Number	Order Date	Client
72024	01/23/2014	CBS

CERTIFICATE OF ANALYSIS CASE NARRATIVE

AETL received 4 samples with the following specification on 01/23/2014.

Lab ID	Sample ID	Sample Date	Matrix	Quantity OF Containers
72024.01	SC-2	01/23/2014	Aqueous	2
72024.02	SC-8	01/23/2014	Aqueous	2
72024.03	SC-9	01/23/2014	Aqueous	2
72024.04	SC-7	01/23/2014	Aqueous	2

Method	Submethod	Req Date	Priority	TAT	Units
300.0	NO3-NO2-N	01/30/2014	2	Normal	mg/L
350.3		01/30/2014	2	Normal	mg/L
SM-9221A-D		01/30/2014	2	Normal	MPN/100 mL
SM-9221A-E		01/30/2014	2	Normal	MPN/100 mL

The samples were analyzed as specified on the enclosed chain of custody.
No analytical non-conformances were encountered.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 2

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
72024	01/23/2014	CES

Method: 300.0, Nitrate & Nitrite as N in water by IC

QC Batch No: 012414-1

Our Lab I.D.		Method Blank	72024.01	72024.02	72024.03	72024.04
Client Sample I.D.			SC-2	SC-8	SC-9	SC-7
Date Sampled			01/23/2014	01/23/2014	01/23/2014	01/23/2014
Date Prepared		01/24/2014	01/24/2014	01/24/2014	01/24/2014	01/24/2014
Preparation Method		300.0	300.0	300.0	300.0	300.0
Date Analyzed		01/24/2014	01/24/2014	01/24/2014	01/24/2014	01/24/2014
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Units		mg/L	mg/L	mg/L	mg/L	mg/L
Dilution Factor		1	1	1	1	1
Analytes	MDL	PQL	Results	Results	Results	Results
Nitrate as Nitrogen	0.01	0.05	ND	5.33	7.93	23.5
Nitrite as Nitrogen	0.01	0.05	ND	ND	ND	ND

QC Batch No: 012414-1; Dup or Spiked Sample: B012414; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	Sample Result	MS Concn	MS Recov	MS % REC	MS DUP Concn	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Nitrate as Nitrogen	0.00	1.00	1.09 X	109	1.00	1.16 X	116	6.2	80-120	<15
Nitrite as Nitrogen	0.00	1.00	0.935X	93.5	1.00	0.869X	86.9	7.3	80-120	<15

QC Batch No: 012414-1; Dup or Spiked Sample: B012414; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	SM Result	SM DUP Result	RPD %	SM RPD % Limit
Nitrate as Nitrogen	5.33	5.60	4.9	<15
Nitrite as Nitrogen	ND	ND	<1	<15



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201-

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 3

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
72024	01/23/2014	CES

Method: 350.3, Ammonia as N, Potentiometric, ISE (EPA/600/4-79-020)

QC Batch No: 012414-1

Our Lab I.D.		Method Blank	72024.01	72024.02	72024.03	72024.04
Client Sample I.D.			SC-2	SC-8	SC-9	SC-7
Date Sampled			01/23/2014	01/23/2014	01/23/2014	01/23/2014
Date Prepared		01/24/2014	01/24/2014	01/24/2014	01/24/2014	01/24/2014
Preparation Method		350.3	350.3	350.3	350.3	350.3
Date Analyzed		01/24/2014	01/24/2014	01/24/2014	01/24/2014	01/24/2014
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous
Units		mg/L	mg/L	mg/L	mg/L	mg/L
Dilution Factor		1	1	1	1	1
Analytes	MDL	PQL	Results	Results	Results	Results
Ammonia as Nitrogen	0.05	0.10	ND	ND	ND	ND

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Ammonia as Nitrogen	0.00	0.500	0.472	94.4	0.500	0.478	95.6	1.3	80-120	<15

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS/LCSD % Limit
Ammonia as Nitrogen	0.500	0.493	96.6	80-120



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

Data Qualifier:

- #:** Recovery is not within acceptable control limits.
- *:** In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
- B:** Analyte was present in the Method Blank.
- D:** Result is from a diluted analysis.
- E:** Result is beyond calibration limits and is estimated.
- H:** Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
- J:** Analyte was detected. However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
- M:** Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
- MCL:** Maximum Contaminant Level
- NS:** No Standard Available
- S6:** Surrogate recovery is outside control limits due to matrix interference.
- S8:** The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
- X:** Results represent LCS and LCSD data.

Definition:

- %Limi:** Percent acceptable limits.
- %REC:** Percent recovery.
- Con.L:** Acceptable Control Limits
- Conce:** Added concentration to the sample.
- LCS:** Laboratory Control Sample
- MDL:** Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

- MS:** Matrix Spike
- MS DU:** Matrix Spike Duplicate
- ND:** Analyte was not detected in the sample at or above MDL.
- PQL:** Practical Quantitation Limit or ML (Minimum Level) as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
- Recov:** Recovered concentration in the sample.
- RPD:** Relative Percent Difference
-



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Telephone: (818) 246-2707
Attention: Mark Drollinger

Number of Pages 5
Date Received 01/23/2014
Date Reported 02/03/2014

Job Number	Order Date	Client
72027	01/23/2014	CES

Project ID: 0551.1001.0
Project Name: SCHOA
Site: Malibu, CA

Enclosed please find results of analyses of 2 water samples which were analyzed as specified on the attached chain of custody. If there are any questions, please do not hesitate to call.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Page: 1 A

Ordered By

Citadel Environmental Services, Inc
1725 Victory Boulevard
Glendale, CA 91201-

Project ID: 0551.1001.0
Date Received 01/23/2014
Date Reported 02/03/2014

Telephone: (818) 246-2707
Attention: Mark Drollinger

Job Number	Order Date	Client
72027	01/23/2014	CES

CERTIFICATE OF ANALYSIS CASE NARRATIVE

AETL received 2 samples with the following specification on 01/23/2014.

Lab ID	Sample ID	Sample Date	Matrix	Quantity Of Containers
72027.01	SC-11	01/23/2014	Aqueous	2
72027.02	SC-12	01/23/2014	Aqueous	2

Method	Submethod	Req Date	Priority	TAT	Units
300.0	NO3-NO2-N	01/30/2014	2	Normal	mg/L
350.3		01/30/2014	2	Normal	mg/L
SM-9221A-D		01/30/2014	2	Normal	MPN/100 mL
SM-9221A-E		01/30/2014	2	Normal	MPN/100 mL

The samples were analyzed as specified on the enclosed chain of custody. Analytical non-conformances have been noted on the report.

Checked By: _____

Approved By: _____

Cyrus Razmara, Ph.D.
Laboratory Director



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 2

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
72027	01/23/2014	CBS

Method: 300.0, Nitrate & Nitrite as N in water by IC

QC Batch No: 012414-1

Our Lab I.D.		Method Blank	72027.01	72027.02	
Client Sample I.D.			SC-11	SC-12	
Date Sampled			01/23/2014	01/23/2014	
Date Prepared		01/24/2014	01/24/2014	01/24/2014	
Preparation Method		300.0	300.0	300.0	
Date Analyzed		01/24/2014	01/24/2014	01/24/2014	
Matrix		Aqueous	Aqueous	Aqueous	
Units		mg/L	mg/L	mg/L	
Dilution Factor		1	1	1	
Analytes	MDL	PQL	Results	Results	Results
Nitrate as Nitrogen	0.01	0.05	ND	1.66	0.673
Nitrite as Nitrogen	0.01	0.05	ND	ND	ND

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	MS Concn	MS Recov	MS % REC	MS DUP Concn	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Nitrate as Nitrogen	1.00	1.09 X	109	1.00	1.16 X	116	6.2	80-120	<15
Nitrite as Nitrogen	1.00	0.935X	93.5	1.00	0.869X	86.9	7.3	80-120	<15

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	SM Result	SM DUP Result	RPD %	SM RPD % Limit
Nitrate as Nitrogen	5.33	5.60	4.9	<15
Nitrite as Nitrogen	ND	ND	<1	<15



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
 Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

ANALYTICAL RESULTS

Ordered By

Citadel Environmental Services, Inc
 1725 Victory Boulevard
 Glendale, CA 91201-

Site

Malibu, CA

Telephone: (818)246-2707

Attn: Mark Drollinger

Page: 3

Project ID: 0551.1001.0

Project Name: SCHOA

AETL Job Number	Submitted	Client
72027	01/23/2014	CBS

Method: 350.3, Ammonia as N, Potentiometric, ISE (EPA/600/4-79-020)

QC Batch No: 012414-1

Our Lab I.D.		Method Blank	72027.01	72027.02		
Client Sample I.D.			SC-11	SC-12		
Date Sampled			01/23/2014	01/23/2014		
Date Prepared		01/24/2014	01/24/2014	01/24/2014		
Preparation Method		350.3	350.3	350.3		
Date Analyzed		01/24/2014	01/24/2014	01/24/2014		
Matrix		Aqueous	Aqueous	Aqueous		
Units		mg/L	mg/L	mg/L		
Dilution Factor		1	1	1		
Analytes	MDL	PQL	Results	Results	Results	
Ammonia as Nitrogen	0.05	0.10	ND	ND	ND	

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	Sample Result	MS Concen	MS Recov	MS % REC	MS DUP Concen	MS DUP Recov	MS DUP % REC	RPD %	MS/MSD % Limit	MS RPD % Limit
Ammonia as Nitrogen	0.00	0.500	0.472	94.4	0.500	0.478	95.6	1.3	80-120	<15

QC Batch No: 012414-1; Dup or Spiked Sample: 72024.01; LCS: Clean Water; QC Prepared: 01/24/2014; QC Analyzed: 01/24/2014;
 Units: mg/L

Analytes	LCS Concen	LCS Recov	LCS % REC	LCS/LCSD % Limit					
Ammonia as Nitrogen	0.500	0.483	96.6	80-120					



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

Data Qualifier:

- #: Recovery is not within acceptable control limits.
- *: In the QC section, sample results have been taken directly from the ICP reading. No preparation factor has been applied.
- B: Analyte was present in the Method Blank.
- D: Result is from a diluted analysis.
- E: Result is beyond calibration limits and is estimated.
- H: Analysis was performed over the allowed holding time due to circumstances which were beyond laboratory control.
- J: Analyte was detected. However, the analyte concentration is an estimated value, which is between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL).
- M: Matrix spike recovery is outside control limits due to matrix interference. Laboratory Control Sample recovery was acceptable.
- MCL: Maximum Contaminant Level
- NS: No Standard Available
- S6: Surrogate recovery is outside control limits due to matrix interference.
- S8: The analysis of the sample required a dilution such that the surrogate concentration was diluted below the method acceptance criteria.
- X: Results represent LCS and LCSD data.

Definition:

- %Limi: Percent acceptable limits.
- %REC: Percent recovery.
- Con.L: Acceptable Control Limits
- Conce: Added concentration to the sample.
- LCS: Laboratory Control Sample
- MDL: Method Detection Limit is a statistically derived number which is specific for each instrument, each method, and each compound. It indicates a distinctively detectable quantity with 99% probability.



American Environmental Testing Laboratory Inc.

2834 & 2908 North Naomi Street, Burbank, CA 91504 • DOHS NO: 1541, LACSD NO: 10181
Tel: (888) 288-AETL • (818) 845-8200 • Fax: (818) 845-8840 • www.aetlab.com

Data Qualifiers and Descriptors

- MS:** Matrix Spike
- MS DU:** Matrix Spike Duplicate
- ND:** Analyte was not detected in the sample at or above MDL.
- PQL:** Practical Quantitation Limit or ML (Minimum Level as per RWQCB) is the minimum concentration that can be quantified with more than 99% confidence. Taking into account all aspects of the entire analytical instrumentation and practice.
- Recov:** Recovered concentration in the sample.
- RPD:** Relative Percent Difference
-

SUMMARY OF KNOWN WATER WELLS

Well Number	Address	Well Field Notes	Latitude Longitude (DMS)	Ground surface elevation (Feet above MSL)	Water surface elevation (Feet below ground surface, before bailing)	Total length of Casing (feet BGS)
SC-1	23301 Palm Canyon Lane	Pump not working, no access to well interior, no sample obtained	34 02 49.34 118 40 52.75	72	N.A.	
SC-2	23347 Palm Canyon Lane	Casing open and covered, no pump in well Sampled using bailer on 1/23/14	34 02 51.82 118 41 00.67	77	65.13 on 1/23/13	140
SC-3	23344 Palm Canyon Lane	Pump working. No access to well interior for measurements. Sampled using pump on 1/20/14	34 02 42.99 118 41 01.05	35	N.A.	
SC-4	3611 Serra Road	Pump working, No access to well interior for measurements, Sampled using pump on 1/20/14	34 02 26.44 118 40 53.58	16	N.A.	
SC-5	3515 Cross Creek Road	Pump not working, no access to well interior, no sample obtained	34 02 30.75 118 41 04.83	27	N.A.	30
SC-6	3515 Cross Creek Road	Pump working, no Access to well interior for measurements, Sampled using pump 1/20/14	34 02 30.11 118 41 03.88	27	N.A.	69
SC-7	3515 Cross Creek Road	Monitoring well.	34 02 31.03 118 41 03.97	27	NA	NA
SC-8	3434 Serra Road	Pump Working, Access to well interior, Sampled using pump 1/23/14	34 02 37.29 118 40 46.67	46	37.39 on 1/23/14	71.25
SC-9	3314/3328 Serra Road	Pump working, no access to interior well for measurements , Sampled using pump on 1/23/14	34 02 46.47 118 40 41.16	61	N.A.	N.A.

SC-10	3314/3328 Serra Road	No Pump, Well Dry, No sample obtained	34 02 44.61 118 40 44.62	71	N.A.	59.32
SC-11	3415 Cross Creek Road	Monitoring Well	34 02 42.57 118 41 05.37	36	NA	NA
SC-12	3415 Cross Creek Road	Pump working, No Access to well interior for measurements , Sampled 1/23/14	34 02 43.82 118 41 05.56	38	N.A.	N.A.
SC-13	3811 Serra Road	Pump Not Working, No Sample obtained	34 02 18.47 118 40 53.99	54	N.A.	N.A.
SC-14	Serra Road/Picnic Grounds	Monitoring Well	34 02 10.83 118 40 54.71	14	N.A	N.A.

Response to July 9, 21 and 28 Comment Letters from Joan Lavine (C-2a and -2b)

Response to Comment 1

The Draft EIR was released for a 60-day public review period beginning on May 30, 2014, which exceeds the 30 day minimum required by CEQA. A notice of preparation of the EIR and public scoping meeting was published on November 21, 2014, and mailed to property owners and occupants within the Prohibition Zone, plus a 1,000 foot radius. The public scoping meeting held on December 11, 2014 prior to EIR preparation. All Draft EIR materials have been made available on the City's website. The Project is in compliance with all CEQA requirements and City policies and standards for notice and public participation.

Response to Comment 2

The Recirculated Draft EIR was a partial recirculation and intended to be analyzed in conjunction with the Draft EIR. In regards to the specific points made, the following responses are provided:

1. The Draft EIR and Recirculated Draft EIR are programmatic documents for all phases of the proposed Project. As such, they address all anticipated future activities and/or effects of those activities and uses as is reasonably foreseeable.
2. As previously noted, the Recirculated Draft EIR was a partial recirculation and intended to be reviewed together with the Draft EIR. Together, these documents addressed feasible alternatives to the proposed Project in Chapter 5 of the Draft EIR.
3. Possible Project-related impacts on injection-induced seismicity and traffic were included in Section 4.5 – Geology and Soils, and Section 4.15 – Transportation and Traffic of the Draft EIR, respectively.

In total, all impact categories were addressed in the Draft EIR and Recirculated Draft EIR.

Response to Comment 3

The comment cites the brief description provided in the Executive Summary. A detailed description of the Project, including construction and operation impacts, is provided in Chapter 3 – Project Description. This description covers all the aspects CEQA requires to be disclosed for the benefit of decision-makers and the public.

Response to Comment 4

Cumulative impacts associated with the Project are addressed in each environmental issue area section in Chapter 4 – Environmental Impact Analysis, and in Chapter 6 – Other Environmental Considerations. The 2% strategy referenced in the comment pertains to a strategy included in the Southern California Association of Governments 2008 Regional Comprehensive Plan that calls for focusing significant land use changes on only two percent of the region's land area. (This plan was referenced under Regional Regulations in Section 4.8 – Land Use and Planning in the EIR.) The proposed Project

does not propose any changes to land use designations in the Project area, with the exception of the Civic Center Wastewater Treatment Facility Overlay District, that would be applied to the proposed treatment plant site.

Response to Comment 5

No residential units would be removed or residents displaced by the proposed Project directly. The City is sensitive to the costs the Project would place on residential property owners; however, it is speculative to suggest that persons or homes would be indirectly displaced as a result of the Project.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City.

Response to Comment 6

Detailed discussion and evaluation for potential adverse impacts pertaining to Geology and Soils is provided in Section 4.5 – Geology and Soils. Specifically, see Impact GEO-1 and Impact GEO-2 in Section 4.5.2. There are no active earthquake faults delineated on Alquist-Priolo Fault Zone maps within the Project area. Because the Project area is not traversed by a known active fault and is not within 200 feet of an active fault trace, surface fault rupture is not considered to be a significant hazard for the Project area (Geosyntec Consultants 2014).

Response to Comment 7

Potential cumulative impacts are addressed for each environmental issue area section in Chapter 4 – Environmental Impact Analysis. The list of potentially- related projects is included in Section 3.5 of Chapter 3 – Project Description.

Response to Comment 8

Comment noted.

Response to Comment 9

Appendix G referenced in this comment applies to initial studies conducted by a lead agency in seeking to determine whether a project would require preparation of an EIR. Mandatory Findings of Significance are required as part of the initial study and their conclusion is what requires an EIR to be prepared. Consistent with CEQA Guidelines Section 15060(d), the City recognized that the complexity of the proposed Project would require an EIR, and an initial study was not prepared.

Response to Comment 10

This comment is noted; however, the comment is too speculative in nature for a response to be formulated.

Response to Comment 11

Refer to the response to Comment 4 above.

Response to Comment 12

See Section 6.3, Growth Inducement and Other Indirect Impacts, in Chapter 6 – Other Environmental Considerations.

Response to Comment 13

According to the Los Angeles County Waterworks District 29's *2010 Urban Water Management Plan*, District 29 will have sufficient supplies to service the Malibu Civic Center at build-out conditions.

Response to Comment 14

The Project has been designed to meet the sanitary sewer and treatment needs of the community it would serve. This comment is too speculative in nature for a response to be formulated.

Response to Comment 15

Project cost analysis is beyond the scope of this EIR. Such an analysis would be prepared in conjunction with assessment district formation for each phase of Project implementation. The latest preliminary information on the assessment district formation for Phase 1 may be found by contacting the City Public Works Department. See FAQs on City's website at <http://www.malibucity.org/DocumentCenter/View/6800>.

Response to Comment 16

The City is currently attempting to secure grant and/or low-interest loan monies to help reduce the cost of the Project to City property owners.

Response to Comment 17

The EIR is an informational, environmental document. CEQA does not require an analysis of Project costs or funding mechanisms, nor does it require any CEQA-related documents to "require" a lead agency to seek and obtain funding for a proposed project.

Response to Comment 18

Refer to the responses to Comments 15, 16 and 17 above.

Response to Comment 19

Refer to the response to Comment 5 above.

Response to Comment 20

The proposed treatment plant would be located on a property currently containing an operating wastewater treatment plant. See also Question 5 of Project FAQs, dated July 21, 2014, available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>).

Response to Comment 21

The No Project alternative is discussed in Section 5.3.1 of Chapter 5 – Comparison of Alternatives.

Response to Comment 22

Refer to response to Comment 20 above.

Response to Comment 23

Detailed discussion and evaluation for potential adverse impacts pertaining to Geology and Soils is provided in Section 4.5 – Geology and Soils. Specifically, see Impact GEO-1 and Impact GEO-2 in Section 4.5.2. There are no active earthquake faults delineated on Alquist-Priolo Fault Zone maps within the Project area. Because the Project area is not traversed by a known active fault and is not within 200 feet of an active fault trace, surface fault rupture is not considered to be a significant hazard for the Project area (Geosyntec Consultants 2014). Injection of effluent is a common means of disposal. Modeling has shown that the Proposed Project would lower water levels in the shallow aquifer, thereby reducing the potential for liquefaction. Refer to Impact GEO-3 on page 4.5-17 in Section 4.5 – Geology and Soils, and Impact HWQ-2 on page 4.7-36 in Section 4.7 – Hydrology and Water Quality.

Response to Comment 24

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. The City's MOU with the LARWQCB and SWRCB governs the service area boundaries of the Project and establishes Project phasing pursuant to a map incorporated into the MOU. Figure 3-10 identifies Project implementation by phase and includes parcel boundaries.

Response to Comment 25

This comment expresses an opinion that is beyond the scope of this EIR.

Response to Comment 26

Consistent with CEQA Guidelines Section 15060(d), the City recognized that the complexity of the proposed Project would require an EIR, and an initial study was not prepared.

Response to Comment 27

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. The City's MOU with the LARWQCB and SWRCB governs the service area boundaries of the Project and establishes Project phasing pursuant to a map incorporated into the MOU. Figure 3-10 identifies Project implementation by phase and includes parcel boundaries. Notification regarding the Prohibition is beyond the scope of this EIR. Refer also to the response to Comment 1 above.

Response to Comment 28

This comment expresses an opinion that is beyond the scope of this EIR. City staff reviews all projects against the same codes and regulations, whether they are City projects or privately-owned projects.

CHRIS & SALLY BENJAMIN

RECEIVED

JUL 21 2014

PLANNING DEPT.

July 21, 2014

Bonnie Blue, Senior Planner
23825 Stuart Ranch Road
Malibu, California 90265

RE: Item 6E Planning Commission July 21, 2014

Dear Senior Planner Bonnie Blue:

I am writing to discuss some concerns regarding the plans for a waste water treatment facility in the Civic Center area. There will be a Planning meeting on July 21, 2014 whom I would like to address. Please send this to each of the Commissioners in preparation for that meeting. I have 4 major concerns to address at that time. The rest of my comments will be forth coming to meet the DEIR deadline of July 28, 2014.

1) The DEIR doesn't discuss other waste water treatment alternatives or provide reasons for their rejection.

Alternatives to the project are listed as no project, ocean outfall, sending it to Hyperion, alternative WWTF site. CEQA 15126.6 (c) states the DEIR should briefly describe the rationale for selecting the alternatives and provide reasons for rejecting an alternative. While alternatives are placed in a matrix, reasons for their selection are not provided nor is there any discussion regarding other waste water treatment alternative systems. A gravity flow waste water treatment, being proposed, isn't the best selection because of the Civic Center's topography, geology, existing septic systems and cost (capital and maintenance). Alternative systems are versatile vacuum sewer system, STEP/STEG all better systems for the topography of the area, geology, proximity to the ocean and Malibu Lagoon, capital and maintenance costs.

My concern is that Malibu property owners are being misled why the "gravity system" is being proposed. Two cities and one business, currently, have been lead down this garden path, we should learn from their experiences.

- The City of Fillmore upgraded their old sewer plant and installed a MBR system, ultraviolet disinfection and 100% recycle water system in 2009 for \$83 million dollars when the project was projected to cost \$24 million. The residences requested the City Council to review alternatives for a lower cost options. The City Council didn't act on the request. The City had allot of in the arrears payments and the schools stopped making payments, turned off their water and installed pot-a-potties as they couldn't pay. A PPP had to be formed to reduce the cost to an affordable rate.

<http://www.slocoastjournal.com/docs/archives/2010/July/pages/news3.html>

- Morro Bay and Cayucos, in 2010, feared that their community was headed in the same direction as Fillmore and urged the City officials to consider an alternative approach. The Joint Power Agreement Board voted for an alternative proposal to be submitted and a peer review of strengths and weakness of the current WWTFP.

<http://slocoastjournal.com/docs/archives/2010/May/pages/news2.html>

- In our own town, Malibu, a business recently installed a MMBR. Nobu restaurant by the ocean opened July 31, 2012. They are now evaluating methods to reduce maintenance costs due to the expense of maintaining the system. This is happening just two years after their relocating.

These examples should cause the City to take steps to keep the Civic Center property owners from following the same path. Action must be taken to evaluate alternative waste water systems for this project as well as establishing a Peer review committee.

Suggestions:

- 1) Opening evaluate various sewer systems for the most cost and ecologically efficient system that benefits the community; topography, geology
- 2) Obtain open competitive bidding
- 3) Conduct Peer Review of the water modeling and evaluation of the alternative sewer systems.

2) The DIER doesn't discuss cost of the project which will become the liability of property owners in the area through property

1

2

3

tax assessments, maintenance and recycle water bills. As a property owner in the area I have a right to be informed about the cost of the proposed system. Cost is part of identifying and selecting the best system for the environment. The cost will never disappear, or be reduced it will only escalate. There is a point where the cost of the system becomes too burdensome for the commercial and residential properties owners. A commercial developer can pass on so much of this cost to their tenants. Likewise, there is a limit to what a residential property can bear in additional property taxes, maintenance and repair costs and recycle water fees. These costs are driven by the type of system selected to build. The system selected should be environmentally, sustainable cost efficient for both the commercial and residential properties.

3

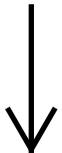
At the Planning meeting on June 25, 2014 it was discussed that costs from phase one will be “deferred” to the residential properties (phase 2 & 3) in order to keep costs down. No one has discussed what costs are to be “deferred”, how much and over what period of time or the reason to deferred costs to the residential properties.

Many residents have two issues with this deferment; 1) the initial septic system ban (by RQWCB 2009) cited the commercial properties for being in violation, not one residential property was cited. Not one resident has been issued a violation from the RWQCB before or since the ban. 2) Commercial properties will recoup their expenses faster from the sale of the property and/or passing the cost down to their tenants. Residential properties aren't bought and sold at the same frequency as commercial properties. The cost to the resident is “their cost” there is no one to pass it on to. Deferring costs to the residents will ultimately change the character of the Civic Center because fewer and fewer residential properties will be able to afford it. One property has already expressed concerns related to the cost projections, our beloved Serra Retreat.

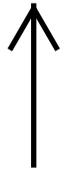
It was the capital and maintenance cost of the system which caused Fillmore and Morro Bay to reevaluate. It is the continual maintenance cost causing Nobu to evaluate methods for cost reduction. We should take heed and evaluate costs before building the plant.

3) The DEIR relies on injecting treated waste water into wells 150 feet underground. There are 3 proposed injection wells within less than 1,000 feet from the ocean. The water will be treated to a title 22 requirements. This level of treatment doesn't remove pharmaceuticals,

4



steroids, hormones and fire retardants which are forced into the ocean affecting its' environment through well injection. While a septic system doesn't remove these substances either, the soils are trapping some through leach fields or septic pits which decreases the amount traveling to the waterways.



4

There was a recent ruling against Maui for polluting the ocean with well injections. Concerned Citizen's attempted to convince public officials to take the threat to the marine environment seriously. Continually, the citizens demanded to "re-direct" the treated water. They want the water reused for stream-bed restoration and to support Maui's agriculture. The citizen requests were ignored by the County. In May 2014 the federal court ruled that they are in violation of the Federal Clean Water Act due to the dying reefs from the injection sites and dye validation that the injected water flows into the reefs. The court further found that the water was lower in salinity and dissolved oxygen and substantially elevated in temperature affecting the ocean environment.

<http://earthjustice.org/news/press/2014/federal-court-rules-that-maui-county-is-violating-clean-water-act>

This ruling from the federal court is a warning that the concerns raised related to the salinity, temperature of injected water are not ill founded. The DEIR should be "re-directing" the treated water and making it available to citizens beginning in phase 1.

Suggestions:

- a. Redirect proposed treated injected water to the Malibu Creek to restore flows in the Creek as well as the Lagoon.
- b. Allow all the citizens within the Civic Center to use recycled water from phase 1, beginning in phase 1.
- c. Develop wetlands which have been lost due to Legacy Park implementation and other development. Bring back the wetlands Malibu has lost.

5

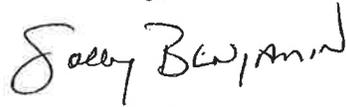
4) The water quality must to be monitored at the end of each phase to validate the desired results are being obtained. Presently no testing is required after phase 1; it doesn't occur until the end of phase 2 and beginning of phase 3. Phase 1 connects commercial properties presently developed and those slated for future development. It is important to evaluate water quality at each phase of the project to determine if the desired goals are being achieved. Otherwise at the end of the project there is no quantitative proof of what was accomplished other

6

July 21, 2014

than millions of tax dollars were spent and property owners are burdened with the expense.

Sincerely,

A handwritten signature in cursive script that reads "Sally Benjamin".

Sally Benjamin

Bonnie Blue

From: Chris & Sally Benjamin <indyjo@earthlink.net>
Sent: Monday, July 28, 2014 10:25 AM
To: Bonnie Blue
Cc: Jim Thorsen; Bob Brager; ewu@waterboards.ca.gov; sunger@waterboards.ca.gov
Subject: Comments on DEIR for CCWWTFP
Attachments: Benjmain DEIR comment July 28 201407282014_00000.pdf

Importance: High

RECEIVED

JUL 28 2014

PLANNING DEPT.

July 28, 2014

Dear Senior Planner Bonnie Blue,

Please find my comments on the DEIR for the Civic Center Waste Water Treatment Plant attached. Please forward them to the necessary individuals.

If you find that the document isn't legible let me know and I can retransmit the document.

Thank you for your taking the time to review and take under consideration my comments.

Regards,

Sally Benjamin

Be so true to thyself as thou be not false to others.
Henry Brooks Adams

RECEIVED
JUL 28 2014
PLANNING DEPT.

July 28, 2014

Bonnie Blue, Senior Planner
23825 Stuart Ranch Road
Malibu, California 90265

RE: DEIR comments on the Civic Center Waste water Treatment Plant

Dear Ms. Bonnie Blue, Senior Planner:

The purpose of the correspondence is to express some concerns related to the DEIR presently in circulation regarding the plans for a waste water treatment facility in the Civic Center area. As expressed in a letter to you on July 21, prior to the planning Commission meeting whom I addressed, I had additional concerns to be submitted prior to the cut of date. My comments have been combined and are being respectfully submit at this time.

1) The DEIR is not comprehensive enough for the project at hand. It claims to be the Program DEIR which means that this document must be comprehensive enough for the other phases to use for part of its' EIR as the project progresses. The Civic Center area has many challenges which are alluded to, yet not discuss, at a level for the document to be considered a Program DEIR. This document doesn't describe the project in a level of depth to understand the complexity of the endeavor and additional considerations that must take place at the different phases. Some challenges are: the topography of each phase, the proximity of Malibu Creek and Lagoon and ocean, the high water tables and the need for dewatering when laying pipes in the Civic Center area, the fluctuating waste flows from an influx of people as this area is visitor serving, the need for easements right of ways in residential areas, the establishment of assessment districts for the residential properties, the concerns of residences in situations of fire, power outages and flow backup into their homes, etc.

While the DEIR discusses the impacts of construction, the impacts of partially and completely functioning plant aren't. What would the air quality be using an alternative sewer treatment system versus the gravity

flow? What is the electrical demand required to obtain the desired performance? Will changes in the energy market affect the appropriateness of the process? What will be the maintenance requirements of the functioning plant? It is mentioned the sludge will be trucked off site who will be performing this activity and what will it cost? What level of service is required to ensure proper operation? Does servicing require a skilled technician? What components will wear out and need to be replaced? Will replacement parts be available? How much water would be necessary to inject with an alternative system (as they use less water) versus the gravity flow? Is the 2 full time staff required (page 3-33) at phase 1 or at full build out? How many staff will be necessary at full build out? PCH has restrictions on the size of trucks and specific hours while large trucks can transport on PCH. Has this been taken into consideration with the truck hauling of chemicals and sludge that will be necessary?

9
10
11
12
13
14

As you can see there are many questions to answer related to the operations of the plant which haven't been addressed in this DEIR. They need to be in order to create a comprehensive document such as Program EIR providing the bases for additional phases.

2) The DEIR doesn't discuss other alternative waste water treatment systems or provide reasons for their rejection.

Alternatives to the project are listed as no project, ocean outfall, sending it to Hyperion, alternative WWTF site. CEQA 15126.6 (c) states the DEIR should briefly describe the rationale for selecting the alternatives and provide reasons for rejecting them. While alternatives are placed in a matrix, reasons for their selection are not provided nor is there any discussion regarding other waste water treatment alternative systems. A gravity flow waste water treatment, being proposed, isn't necessarily the best selection because of the Civic Center's topography, geology, proximity to the ocean and Malibu Lagoon, necessity to cross the Lagoon and/or Creek, the existence residential septic systems and cost (capital and maintenance) and the limited number of properties for cost distribution.

15

Alternative systems are versatile vacuum sewer system, STEP/STEG all better systems for the topography of the area, geology, proximity to the ocean and Malibu Lagoon, capital and maintenance costs. Advantages of the versatile vacuum system are: using smaller pipe diameter, necessary trenches need not be as deep a benefit in an area with a high water table such as the Civic Center area, and requires less water to move the sewage from collection site to the treatment center. Additionally, the STEP/STEG begin to address some of the concerns the residents have

related to power outages for several days during a disaster resulting in flow backups into their homes. The current septic system tank could continue to hold the waste until power returned.

My concern is that Malibu property owners are being misled by proposing only the "gravity system" without providing other alternatives treatment systems options. This is an expensive project. The best fit for cost, and the environment should be selected. Choice can only be made when alternatives are presented. Two cities and one business, recently, have been lead down this garden path, we should learn from their experiences.

- The City of Fillmore upgraded their old sewer plant and installed a MBR system, ultraviolet disinfection and 100% recycle water system in 2009 for \$83 million dollars when the project was projected to cost \$24 million. The residences requested the City Council to review alternatives for lower cost options. The City Council didn't act on the request and built the current plant. The City had allot of in the arrears payments and schools stopped making payments, turned off their water and installed pot-a-potties because they couldn't pay. A PPP had to be formed to reduce the cost to an affordable rate.

<http://www.slocoastjournal.com/docs/archives/2010/July/pages/news3.html>

- Morro Bay and Cayucos, in 2010, feared that their community was headed in the same direction as Fillmore and urged the City officials to consider an alternative approach. The initial proposal was for an MBR system. The Joint Power Agreement Board voted for an alternative proposal to be submitted and a peer review of strengths and weakness of the current WWTFP.

<http://slocoastjournal.com/docs/archives/2010/May/pages/news2.html>

- Here in Malibu, a business recently installed a MBR system. Nobu restaurant by the ocean opened July 31, 2012. They have been open 2 years in their new location and are now evaluating methods to reduce maintenance costs. It is too expensive to maintain the system. This is one business having this experience, the situation will only be magnified when applied to a larger system and too more users.

These examples shed light on what all Civic Center property owners will encounter related to the sewer project. The City must act to evaluate alternative waste water systems. Peer review committees

should be established for evaluating alternative systems as well as assumptions made in calculations and modeling.

Suggestions:

- 1) Opening evaluate various sewer systems for the most cost, ecologically efficient system that benefits the community; topography, geology, proximity to the ocean and Malibu Lagoon, crossing lagoons or creeks, high water tables, variable waste flows due to fluctuation in population, number of properties to spread the cost and capital, operating and maintenance expenses.
- 2) Obtain open competitive alternative system bidding needs to occur.
- 3) Conduct Peer Review of the evaluation of the alternative sewer systems and assumptions used calculations and modeling programs.

3) The DIER doesn't discuss cost of the project which will become the liability of property owners in the area through property tax assessments, maintenance and recycle water bills. As a property owner in the area I have a right to be informed about the cost of the proposed system. Cost is part of identifying and selecting the best system for this unique environment. The expenses will never disappear, or be reduced they will only escalate. There is a point where the cost of the system becomes too burdensome for the commercial and residential properties owners. A commercial developer can pass on only so much of this cost to their tenants. Likewise, there is a limit to what a residential property can bear in additional property taxes, maintenance and repair costs and recycle water fees. These costs are driven by the type of system selected to build. The system selected should be environmentally sustainable, cost efficient for both the commercial and residential properties.

At the Planning meeting on June 25, 2014 it was discussed that costs from phase one will be "deferred" to the residential properties (phase 2 & 3) in order to keep costs down. No one has discussed what costs are to be "deferred", how much, over what period of time or the reason to deferred costs to the residential properties.

Many residents have two issues with this deferral; 1) the initial septic system ban (by RQWCB 2009) cited the commercial properties for being in violation, not one residential property was cited. Not one resident has

been issued a violation from the RWQCB before or since the ban. 2) Commercial properties will recoup their expenses faster from the sale of the property and/or passing the cost down to their tenants. Commercial properties are bought and sold more frequently and have greater capital gain per square foot for the number of years owned as compared to residential properties. Residential properties are less expensive, are a smaller foot print, and have fewer users in their structure as compared to commercial properties. The cost to the resident is "their responsibility to pay" there is no one to pass it down to. Deferring costs to the residents will ultimately change the character of the Civic Center because fewer and fewer residential properties will be able to afford it. One property has already expressed concerns related to the cost projections, our beloved Serra Retreat.

18

In most Cities the developer assists the City in furthering the its' plans/goals. When a developer proposes a development the City might ask for payment to further a particular project or that the developer must build something the City requests. The request might be enlarging a flood channel, adding sidewalks and gutters, or funding/building a sewage treatment plant. This is part of doing business in that City. Developers aren't "reimbursed" for such expense that is the cost of doing business at that location. So it should be in Malibu. The City has a goal/plan to build a treatment plant, developers will get the opportunity to build; therefore, they should pay for building the plant and not get reimbursed.

It was the capital and maintenance cost of the system which caused Fillmore and Morro Bay to reevaluate. It is the continual maintenance cost causing Nobu to evaluate methods for cost reduction. We should take heed and evaluate costs before building the plant whether or not it is required by CEQA.

4) The DEIR injecting treated waste water information is insufficient, won't accomplish inhibiting saltwater intrusion, not consistently being injected into 150 feet underground and is environmentally unsafe. There are 3 proposed injection wells within less than 1,000 feet from the ocean. In the project the injection will take place 150 feet underground into a fresh water stream bed which flows from Winter Canyon. It must be noted that these injection wells will be at the ocean and stream outfall interface. At this location it is closer to having the characteristics of brackish water than fresh water as it has been described.

19

The calculations of the proposed injection are understated for long term use. They are based on a myriad of assumptions; projection for Civic Center development, percentage of area composition for restaurants, high water users to commercial space, amount of water usage for a proposed development etc. There are alot of guesstimates in this calculation of 507,000 gallons per day. Who monitors that only this amount will be injected? Many years from now what is developed, what the ratio of restaurant to shopping will change, making the calculations erroneous and most likely the necessity for larger amount of water to be injected.

20

The calculations should have a broad range not a specific amount. The proposed injection amount of 507,000 gpd is based on current City General Plan and Ordinance. Add 30% due to approving variances for development, change in technology which are unknown at this time which might create a high water user, and a changing variable mix of uses in the commercial area which will no doubt occur over 25 years. This would provide a more honest picture of the amount of water to be injected in the years to come.

The amount of water to be injected in three localized spots is being purported as able to inhibit salt water intrusion (page 3-8 & 3-23 of the DEIR). With an injection pressure of 5psi, pipe diameter of 10 inches this will not hold back salt water intrusion in the lower aquifer. The ocean has much more force than that, and the expanse of the ocean area in the Civic Center is larger than the spray of the injection. To inhibit salt water intrusion the force of the injection would need to be greater than the ocean waves at any given time (high and low tide, weather or catastrophic events) and the surface area of the force would need to cover the total ocean in front of the Civic Center area. The proposed injections will not hold back any saltwater intrusion! Saltwater will continue to intrude into the lower aquifer as it should; it is a naturally occurring phenomenon.

21

The injections are discussed as occurring at 150 feet and going into the lower aquifer. On page 3-23 of the DEIR the injection occur "at depths ranging from 30 and 140 feet". Thirty feet is within the upper aquifer and will definitely affect the water table in the Civic Center area. This negative effect is not discussed in the mitigation measures.

22

The water will be treated to a title 22 requirements for unrestricted (non-potable) reuse of disinfected tertiary water. This level of treatment doesn't remove pharmaceuticals, steroids, hormones and fire retardants nor will

23

the temperature be the same as the ocean, all of which affect the ocean's environment. While a septic system doesn't remove these substances either, the soils are trapping these elements through leach fields or septic pits which decreases the amount traveling to the waterways. With injection no additional trapping will take place; they will be released into the ocean affecting its' environment. This is not mentioned in the mitigation measures.

23

The DEIR doesn't discuss methods to be used for removing heavy metals prior to injection. It does refer to the need to store alum which suggests there might be removal; the reader is left to speculate. Heavy metals end up in the tissues of ocean animals as noted by the high mercury levels in tuna for example. Studies have been done that demonstrate using ferric chloride and anionic polymer is more effective in removing heavy metals from the water 80%. It is 200% more efficient in removing chromium, copper, zinc and nickel and 475% better at removing lead than using the conventional method using alum. With injection wells being proposed the best solution for heavy metal removal should be used and discussed in the DEIR.

24

There was a recent ruling against Maui for polluting the ocean with well injections. In May 2014 the Federal court ruled that they are in violation of the Federal Clean Water Act due to dye validation that the injected water flows into the reefs and the reefs are dying from the injected water. The court further found that the water was lower in salinity and dissolved oxygen and substantially elevated in temperature affecting the ocean environment.

Concerned Citizen's attempted to convince public officials to take the threat to the marine environment seriously. Continually, the citizens demanded to "re-direct" the treated water. They want the water reused for stream-bed restoration and to support Maui's agriculture. The citizen requests were ignored by the County.

<http://earthjustice.org/news/press/2014/federal-court-rules-that-maui-county-is-violating-clean-water-act>

There are no government regulated, nutrient requirements for the ocean; however, California does have an Ocean Plan last amended in 1997 requiring compliance. The ruling from the Federal court isn't about changing the nutrient levels in the ocean rather a boarder picture of changing the environment within the ocean due to well injections. It doesn't matter where the injection is located, in Maui or Malibu, the ruling can be applied to the ocean off the beaches of Malibu.

Maui's concerned citizen wanted the water re-directed for stream-bed restoration and to support Maui's agriculture. Malibu has a long history of agriculture and wetlands in the Civic Center area, the water could be redirected for their re-development. Wetlands cleans water naturally, brings back nature meant to live in this area. There are ways to re-direct this treated water and not injecting providing the potential to bring back history and the nature to Malibu. The Maui ruling demonstrated what will occur here in Malibu if injections occur.

Suggestions:

- a. Develop wetlands which have been lost due to Legacy Park implementation and other development. Bring back the wetlands Malibu has lost.
- b. Allow all the citizens within the Civic Center, and/or other communities to use recycled water from phase 1, beginning in phase 1.
- c. Work with the fire department for using water for structural fires.
- d. Divert water to Pepperdine storage ponds used for firefighting purposes in the area.
- e. Redirect proposed treated injected water to the Malibu Creek to restore flows in the Creek as well as the Lagoon.

25

5) No impact given for the potentially corrosive soil found in the proposed treatment plant locations and Legacy Park. While the Geology and Soil discuss the corrosive potential of the soil the summary of mitigation makes no mention of it. The project proposes to use one currently buried treatment tank on the proposed treatment plant site. The purpose for its use is not stated. No discussion occurs related to inspecting the tank for integrity, validation of size or location. Given the corrosive nature of the soil found potentially the tank is not environmentally safe to use. From this document it is not possible to determine if this is an environmentally safe action to take or not as the information is not available.

26

Legacy Park was also found to have potential corrosive soil and also has a high water table. Legacy Park will be used to place a 12 foot by 6 foot pumping station. Placing equipment underground exposed to humidity from the water table and potentially water intrusion along with corrosive soil means the equipment will need frequent replacement; a costly undertaking and adding to the operation and maintenance expense. This problem isn't discussed in the DEIR document.

27

6) The water quality must be monitored at the end of each phase to validate desired results are being obtained. Presently no testing is required after phase 1; it doesn't occur until the end of phase 2 and beginning of phase 3. Phase 1 connects commercial properties presently developed and those slated for future development. It is important to evaluate water quality at each phase of the project to determine if the desired goals are being achieved. Otherwise at the end of the project there is no quantitative proof of what was accomplished other than millions of tax dollars were spent and property owners are burdened with the expense for perpetuity.

28

Sincerely,



Sally Benjamin

Attachment: Speech given to Planning Commission on July 21, 2014

Response to July 21 and 28 Comment Letters from Sally Benjamin (C-3a and -3b)

Response to Comment 1

The range of alternatives discussed in an EIR is governed by the “rule of reason,” which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. Pursuant to CEQA Guidelines Section 15126.6(f)(1), a determination of feasibility may consider site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can acquire, control or otherwise have access to the alternative site. The EIR is not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and would not achieve the basic project objectives.

Other alternative technologies were considered for Phase 1 but were rejected as infeasible, as described below, and therefore, were not evaluated in Chapter 5 of the EIR.

Vacuum System

In nearly all of the Phase 1, 2, and 3 areas, there would be sufficient depth to groundwater to allow use of conventional gravity sewer and pump stations for wastewater collection and conveyance to the treatment plant. Nearly all of the planned pump stations would have static lifts greater than the 13 foot static lift generally achievable with vacuum pump stations. The widespread use of a vacuum sewer system would require more vacuum pump stations than conventional pump stations, which would increase the capital and operational costs of the system.

A vacuum sewer system could be a viable alternative in the Malibu Colony area, where the groundwater level is a few feet below the ground surface, the ground is relatively flat, and poor soil conditions result in difficult trenching conditions. This area is within Phase 2 and Phase 3 of the Prohibition Area and has not yet been designed in detail. When these phases of the Project are undertaken, project-level CEQA documents describing the proposed type of collection system for this area would be prepared. These project-level EIR(s) would tier off this programmatic EIR. A vacuum sewer was determined to be infeasible for Phase 1 due to the additional capital and operational costs.

STEP/STEG System

STEP/STEG collection systems use a septic tank at each property to attenuate the peak flow rate from the property and to settle the solids out in the tank, prior to delivering wastewater to the public sewer line or other treatment location. For this Project, the septic tanks would need to be water-tight to ensure that brackish (i.e., salty) groundwater does not enter the system. A small degree of brackish water intrusion would increase the salt concentration (TDS) in the recycle water, limiting its usability. Even in areas where brackish groundwater is not an issue, the septic tanks of a STEP/STEG system would need to be water-tight to prevent rainwater infiltration in order to minimize the amount of collected water to be treated. Most of the septic tanks

currently in place in Malibu are likely not water-tight as they were constructed for use with an associated leach field, and water-tight construction is not typically required for that application. Therefore, most property owners would have to replace their existing septic tanks if a STEP/STEG system were used in the proposed Project. This cost would be borne by the private property owners, and thus would increase the (preliminary) estimated total cost of the Project to each property owner even further. Additionally, because a STEP/STEG system settles sewage solids in the individual septic tanks, it would reduce the amount of organic carbon that would be received at the treatment plant. However, organic carbon is needed at the treatment plant to achieve the denitrification that would be required by the LARWQCB. Thus, use of a STEP/STEG system would increase the amount of supplemental carbon that would have to be purchased and added at the treatment plant, thereby increasing the operating cost of the plant. For these reasons, a STEP/STEG system was determined to be infeasible and was not recommended for this Project.

Response to Comment 2

The selection of the proposed treatment process was conducted in coordination with a Technical Advisory Committee (TAC), who agreed with the treatment process selection. The TAC included several wastewater treatment experts, including Dr. Michael Stenstrom, Distinguished Professor in the Civil and Environmental Engineering Department at the University of California, Los Angeles, and Mr. Lea Fisher, a retired senior process treatment expert from one of the largest wastewater design consultancies in the United States. Dr. Stenstrom is an expert in wastewater treatment processes and has extensive direct experience with the MBR process. He teaches and leads research in wastewater treatment processes and technologies in UCLA's School of Engineering and is therefore 'current and up to date' on the various treatment technologies including MBR. Mr. Lea Fisher was also involved in the process selection and the subsequent sizing of MBR process units for this project. Mr. Fisher has designed numerous treatment plants throughout the United States, including the recent MBR treatment plant at Ironhouse Sanitary District in Oakley, California. The proposed treatment process was also selected in consultation with other professional engineers and experts both at the City and in present practice.

Through the CEQA and entitlement process, as well as regular stakeholder meetings with the community, the City is endeavoring to conduct all aspects of the Project pre-planning, design and decision-making in a transparent and open manner.

A competitive alternative system bidding process is beyond the scope of the EIR.

Response to Comment 3

Project cost analysis and/or financing is beyond the scope of this EIR. Such an analysis would be prepared in conjunction with assessment district formation for each phase of Project implementation. The latest preliminary information on the assessment district formation for Phase 1 may be found by contacting the City Public Works Department. See Question 11 of Project FAQs, dated July 21, 2014, available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>).

Response to Comment 4

Potential water quality impacts resulting from constituents of emerging concerns (CECs), which include pharmaceutical drugs, are addressed in Impact HWQ-1 in Section 4.7 – Hydrology and Water Quality, Operations Impacts, Injection and Percolation. This section explains that these same constituents are currently being discharged to the groundwater basin through the OWDSs, and that studies show that the MBR and disinfection technologies utilized by the Project would likely result in less than or similar levels of CEC discharges to the Malibu Valley Groundwater Basin and the Winter Canyon alluvium compared to those which occur under present conditions. In addition, recycled water injected in the groundwater basin would be traveling through soils before emerging offshore into the ocean. As with OWDSs, some measure of soil aquifer treatment may occur as the constituents travel through the aquifer.

Response to Comment 5

See Section 3.1 of Chapter 3 – Project Description in regards to reuse. The future uses of recycled water generated by the Project as suggested in the comment are not precluded. However, at this time, only landscape irrigation and indoor non-potable reuse have been identified as reasonably foreseeable reuses. The recycled water generated by the Project would be available to all citizens within the Prohibition Area, provided they comply with the reuse requirements that would be set forth in Project permits.

Response to Comment 6

A surface and groundwater quality monitoring program are mandated by the City's MOU and would be detailed in the Project's permit requirements. See Section 3.4.2 of Chapter 3 – Project Description.

Response to Comment 7

The EIR meets the requirements for a programmatic evaluation of potential Project impacts as required under CEQA. Both construction and operational impacts relating to the CCWTF Project are addressed in the EIR for all phases of the Project (please see Chapter 4 of the EIR). These impacts are discussed in detail for Phase 1, and at a programmatic level for the other phases. Future phases would be analyzed at a project (detailed) level in future CEQA documents prepared based on detailed plans specific to those phases.

The processes of acquiring easement rights and establishing assessment districts for each phase are beyond the scope of this EIR.

Response to Comment 8

Refer to the response to Comment 1 for a discussion of alternative technologies. Other alternative technologies were considered for Phase 1 but were rejected as infeasible, and therefore were not evaluated in Chapter 5 of the EIR.

Response to Comment 9

Estimates of the Project's energy use are discussed in Impact U-8 in Section 4.12. The comment about effects from changes in the energy market are speculative.

Response to Comment 10

Regular maintenance operations are described in Section 3.4.4 of Chapter 3 – Project Description. The contract for off-hauling of the sludge has not yet been awarded.

Response to Comment 11

Text has been added to Chapter 3 – Project Description, Section 3.4.4, Operations and Maintenance, to describe service and technician requirements.

Response to Comment 12

Spare parts for pump stations (including replacement pumps) and other project facilities would be maintained at the treatment plant site and/or in storage by the City. Flows at the pump station would be continuously monitored, and if a pump is found to be failing, it would be immediately repaired or replaced.

Response to Comment 13

Refer to the response to Comment 1 above.

Response to Comment 14

Two full-time employees would be required for Phases 1 and 2 of plant operations; a third, full-time employee may be hired at build-out. Traffic impacts from both employees and operations-related truck traffic have been evaluated in Section 4.15 – Transportation and Traffic. These analyses have considered existing City and State restrictions on vehicle size and operating times.

Response to Comment 15

Refer to the response to Comment 1 above.

Response to Comment 16

The selection of the proposed treatment process was conducted in coordination with a Technical Advisory Committee (TAC), who agreed with the treatment process selection. The TAC included several wastewater treatment experts, including Dr. Michael Stenstrom, Distinguished Professor in the Civil and Environmental Engineering Department at the University of California, Los Angeles, and Mr. Lea Fisher, a retired senior process treatment expert from one of the largest wastewater design consultancies in the United States. Dr. Stenstrom is an expert in wastewater treatment processes and has extensive direct experience with the MBR process. He teaches and leads research in wastewater treatment processes and technologies in UCLA's School of Engineering and is therefore 'current and up to date' on the various treatment technologies including MBR. Mr. Lea Fisher was also involved in the process selection and the subsequent sizing of MBR process units for this project. Mr. Fisher has designed numerous treatment plants throughout the United States, including the recent MBR treatment plant at Ironhouse Sanitary District in Oakley, California. The proposed treatment process was also selected in consultation with other professional engineers and experts both at the City and in present practice.

Additionally, the assumptions made in calculations and modeling have been reviewed by experts at the regulatory agencies in charge of permitting the proposed Project. These include technical experts at the LARWQCB, SWRCB and CDPH.

Response to Comment 17

Please refer to the response to Comment 16 above regarding peer review. Through the CEQA and entitlement process, as well as regular stakeholder meetings with the community, the City is endeavoring to conduct all aspects of the Project pre-planning, design and decision-making in a transparent and open manner.

A competitive alternative system bidding process is beyond the scope of the EIR.

Response to Comment 18

Project cost analysis and/or financing is beyond the scope of this EIR. Such an analysis would be prepared in conjunction with assessment district formation for each phase of Project implementation. The latest preliminary information on the assessment district formation for Phase 1 may be found by contacting the City Public Works Department. See Question 11 of Project FAQs, dated July 21, 2014, available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>).

Response to Comment 19

Recycled water would be injected into wells located along Malibu Road. The volume of water to be injected into the groundwater basin was estimated based on build-out conditions calculated pursuant to the City's General Plan and Local Coastal Program, existing discharge records for other permitted treatment systems in the Civic Center Area, and applications on file with the City Planning Department, and include a factor of

safety to ensure that the estimated total influent at build-out would be conservative. The recycled water injection would increase hydrostatic head in the Civic Center Gravels (the primary aquifer in the Malibu Valley Groundwater Basin), inhibiting saltwater intrusion in the area of influence.

Response to Comment 20

The City would use development permitting (including managing parcel-specific wastewater allocations) in the Prohibition Area as a primary means of ensuring that wastewater to be generated by future development or redevelopment does not exceed the proposed Project's build-out capacity.

Response to Comment 21

Refer to the response to Comment 19 above.

Response to Comment 22

The thickness of shallow alluvium in the groundwater basin ranges from 0 to around 30 feet. The variations in thicknesses have been geologically mapped and those data incorporated into the groundwater flow model. Injections into the deeper Civic Center Gravels have been simulated and have been shown not to result in adverse impacts to shallow groundwater levels.

Response to Comment 23

Potential water quality impacts resulting from constituents of emerging concerns (CECs), which include pharmaceutical drugs, are addressed in Impact HWQ-1 in Section 4.7 – Hydrology and Water Quality, Operations Impacts, Injection and Percolation. This section explains that these same constituents are currently being discharged to the groundwater basin through the OWDSs, and that studies show that the MBR and disinfection technologies utilized by the Project would likely result in less than or similar levels of CEC discharges to the Malibu Valley Groundwater Basin and the Winter Canyon alluvium compared to those which occur under present conditions. In addition, recycled water injected in the groundwater basin would be traveling through soils before emerging offshore into the ocean. As with OWDSs, some measure of soil aquifer treatment may occur as the constituents travel through the aquifer.

Response to Comment 24

Heavy metals are not expected to occur in the Project influent or effluent. Municipal wastewater incorporates the characteristics of the source water used (in this case, imported water purveyed by Los Angeles Waterworks District 29), and as potable water supplies in the City do not contain heavy metals, the resultant municipal wastewater is not expected to contain heavy metals either.

Response to Comment 25

Refer to response to Comment 5 above.

Response to Comment 26

Corrosive soils are addressed in the Existing Conditions discussion of Section 4.5 – Geology and Soils. Potentially corrosive soils were identified at the proposed treatment facility site and the Phase 1 Legacy Park pump station site. Additional text has been added to these sections noting how these conditions would be addressed in terms of Project infrastructure design. No mitigation is required. The text has been revised to clarify that the tank would be hydrostatically tested for integrity as part of Project construction.

Response to Comment 27

The Project has been designed to account for corrosive soils. Additional text has been added noting how these conditions would be addressed in terms of Project infrastructure design. For example, sacrificial anodes would be used, as necessary, for metal underground structures. See Existing Conditions section in Section 4.5 – Geology and Soils. No mitigation is required.

Response to Comment 28

Refer to response to Comment 6 above.

R. L. Embree

23901 Civic Center
Malibu, CA 90265

July 28, 2014

Bonnie Blue
City of Malibu

Re: Civic Center Sewer and Proposed Sewage Treatment Plant Draft E.I.R.

Bonnie,

SITING – The proposed development’s structures and facilities, if approved, should be further set-back from Civic Center Way than depicted by current range-poles. Road widening of Civic Center Way and potential future uses for pedestrian shelter, bus-stop turn out, would be compromised by the proposed facility locations. Front yard setback should employ residential standards for this primarily residential and resident-serving community within Winter Canyon. The Zoning is incompatible with the proposed regional infrastructure and utility use – utility generation, utility treatment, and utility distribution -- is an inconsistent use for this residential neighborhood. Polluting facilities should NOT be concentrated or intensified. Extensive Carbon footprint-dependent pipe and pumping proposals creating inherently trouble-prone networking interdependence prone to failure.

1

ZONING – The proposed regional sewage treatment plant would intensify uses in the natural Winter Canyon area, and to the proposed site itself. Currently, sewage created by all of the shopping, retail, and office space abutting Cross Creek Road and Civic Center Way (east of Webb Way) is disposed without elaborate and electrical pumping to a distinctly-different geographic, topographic, and hydrologic area. The proposed piping and dependence on electric power would unnecessarily increase and transfer commercial development’s infrastructure and into a residential community area and unnecessarily increase and transfer those such as interruption of sewage delivery, sewage treatment and spillage of raw sewage to areas) to residential and non-commercially zones areas. The dumping of new commercial areas’ sewage into Winter Canyon constitutes exportation of negative impacts onto an established residential area with limited and insufficient mitigations.

WATER TABLE, LAND MOVEMENT AND EARTHQUAKE FAULTS

The proposed facility location would increase the water table and exacerbate the geologic instability of the area. One hundred fifty condominiums valued over \$600,000 are in the direct vicinity of the propose water table problem. Further, the reported underground water movement eastward to Malibu Lagoon (disputed) would increase due to the increase water loading to the ground as proposed by the project. The increased underground waterflows, and increase to water table, increase risks to existing residential real property in the immediate area, including 23901 Civic Center Way and the Maison de Ville condominiums.

2

NATURAL HAZARDS

Earthquake fault investigation and trenching depth are insufficient to accurately and fully assess the existence of earthquake faults to the site, and unknown faults, splays of faults, and data that show the proposed site unfit for the proposed purpose.

3

The proposed development is not the least environmentally damaging alternative because insufficient alternatives were considered, and many alternatives not studied, or arbitrarily excluded from study due to improperly-imposed constraints or limits to favor the proposed development location. Undeveloped property on Malibu Canyon Road northeast of Malibu Crest Drive was not considered but available, publicly-owned land, as well as SEPARATE parcels within the Civic Center flatlands (behind 23555 Civic Center Way = WAVE parcel) for portions of treatment or dispersal, or independent package plants.

4

SOCIO ECONOMIC

Malibu Canyon Village is the largest concentration of relatively-low income residential housing within a seven mile radius. The conversion and decommissioning of an existing sewage treatment asset, and imposing increased assessment costs for construction, operation, and maintenance, would impact lower-income residents of Malibu severely and cause economic cleansing from Malibu of a valuable contingent of workers and service providers to the local economy, disrupt human lives and lifestyle, and exclude similar economically-situated persons from traditional occupation of this existing residential area. Hyper-exploitation of politically vulnerable neighborhoods for commercial economic development on the other side of a ridgeline would degrade the quality of life of persons with already-degraded life experience of multi-family habitation to greater significance, and further marginalize social inclusion, and disenfranchise Winter Canyon-area resident from the mix of the Malibu community. The industrial nature of the regional utility facility would create a zoning-change adjacent use known to negatively impact quality of life and property value. The environmental injustice of such faulty urban planning is against the socio-economic minority of Malibu historically under-represented at the City level. The City's proposed siting seeks to take advantage of the neighborhood's political weakness, to the detriment of one neighborhood, to effectuate economic and developer interests of a commercial area that includes commercial income property owned by the City itself.

5

The City itself has warned of these uses in its own Press Release November 9, 2009, which I incorporate herein by reference and attachment.

6

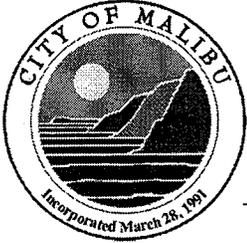
Waiver of Established Safety Standards, Protocols, and Policy

City Council Policy #4, Application of City Codes is violated by the current submission of concurrent LCP Amendment, Zoning, and Development approvals (to be granted by the City itself). The proposal is self-dealing, a conflict of interest by proposing otherwise prohibited development, and exemption from existing standards, and seeks roundabout circumvention of existing Malibu Municipal Code – Zoning & Building standards which contain safeguards (height, setback and intensification, lot coverage, regional uses) for consistency with adjacent residential uses; concurrent reclassification of facilities, that a private developer would not overcome or would be required to justify and provide substantially greater level of data, studies, and proof (zone change and amendment to Local Coastal Program).

7

Sincerely,

R. L. Embree



City of Malibu News

23815 Stuart Ranch Road • Malibu, California • 90265-4861
Phone (310) 456-2489 • Fax (310) 456-3356 • www.ci.malibu.ca.us

FOR IMMEDIATE RELEASE:

November 9, 2009

CONTACT:

Jim Thorsen, City Manager
(310) 456-2489 ext. 226
jthorsen@ci.malibu.ca.us

City of Malibu Explores Options in Response to Septic System Ban *Regional Board Imposes Expensive, Technically Infeasible Mandate*

Malibu, CA – The City of Malibu is weighing its options in response to the 5-2 vote of the Los Angeles Regional Water Quality Control Board (Regional Board) to prohibit septic systems in Malibu's Civic Center over the next six to 10 years, Malibu Mayor Andy Stern said Friday.

In casting its vote on November 5 for the prohibition on septic systems, the Regional Board rejected a more targeted and scientifically feasible wastewater treatment plan offered by the City of Malibu. The City's wastewater plan had garnered widespread support from the community, businesses and other stakeholders.

The Regional Board's action would:

- Prohibit existing commercial treatment systems from discharging after 2015
- Prohibit existing residential systems from discharging after 2019
- Prohibit any new discharge within the Regional Board defined prohibition area

Among other options, the City is considering a request to the State Water Resources Control Board to reject the Regional Board's ban on Malibu's septic systems at an upcoming State Board meeting.

"The City of Malibu has a strong history of protecting the environment, and we stepped forward with an effective solution that received strong support from the community and stakeholders," said Stern. "We are very disappointed the Regional Board didn't see the value and the benefits of the City's wastewater treatment plan. The Regional Board's septic ban is like a doctor operating on the wrong arm," he said. "It appears to leave the city only two options for compliance: either have an ocean outfall or put the flows back into the Malibu Creek groundwater, which is exactly what we were trying to avoid." Before the Regional Board's vote on Thursday, the City of Malibu proposed a smaller wastewater treatment facility that targeted the highest users with the potentially highest impact to the watershed. Phase 1 was specifically aimed at the commercial properties in the Civic Center area and Phase 2 included the residential areas in Serra Retreat. The plan also would have required disinfection systems at three key beach zones, including the Malibu Colony. The entire system would be completed and operating by 2018.

"The City of Malibu worked collaboratively with Regional Board staff and stakeholders to develop an achievable and effective solution," Stern said. "We had already been moving aggressively forward to pursue this targeted wastewater treatment system. Unfortunately, we must now consider

other options because the wastewater treatment system required by the Regional Board's action does not appear to be scientifically or economically feasible."

Scientific experts provided testimony before the Regional Board on Thursday about emerging data and scientific studies. An independent study by the University of California, Los Angeles (UCLA) found virtually no human bacteria markers -- even when the beach had extremely high bacteria counts. In addition, four other new studies on ocean water quality and bacteria levels are expected to be completed in the next six to nine months. These studies will provide significant findings to help guide the City of Malibu and the Regional Board to ensure their actions will improve water quality and protect the public's health.

"Even before it proposed the wastewater treatment system, the City of Malibu was spending more per person on water quality than any other city in California," said Stern. "Clearly, the City of Malibu is committed to improving ocean water quality and protecting public health. The prohibition action taken by the Regional Board is stepping backward in our clean water efforts."

The City of Malibu is moving aggressively to improve ocean water quality by launching construction in September of Legacy Park and the Paradise Cove Stormwater Treatment Facility. Both are important milestones in the City's more than \$50 million commitment to clean water.

The City of Malibu was incorporated on March 28, 1991. Located in northwest Los Angeles County, the City has 21 miles of coastline along the Pacific Ocean and a population of 12,575. For more information on the City and the Legacy Park project, please visit <http://www.ci.malibu.ca.us/> and <http://www.malibulegacy.org/>.

###



Response to July 28 Comment Letter from Ryan Embree (C-4)

Response to Comment 1

Buildings on the treatment plant site have been positioned based on operational constraints and requirements set forth by the City, Los Angeles County Fire Department and other approving agencies. As designed, the Project meets setback requirements set forth by the City in the proposed LCP amendment and City ordinances. However, the electric/blower room building has been moved an additional five feet back from Civic Center Way property line. A revised site plan has been incorporated as Figure 3.7 into Chapter 3 – Project Description. Given these constraints and with this alteration, the Project has provided the greatest setbacks from Civic Center Way feasible.

The proposed treatment facility site is presently zoned CV-1, and although multi-family development is situated nearby, other commercially and institutionally zoned parcels immediately surround the site. The site is already in use for a wastewater treatment facility. The proposed Civic Center Wastewater Treatment Facility Institutional Overlay District development standards would ensure that the Project incorporates design and operational features that enhance its compatibility with surrounding uses, such as siting facilities underground as much as possible, including landscape screening, minimizing lighting, avoiding and restoring environmentally sensitive habitat. The Project would not result in significant adverse impacts with respect to land use. Additionally, while the treatment plant would be located in the Winter Canyon area, the regular disposal of treated effluent would occur outside of Winter Canyon and in the Malibu Valley Groundwater Basin.

Response to Comment 2

Measured depth to groundwater within Winter Canyon ranged from around 12 feet in the area adjacent to Malibu Road to 50 feet at the northern end of the canyon (where the treatment facility would be located). Percolation ponds and seepage pits at the treatment facility site would be used intermittently as part of facility operations and provide redundancy for recycled water dispersal, and therefore would have a small increase in groundwater levels in Winter Canyon. Furthermore, while the percolation ponds would be a new facility, the seepage pits at the proposed treatment facility site are currently in use along with leach fields and other seepage pits elsewhere in Winter Canyon that are part of ongoing offsite wastewater treatment operations.

As noted in the comment, one potential impact of the proposed Project is the potential to increase liquefaction (“geologic instability” in the comment). This potential impact was addressed in Section 4.5.2 in Section 4.5 – Geology and Soils; see Impact GEO-3. Geotechnical studies identified potentially liquefiable soils within the treatment facility site; however, based on site inspections, the potential for soil liquefaction-induced lateral spreading at this site is considered low as the potentially liquefiable soil layer is not continuous and liquefiable lenses are relative deep, approximately 10 to 25 feet below the ground surface. Furthermore, depth to groundwater at the location of the proposed percolation ponds is 30 feet or more, and percolation at this location would

not elevate these water levels such that they would increase the potential for liquefaction.

Response to Comment 3

The data collected and evaluated to assess potential earthquake faults at the project site were determined to be sufficient by the licensed professionals conducting the analyses and the independent review of those analyses by the City's engineer. The City Geologist has reviewed the reports prepared by the Project Geotechnical Consultant, GeoSyntec, Inc., and on August 30, 2014, determined that Phase 1 of the Project complies with all applicable Local Coastal Program requirements found in Local Implementation Plan (LIP) Chapter 9 pertaining to Hazards, including geologic and seismic hazards.

Response to Comment 4

The range of alternatives discussed in an EIR is governed by the "rule of reason," which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. Pursuant to CEQA Guidelines Section 15126.6(f)(1), a determination of feasibility may consider site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can acquire, control or otherwise have access to the alternative site. The EIR is not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and would not achieve the basic project objectives. Sections 5.3.1 through 5.3.4 of Chapter 5 – Comparison of Alternatives provide an evaluation of each feasible alternative and the reasons they were rejected.

The proposed Project site was selected based on a series of factors, including the proposed site's current use as a wastewater treatment plant, the parcel size, and the parcel's willing seller. The undeveloped property on Malibu Canyon Road referenced in the comment (APN 4458-023-903), just northeast of Malibu Crest Drive, does not appear to be a more suitable location than the proposed treatment facility site. It too is proximate to residences, and is located at a significantly higher elevation (which would require more pumping of wastewater and therefore additional collection system pump stations and higher energy use). This parcel consists primarily of steep slopes, which would be expected to significantly increase landform alteration associated with plant construction and could potentially have increased slope instability issues. According to the LCP's Environmentally Sensitive Habitat Area (ESHA) Map, the property is entirely mapped as ESHA, as compared to the proposed site, which has a small area of sensitive habitat. Since this location would not reduce Project impacts, CEQA does not require that it be evaluated.

Multiple package plants situated around the Civic Center area are not likely to result in fewer impacts than the proposed Project, and may, in fact, increase impacts due to the larger area covered by the Project. Additionally, multiple package plants would increase

project operation and maintenance costs as there would be multiple units in multiple locations to maintain.

Response to Comment 5

Socioeconomic issues are beyond the scope of this EIR. However, no residential units would be removed or residents displaced by the proposed Project directly. The City is sensitive to the costs the Project would place on residential property owners; however, it is speculative to suggest that persons or homes would be indirectly displaced as a result of the Project.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process as they are beyond the scope of this EIR.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City.

The proposed treatment facility site was chosen for a variety of reasons, as discussed above in Comment 4. The Project is expected to improve the quality of the surrounding area by facilitating the removal of four wastewater treatment plants that are not visually screened and odor scrubbed, and which use inferior treatment technology (including the existing privately-owned treatment facility on the proposed site, the County-operated treatment plant across the street that serves the four condominiums, and the OWDSs serving Webster Elementary School and Our Lady of Malibu). The EIR concludes that, as designed and conditioned, no significant adverse aesthetic impacts would result from the Project.

Response to Comment 6

The November 9, 2009 press release reflects the City's position prior to effectuation of the Prohibition, and perhaps more importantly, prior to the existence of the modeling and studies performed in order to determine the feasibility and potential for environmental impacts from deep well groundwater injection of recycled wastewater. As described in Section 4.7 – Hydrology and Water Quality, and in the supporting Appendices G1-G5, the proposed Project will not result in significant adverse surface or groundwater quality impacts.

Response to Comment 7

The response to Comment 1 describes how the Project would not conflict with surrounding land uses and existing zoning. The proposed LCPA/ZTA is being processed concurrently with the EIR and other Project entitlements, including a coastal development permit and conditional use permit. City land use and zoning regulations only allow for land use and zoning text amendments when all the specified findings can

be made. In this case, substantial evidence supports the required findings. Furthermore, the LCPA would have to be certified by the California Coastal Commission before the coastal development permit would become effective.

Bonnie Blue

From: Jim Thorsen
Sent: Wednesday, June 04, 2014 7:19 AM
To: Steve Clary
Cc: Bonnie Blue
Subject: Fwd: Why am I not surprised
Attachments: image001.png

RECEIVED
JUN 04 2014
PLANNING DEPT.

Jim Thorsen
City Manager
City of Malibu

Begin forwarded message:

From: Hans Laetz <hanslaetz@gmail.com>
Date: June 4, 2014 at 7:08:55 AM PDT
To: Jim Thorsen <JThorsen@malibucity.org>
Subject: Re: Why am I not surprised

Jim, thank you for your reasoned and thoughtful reply.

There are two major problems:

First, even the Draft EIR says the aquitards are discontinuous and cannot be presumed to perform any isolation between groundwater zones. The Draft EIR warns that pumping the water under greater gravity pressure could cause daylighting. Your original presumption that the aquitards would seal the injected water and prevent upward flow has been proved incorrect by the draft EIR.

1

But much more importantly, your statement that the fault would not be affected by the water may be right. It may not be right. Either way, your hypothesis must be examined in the Draft EIR. The effect of non-high-pressure injected by gravity flow into an inactive fault -- that in the geologic time scale was active just an eyelash ago -- must, must MUST be examined in the Draft EIR.

2

It was brought up in scoping, Jim, and the CEQA says you MUST (not optional) discuss it in the Draft.

Under CEQA and settled California case law, items raised at scoping must be reasonably addressed in the Draft.

The City repeatedly fails to follow that simple process, Jim, and you deprive Malibu residents of a chance to examine and comment on the findings at the draft stage.



You may be right on the hydrology. I might be right. Either way, I am entitled to see your findings on this specific point in the CEQA draft EIR.

And thank you for the illustration. It confirms my understanding, that that the presence of the major fault bisecting the recharge zone has not been given any serious consideration whatsoever. What kind of major omission is that?

Hans

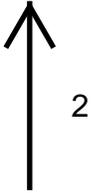
- As we have discussed before, fracking, and lubrication of fault lines would require injection pressures of several thousand psi. The project does not require any drilling into the bedrock and does not require injection of high pressure water. In addition, there are no active faults within this region nor is the existing Malibu Coastal fault identified in the Alquist-Priolo Act.

On Tue, Jun 3, 2014 at 11:43 AM, Jim Thorsen <JThorsen@malibucity.org> wrote:

Hello Hans,

I have no idea what you are referring to when you are talking about watertight aquitards preventing water from reaching the faults?? ... as that does not make any sense to me. It appears that you are combining issues and discussions that are not interrelated. I did tell you that the injected water does not penetrate the bedrock, perhaps that is what you are referring too? For reference:

- The aquitard layer separates the upper groundwater zone from the lower groundwater zone (which is where the injection will occur). This layer prevents the groundwater in the upper zone from rising more than a few inches due to injection in the lower zone.
- Because the injection pressure is so low, on the order of a few psi, there is insufficient pressure to push the water "into" the bedrock. The injected water follows the path of least resistance, which is horizontally towards the ocean. Because the gravels of the old stream bed and above the bedrock, it takes very little pressure to 'push' the water towards the ocean. The McDonald Morrissey model predicts the flow and travel path for the injected water.



Response to June 2 and 4 Comment Letters from Hans Laetz (C-5)

Response to Comment 1

The EIR does not state this.

Response to Comment 2

As stated Impact GEO-1, page 4.5-16 of Section 4.5 – Geology and Soils, induced seismic activity (induced seismicity) is a phenomenon generally associated with injection of liquids at considerable depth below the ground surface (i.e., injection at depths reaching thousands of feet) and at high injection pressures (i.e., pressures in excess of several thousand pounds per square inch). This is based on technical experiences documented in professional journals. The treated effluent injection wells to be included as part of the Project are relative shallow (up to approximately 150 feet below ground surface) and injection pressures are considered to be very low (approximately 5 psi). Additionally, injection testing was conducted in the vicinity of the proposed injection wells locations, and these tests did not result in any induced seismicity.

MICHAEL E AND SUZANNE S TENNENBAUM
23318 MALIBU COLONY ROAD
MALIBU, CA 90265

Letter C-6

July 16, 2014

Via Federal Express

City of Malibu Planning Department
23825 Stuart Ranch Road
Malibu, CA 90265

RECEIVED

JUL 17 2014

PLANNING DEPT.

Attn: Bonnie Blue, Senior Planner
(310) 456-2489, Ext. 258
bblue@malibucity.org

Dear Ms. Blue,

Pursuant to the application for public hearing filed on May 31, 2014 and posted on July 10, 2014, we are writing to oppose vehemently the proposed Malibu Civic Center wastewater treatment facility project, draft environmental impact report no. 13-001.

As residents of Malibu Colony, we oppose this plan because we believe such development will cause grave detriment to our community.

- 1) It is our belief that the proposed percolator ponds and groundwater injection wells may aggravate existing fault lines, thus potentially undermining our already fragile geology. | 1
- 2) The onsite wastewater disposal systems (OWDSs) in Malibu Colony generally have been upgraded in conformance with City planning and sanitation codes and are not causing pollution. They are adequate for existing use. Sewer fees would be an unfair additional expense. | 2
- 3) The construction of the treatment facility will cause residents great inconvenience and disruption of traffic on already congested and crumbling roads servicing Malibu. | 3
- 4) The waterfront homes east of Malibu Pier probably are the cause of any wastewater problems, and could be required to use individual treatment equipment where needed. Yet, they are not required to be part of this plan. Why not? | 4

Please provide the scientific evidence that has been used to justify this treatment facility, and please provide it under penalty of perjury.

We thus respectfully submit our opposition to the proposed wastewater treatment facility.

Sincerely,

Michael E Tennenbaum

Suzanne S Tennenbaum

MET:sjk

Response to July 16 Comment Letters from Michael and Suzanne Tennenbaum (C-6)

Response to Comment 1

See Impact GEO-1, page 4.5-16 of Section 4.5 – Geology and Soils. The EIR concludes that the percolation ponds would have no significant adverse impacts with respect to seismic or other geologic hazards.

Response to Comment 2

As noted in Section 2.1 of Chapter 2 – Introduction, the proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City.

Response to Comment 3

Any construction in traveled roadways causes impacts; however, these impacts are temporary in nature. Project design features, such as directional drilling under busy intersections in lieu of trenching, and other construction-related measures, such as the use of a traffic control plan, would be implemented to reduce these impacts to a less than significant level. The analysis of construction-related impacts on traffic is described in Section 4.15.2 (page 4.15-4) of Section 4.15 – Transportation and Traffic in the EIR.

Response to Comment 4

Refer to the response to Comment 1. All waterfront homes located within the Prohibition Area are included in the proposed Project.

RECEIVED

JUL 21 2014

PLANNING DEPT.

July 21, 2014

Bonnie Blue, AICP, Senior Planner
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

Re: Item 6E Planning Commission July 21, 2014

Dear Senior Planner Bonnie Blue,

I am writing my formal comments regarding the meeting tonight pertaining to the draft EIR for the waste water treatment facility in the Civic Center area.

Thank you for addressing the Maui nutrient issue regarding the waste well injections there that are killing the reefs and causing people to be sickened.

I would like to address pharmaceuticals, steroids, hormones and fire retardants that I don't believe were injected into our ancient creek bed 60,000 years ago.

Nowhere in this draft EIR nor in this presentation tonight did I hear anything about this potential human health hazard. What will the dilution rates of the pharmaceuticals, steroids, hormones and fire retardants be before they enter the open ocean?

1

I would appreciate these questions answered.

Thank you,
Wendi Dunn
wernerdesign@verizon.net
310-924-1518

Response to July 21 Comment Letter from Wendi Dunn (C-7)

Response to Comment 1

CECs are addressed starting in Impact HWQ-1 in Section 4.7 – Hydrology and Water Quality, Operations Impacts, Injection and Percolation. Constituents of emerging concern (CECs) are addressed starting in Impact HWQ-1 in Section 4.7 – Hydrology and Water Quality, Operations Impacts, Injection and Percolation. This section explains that these same constituents are currently being discharged to the groundwater basin through the OWDSs, and that studies show that the MBR and disinfection technologies utilized by the Project would likely result in less than or similar levels of CEC discharges to the Malibu Valley Groundwater Basin and the Winter Canyon alluvium compared to those which occur under present conditions. In addition, recycled water injected in the groundwater basin would be traveling through soils before emerging offshore into the ocean. As with OWDSs, some measure of soil aquifer treatment may occur as the constituents travel through the aquifer. Dilution rates are addressed in Appendix G1

JUL 28 2014

PLANNING DEPT.

Steve Uhring

Letter
C-8

The primary objective of this project is to reduce the bacteria and the nitrogen being deposited in the lagoon and in the ocean. Yet nowhere in this EIR does it tell us that we are actually achieving that objective.

I am requesting that the EIR clearly identify the reductions in Bacteria and nitrogen that we will achieved as each phase of the plan is implemented. Detailing bacteria and nitrogen reductions by phases will allow us to demonstrate that we are actually solving a problem, and will also allow us to compare the investments needed to complete each phase with the commensurate reduction in pollutants. The plan should also include a measuring mechanism that will compare what we project the reduction in pollutants to be, to what is actually achieved.

1

Before it is finished this project is going to cost upwards of \$60 Million. It will tear up our streets, it will inconvenience homeowners, and construction traffic in the Civic Center will negatively impact everyone who goes there.

Residents required to connect to the sewer will pay a hefty price. \$180K to bring the sewer line to the street in front of their house, another \$10 to \$60K to run a line from their house to the street, a monthly sewer fee (initially projected at \$500 per month) and some fee for recycled water. Add that up and we are looking at a numbers in the \$250K plus range. I can assure you that there are some families up on the Knolls who have lived there forever who are going to have a very difficult absorbing that cost.

2

If the residents are being put through all that pain and agony, we deserve to know if we are actually accomplishing something.

Most importantly understanding the reduction in pollutants we will achieve at each stage of the project will help us determine if less expensive, less invasive alternative solutions might be equally or more effective in achieving our objective of cleaner water.

3

One of the deficiencies in this EIR is that it fails to explore other viable solutions that would reduce pollution. I believe this deficiency is the result of inaccurate and purposely misleading statements by our City Officials, suggesting that there is only one solution to this problem.

For example, here is a comment from City Manager Jim Thorson that was included in a informational document he prepared for last Monday's City Council meeting. Jim says **"The City has been mandated by the State Water Resources Control Board to plan and implement a municipal wastewater treatment system in the Civic Center."**

That is simply not true. The septic discharge ban did not mandate a sewer nor did it prohibit septic systems as a solution.

4

Would zero discharge septic systems produce the same clean water results we expect to get from the proposed sewer? Or maybe a combination of a sewer for the commercial owners and zero discharge septic systems for the residents would give us reductions in pollutants equivalent to what is projected for the sewer. Either one of those alternative solutions would be less expensive, less invasive and easier to implement. Yet nothing but the sewer solution is covered in this EIR

So again, once we know how effective the sewer system will be a cleaning the water we can use that information to evaluate the viability of some of these other solutions.

As a final note it the City is unable to tell you of the specific benefits we will get as each phase of this proposed solution is implemented, then I think you would be safe in concluding that this project should have never gotten this far.

Response to July 28 Comment Letter from Steve Uhring (C-8)

Response to Comment 1

Monitoring would be conducted to quantify these reductions. The scope of the monitoring program would be set forth in project permits. Also please note that all effluent from the plant would be disinfected. Anticipated reductions in nitrogen loads to the groundwater basin are described in Appendix G2.

Response to Comment 2

The City is sensitive to the costs the Project would place on residential property owners. However, it is speculative to suggest that homeowners would be displaced and that access to visitor-serving uses would be affected.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process as they are beyond the scope of this EIR.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City, as well as disruption of visitor-serving uses. The monitoring that would be required for the Project as part of WDR/WRR permit conditions would document the benefits resulting from the Project.

Response to Comment 3

See response to Comment 1.

Response to Comment 4

The municipal system was selected as the most cost-effective way of responding to the requirements of the orders set forth by the SWRCB and LARWQCB.

Other alternative technologies were considered for Phase 1 but were rejected as infeasible, and therefore, were not evaluated in Chapter 5 of the EIR. These alternatives systems included the following:

Vacuum System

In nearly all of the Phase 1, 2, and 3 areas, there would be sufficient depth to groundwater to allow use of conventional gravity sewer and pump stations for wastewater collection and conveyance to the treatment plant. Nearly all of the planned pump stations would have static lifts greater than the 13 foot static lift generally achievable with vacuum pump stations. The widespread use of a vacuum sewer system would require more vacuum pump stations than conventional pump stations, which would increase the capital and operational costs of the system.

A vacuum sewer system could be a viable alternative in the Malibu Colony area, where the groundwater level is a few feet below the ground surface, the ground is relatively flat, and poor soil conditions result in difficult trenching conditions. This area is within Phase 2 and Phase 3 of the Prohibition Area and has not yet been designed in detail. When these phases of the Project are undertaken, project-level CEQA document(s) describing the proposed type of collection system for this area would be prepared. These project-level EIR(s) would tier off this programmatic EIR. A vacuum sewer was determined to be infeasible for Phase 1 due to the additional capital and operational costs.

STEP/STEG System

STEP/STEG collection systems use a septic tank at each property to attenuate the peak flow rate from the property and to settle the solids out in the tank prior to delivering wastewater to the public sewer line or other location for treatment. For this Project, the septic tanks would need to be water-tight to ensure that brackish (i.e., salty) groundwater does not enter the system. A small degree of brackish water intrusion would increase the salt concentration (TDS) in the recycle water, limiting its usability. Even in areas where brackish groundwater is not an issue, the septic tanks of a STEP/STEG system would need to be water-tight to prevent rainwater infiltration in order to minimize the amount of collected water to be treated. Most of the septic tanks currently in place in Malibu are likely not water-tight as they were constructed for use with an associated leach field, and water-tight construction is not typically required for that application. Therefore, most property owners would have to replace their existing septic tanks if a STEP/STEG system were used in the proposed Project. This cost would be borne by the private property owners, and thus would increase the (preliminary) estimated total cost of the Project to each property owner even further. Additionally, because a STEP/STEG system settles sewage solids in the individual septic tanks, it would reduce the amount of organic carbon that would be received at the treatment plant. However, organic carbon is needed at the treatment plant to achieve the denitrification that would be required by the LARWQCB. Thus, use of a STEP/STEG system would increase the amount of supplemental carbon that would have to be purchased and added at the treatment plant, thereby increasing the operating cost of the plant. For these reasons, a STEP/STEG system was determined to be infeasible and was not recommended for this Project.

Decentralized System

A decentralized treatment alternative was considered and dismissed. At present, individual OWDSs within the Prohibition Area provide varying levels of performance. The ability to upgrade and regulate these systems (approximately 600) would be difficult and costly, would result in tremendous energy demand, and would not necessarily ensure that the resultant treated effluent would meet discharge standards. The ability of the City to achieve this is speculative.

Additionally, an alternative which would keep the OWDSs in place and collect and dispose of the treated effluent from the individual OWDSs would still require the design and construction of a collection and disposal system, including pipelines, pump stations and injection wells, seepage pits and/or percolation ponds. This alternative would

expand the physical area affected by the proposed Project and would therefore likely expand the resulting impacts. A decentralized treatment alternative is unlikely to avoid or substantially lessen any of the proposed Project's impacts; therefore, this alternative was rejected from further consideration.

Additionally, per communications with the LARWQCB, "zero discharge septic systems" do not result in zero discharges and, therefore, are covered by the SWRCB and LARWQCB orders prohibiting discharges from OWDSs within the Prohibition Area.

Christy Rector

From: anne payne <anne.payne@me.com>
Sent: Monday, July 28, 2014 5:30 PM
To: Bonnie Blue
Cc: Christy Rector
Subject: Fwd: Comments for the EIR, Wastewater Treatment Project

RECEIVED
JUL 28 2014
PLANNING DEPT.

Begin forwarded message:

From: anne payne <anne.payne@me.com>
Subject: Comments for the EIR, Wastewater Treatment Project
Date: July 28, 2014 at 4:50:35 PM PDT
To: bblue@malibu.city.org

From: anne payne <anne.payne@me.com>
Subject: Follow up comments for the Planning Commissioners, City of Malibu, Wastewater Treatment EIR
Date: July 28, 2014 at 4:47:38 PM PDT
To: bblue@malibu.city.org

From: anne payne <anne.payne@me.com>
Subject: Draft EIR CIVIC CTR WATER TREATMENT PROJECT
Date: July 28, 2014 at 4:42:05 PM PDT
To: bblue@malibu.city.org

Follow-up to the Malibu City Planning Commission Hearing of 7-21-14:

From: Anne Payne, resident of area adjacent to the Civic Ctr.
3507 Cross Creek Lane, Malibu, CA 90265.
Dear Ms. Blue,

I heartily thank those Planning Commissioners who questioned the EIR consultant with regard to the economic impact of this proposed project upon the citizens who live in the condos or the homes in and around the Civic Ctr. of Malibu. This could be a disastrous outcome for the future of our City's heart with the loss of homes by many who will not be able to absorb the cost of the waste water mandate !
Secondly: Doubt has been cast upon the actual, proven, scientific need for all households to be required to join the commercial wastewater treatment plant. Residents of Serra Retreat have not been shown scientific data which proves that the nearby homes are contributing to the in-put into Malibu Creek nor the Malibu

Lagoon.

RECEIVED

JUL 28 2014

PLANNING DEPT.

Since this project was first proposed by the Regional Water Board, the basic accusations about the wastewater as it has been handled by the septic systems have changed from bacteriological to chemical ; when it was not proven that human waste was affecting the stream, the focus then changed to various elements such as nitrates and phosphates. Are we to continue to try to blame the local residences for every entry on the chart of the elements or can we rely on actual science which establishes a baseline and sets goals and standards which are scientifically measurable ?

1

Thirdly: The geographic location of the proposed treatment plant has not been proven to be the BEST locale for the City, but rather, a convenient location !

Winter Canyon is famous for its strong odor as it is presently quite saturated and requires constant pumping . How can this small, fragile area add more volume and demand to its already over-abundant usage?

2

Winter Canyon is now the location for two schools and a church, in addition to some commercial use. The proximity to the public and private schools seems to be a law suit waiting to be filed by the parents of the students who would be affected by the materials being treated, the traffic to handle the vast volume and the unknown outcome during natural disasters which affect the small, canyon proposed to handle this load for an enlarged commercial and residential capacity !!

My fourth and largest concern is the fact that there are not outstanding, functional models for this kind of treatment in a setting as special as Malibu . Why must Malibu be the "Guinea Pig" community ? Would this kind of expensive and unproven science experiment be proposed if we were living in Pacoima or in Oakland ? NO, because we are thought to be affluent as well as effluent !

3

Fifth point to be made is the possible loss of the historic town which we have. The Serra Retreat Center represents a unique center for social needs, such as daily AA meetings, drug abuse counsel, marriage and mental health healing and spiritual gatherings. How can this proposed project possible be tolerated by the non-profit, historic place at the top of the Serra Retreat hill? It cannot withstand the financial burden of the proposed treatment mandate ! We all lose the historic connection to Malibu's past !

4

I submit these concerns to each Planning Commissioner as well as the Members of the City Council as public comment by an individual who regrets to have to beg for our City to survive this reckless, mandated project for its citizens !

M. Anne Payne, 310-456-3507

Response to July 28 Comment Letter from Anne Payne (C-9)

Response to Comment 1

The City is sensitive to the costs the Project would place on residential and other property owners. However, it is speculative to suggest that homeowners or property owners would be displaced.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process as they are beyond the scope of this EIR.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. Failure to comply with these orders could result in fines being levied against the property owners and the City.

Response to Comment 2

Through build-out, the Project would facilitate the removal of four wastewater treatment plants that are not visually screened and odor scrubbed, and which use inferior treatment technology (including the existing onsite Winter Canyon treatment facility, the County-operated treatment plant across the street that serves the four condominiums, and the OWDSs serving Webster Elementary School and Our Lady of Malibu). The EIR concludes, that as designed and conditioned, no significant adverse aesthetic impacts would result from the Project.

The range of alternatives discussed in an EIR is governed by the “rule of reason,” which requires the identification of only those alternatives necessary to permit a reasoned choice between the alternatives and the proposed project. An EIR need not consider an alternative that would be infeasible. Pursuant to CEQA Guidelines Section 15126.6(f)(1), a determination of feasibility may consider site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries, and whether the proponent can acquire, control or otherwise have access to the alternative site. The EIR is not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation, and would not achieve the basic project objectives.

The Project site was selected because:

- The site has sufficient land area to locate treatment facilities for all phases of the Prohibition order. The treatment plant “footprint” for all three phases would be approximately 2.5 acres.
- The site overlays the Winter Canyon groundwater basin, which is distinct from the Malibu Valley Groundwater Basin underlying the rest of the Civic Center. This would allow for redundant disposal capacity for the Project by allowing some of the fully treated recycled water to be disposed of on the treatment plant site itself, rather

than just through recycled water use and deep well injection in the Malibu Valley Groundwater Basin.

- The proposed use is similar to what is existing on the site today, but would utilize more advanced technology, with fully odor-scrubbed and visually screened facilities.
- The site is located outside the 100 year flood zone, avoiding the cost of flood-proofing the treatment facilities.
- The site has a willing seller.

Other sites considered did not possess this combination of characteristics, and did not reduce potential environmental effects. Sections 5.3.1 through 5.3.4 of Chapter 5 – Comparison of Alternatives provide an evaluation of each feasible alternative and the reasons they were rejected. An alternative feasible site, the Wave Property, was analyzed in Section 5.3.3 of Chapter 5 of the Final EIR. An additional site has also been analyzed in this response to comments; specifically, an undeveloped property on Malibu Canyon Road owned by the Santa Monica Malibu Unified School District (APN 4458-023-903), just northeast of Malibu Crest Drive. This additional site does not appear to be a more suitable location than the proposed site. Like the proposed treatment plant site, it too is proximate to residences, and is located at a significantly higher elevation (which would require more pumping of wastewater and therefore additional collection system pump stations and higher energy use). This parcel consists primarily of steep slopes, which would be expected to significantly increase landform alteration associated with plant construction and could potentially have increased slope instability issues. According to the LCP's Environmentally Sensitive Habitat Area (ESHA) Map, the property is entirely mapped as ESHA, as compared to the proposed site, which has a small area of sensitive habitat. Since this location would not reduce Project impacts, CEQA does not require that it be evaluated.

Potential impacts pertaining to hazardous materials and traffic/transportation were evaluated in Sections 4.06 and 4.15, respectively, and found to be less than significant. As discussed in the Project Description (Chapter 3), the Project includes a Traffic Control Plan (see the description in Section 3.4.3, fourth bullet). The City is willing to provide the Traffic Control Plan to Webster Elementary and Our Lady of Malibu School, and to coordinate schedules to minimize traffic impacts.

Response to Comment 3

Centralized wastewater collection and treatment systems are very common in California, as is the use of the proposed treatment technology. In fact, the City of Oakland's sewage is collected from homes and businesses by privately-owned sewer laterals, such as those to be installed by Malibu residents as part of its Project connection, with wastewater carried via East Bay Municipal Utility District's (EBMUD's) interceptors (large pipes) to their treatment plant site, also located in Oakland. Some of EBMUD's treated effluent is reused in their service area for landscape irrigation (as is proposed for the subject Project); however, the majority of EBMUD's treated effluent is discharged via an outfall into San Francisco Bay and receives lower levels of treatment than is proposed for Malibu.

Response to Comment 4

Please refer to the response to Comment 1.

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Letter C-10

July 27, 2014

RECEIVED
JUL 28 2014
PLANNING DEPT.
2:18pm

FROM: HANS W. AND ANNELIESE KNUR AND UNDERSIGNED
RESIDENTIAL PROPERTY OWNERS

TO: BONNIE BLUE, SENIOR PLANNER, CITY OF MALIBU

TO: JOYCE BOZYLINSKI, PLANNING COMMISSION DIRECTOR,
CITY OF MALIBU AND ALL MEMBERS OF THE PLANNING
COMMISSION

TO: MAJOR OF THE CITY OF MALIBU AND MALIBU CITY COUNCIL
MEMBERS

TO: SAM UNGER, EXECUTIVE DIRECTOR OF REGIONAL WATER
QUALITY CONTROL BOARD, LOS ANGELES REGION
REGION 4)

TO: TOM HOWARD, EXECUTIVE DIRECTOR, STATE WATER
QUALITYRESOURCES CONTROL BOARD

RE: DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR), MALIBU
CIVIC CENTER WASTEWATER TREATMENT FACILITY PROJECT
SCH 2013111075

Dear Sirs and Madams:

We respectfully submit our comments to the DEIR of the Malibu Civic Center Wastewater Treatment Facility Project prepared for the City of Malibu by ICF International and dated June 2014.

We are residential property owners in the Serra Canyon area whose properties are included in Phase 2 of the prohibition of Onsite Wastewater Disposal Systems (OWDS) imposed in three phases in the Malibu Civic Center area. We are opposed to the project as recommended for the reasons cited below. We urge you to deny the permits and approvals applied for.

1. IDENTIFY MAJOR POLLUTION SOURCES

Serra Canyon abuts Malibu Creek and the Malibu Lagoon in the Malibu Civic Center area. The prohibition is based among other allegations on the premise that septic systems in Serra Canyon are a source of pollution in Malibu Creek. However, studies done by the United States Geological Survey and the City of Malibu conducted by reputable scientists (Izibicki et al 2012 and Stone 2004) found the contrary. A study of thirteen privately and city owned wells in Serra Canyon and of Malibu Creek waters was completed in May, 2014. Authorized by the Serra Canyon Property Owners Association (SCPOA) and conducted by CITADEL ENVIRONMENTAL SERVICES, Inc., this study also found no evidence that Serra Canyon septic systems are contributing to the degradation of waters in Malibu Creek with regard to the alleged and tested constituents Nitrates, Nitrites and Ammonia.

Based on these findings and in the opinion of a number of scientists familiar with the situation there must be other sources of pollution. The major source may well be found in effluent discharges into Malibu Creek for fifty years by the Tapia Sewage Treatment Plant. The plant serves hundreds of thousands of homes in the upper Malibu Creek watershed and discharges still continue to this day despite the prohibition on septic systems in the Malibu Civic Center area.

Some of us moved to Serra Canyon fifty years ago when Tapia started operations and fish thrived in Malibu Creek during the winter months. Now you will find excessive algae growth during the winter months or whenever Tapia effluents are released, and no fish in Malibu Creek. Apparently fish don't thrive in treated effluent.

According to experts, there could be other sources of pollution like the birds in the Malibu Lagoon, commercial septic system discharges from the civic center area, discharges by other downstream users, and naturally appearing contaminants from the soils. It is highly unlikely that approximately eighty homes in a sparsely populated area like the Serra Canyon area are the culprits.

2. TEST GROUNDWATER BETWEEN PHASE 1 AND PHASE 2

The Memorandum of Understanding (MOU) between the Regional Water Quality Control Board (RWQCB) and the City of Malibu prohibits discharges from OWDS and requires that Malibu Civic Center property owners be connected to a central Wastewater Treatment Facility to be built in three phases. Our properties are included in Phase 2 of the project.

A water quality sampling program is stipulated in the MOU after completion of Phase 2 but not after completion of Phase 1. After spending more than \$50,000.000 of taxpayer's funds one would expect that the authorities in charge would want to know the outcome of this exercise. If Malibu Creek water quality improved after completion of Phase 1, there would be no justification to implement Phase 2 and spending more of taxpayer's money. To us it looks more like Phase 2 is supposed to help defray the infrastructure costs of implementing Phase 1.

We don't like this approach and request that a water quality sampling program be conducted after each phase and that other options be explored to solve the Malibu Creek water quality issue.

3. THE COST OF IMPLEMENTING A SEWER SYSTEM PLANT AS PROPOSED IN THE DEIR IS EXCESSIVE IN THE EXTREME AND UNREASONABLE

Serra Canyon homes are built in mountainous terrain, not in densely populated flat terrain, where sewer systems are usually built and most cost effective. Cost effectiveness is not addressed anywhere in this DEIR as if the cost of this massive infrastructure project is of no importance. Of course, we are not talking about public funds being expended here. No, we are talking exclusively about money individual property owners will have to pay.

While commercial property owners in Phase 1 may need and want a sewer system at any price to allow for the massive expansion planned in the Civic Center area, homeowners like us do not have the intention or the means to pay for it. For most of us the implementation of a sewer system in the present form will have a devastating financial impact.

The Serra Retreat, a historic Malibu landmark located in our area, will cease operations because it cannot afford the monthly maintenance fees projected at \$17,000 among other expenses.

For Serra Canyon homeowners we are talking about infrastructure costs of at least \$180,000 for a three bedroom home. Homeowners below street level will have to pay for pumps and maintain them. The monthly operating costs are projected to be between \$500 and \$1,000 in addition to the costs of connecting the sewer line to the home, which is the responsibility of the homeowner and not included in the above estimate.

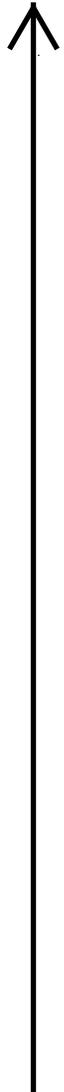
There is also the real possibility of cost overruns which have occurred in other cities that built similar systems. In Fillmore, for example, the cost overrun was 72%. The outcome of such a scenario for a small community like ours is unimaginable.

Further, the sewer related expenditures are NOT tax deductible to the homeowners. Using recycled water is also not a realistic option to reduce the cost of the system. The cost of building separate lines in mountainous terrain is too high and large property owners, who might benefit most from recycled water, operate their own wells.

Despite the enormous cost, there is no guarantee that implementing the proposed system will result in improvement of the water quality in Malibu Creek. If it does not, millions of dollars will be wasted and the canyon residents will have to suffer months of upheaval and inconvenience with no benefit to the environment.

4. CONSIDER ALTERNATIVE TO WASTEWATER TREATMENT PLANT

We don't understand why the DEIR analysis (P 5-18) does not include a cost comparison of building a new plant (or plants) vs. piping the effluent to the Hyperion WWTF. This would be the first approach a commercial enterprise would take: quantify the costs. Why should a municipality not follow that example?



3



4

Among the reasons given against recommending Alternative D (Hyperion WWTF) are substantially higher air quality emissions during the construction phase, and traffic congestion along Pacific Coast Highway (PCH). Like several other issues cited in the DEIR analysis, these are temporary inconveniences given full weight. Drivers have suffered traffic congestion for years when new utility and sewer lines were installed or repaired along PCH for other cities.

The DEIR analysis also states that longer pipelines would be needed and additional pumping stations. In our opinion, pipelines and pumping stations would cost far less than building the expensive infrastructure for a new wastewater treatment plant in Malibu. In addition, maintenance costs would be spread over a larger population, whereas under the current plan they will be paid by a small number of users.

In favor of using pipelines to Hyperion, the DEIR analysis argues that "there is a low likelihood of increased risk to people and structures due to seismic hazards or liquefaction and expansive soils as the pipeline under Alternative D would be below ground along an existing roadway". We agree. Geologic considerations are a strong factor in favor of using a pipeline and not building a sewer plant in the proposed location, since the presence of the Malibu earthquake fault mandates that the plant be built to high earthquake standards. This requirement makes a sewer plant even more expensive.

Property owners (condominiums, planned hotel, 2 schools) adjacent to the proposed plant would appreciate if a sewer plant would not be built in the currently planned location because of health, traffic, odor and other concerns.

One of the major benefits of building a pipeline to Hyperion WWTF is completely overlooked in the EIR. Hundreds of homes and businesses along PCH would be able to connect to the pipeline, share the infrastructure and maintenance costs, and potentially improve the water quality on miles of Malibu beaches.

(Please also refer to Title 14 CCR 15130, 15131(2) DISCUSSION OF CUMULATIVE IMPACTS and ECONOMIC AND SOCIAL EFFECTS)

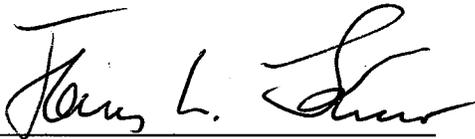
Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

For the reasons outlined in this document:

- a) We request that Phase 2 properties in Serra Canyon be removed from the prohibition of onsite wastewater disposal systems.
- b) We strongly oppose the construction of a wastewater treatment system with a Groundwater Injection Plan at the currently selected site.

Thank you for giving us the opportunity to make our positions known to you.

Very truly yours,



Hans W. Knur
23267 Palm Canyon Lane
Malibu CA 90265



Anneliese Knur
23267 Palm Canyon Lane
Malibu CA 90265



Beverly Gosnell
3609 Serra Road
Malibu, CA 90265



Bernard Reznick, M.D.
3611 Serra Road
Malibu CA 90265



Rheta Resnick
3611 Serra Road
Malibu CA 90265

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Steve Clarke

Steve Clarke
3751 Serra Road
Malibu, CA 90265

Helen Clarke

Helen Clarke
3751 Serra Road
Malibu, CA 90265

William Cumberland

William Cumberland
3550 Cross Creek Lane
Malibu, CA 90265

Holly Cumberland

Holly Cumberland
3550 Cross Creek Lane
Malibu, CA 90265

William F. Wolhaupter

William Wolhaupter
3515 Cross Creek Road
Malibu, CA 90265

Roberta Martin Wolhaupter

ROBERTA MARTIN WOLHAUPTER
3515 CROSS CREEK ROAD
MALIBU, CA. 90265

Ozzie Silna

Ozzie Silna
23301 Palm Canyon Lane
Malibu, CA 90265

Wendy Silna

Wendy Silna
23301 Palm Canyon Lane
Malibu, CA 90265

Roger Hopkins

Roger Hopkins
3538 Cross Creek Lane
Malibu, CA 90265

Rosert Hopkins For Trinni

Trini Hopkins
3538 Cross Creek Lane
Malibu, CA 90265
Hopkins

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Amarie Busch-Coyle

Amarie Busch-Coyle
3264 Serra Road
Malibu, CA 90265

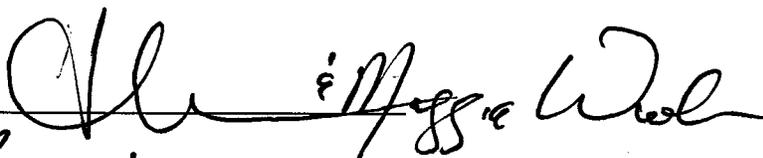
Fr. Warren Rouse

Fr. Warren, Serra Retreat
3401 Serra Road
Malibu, CA 90265

Jackie Bridgeman

Jackie Bridgeman
3415 Cross Creek Road
Malibu CA 90265

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: 

Name: BILL & MAGGIE WINOKUR

Address: 23255 MALIBU BLVD
MALIBU CA 90265

Signature: 

Name: Robert Stark

Address: 3220 Serra Rd.
Malibu, CA 90265

Signature: 

Name: Donna K. Lemkin

Address: 3655 Sweetwater Mesa Rd.
Malibu, CA 90265

Signature: 

Name: JEFFREY W LEMKIN

Address: 3655 SWEETWATER MESA Rd
MALIBU CA

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: 

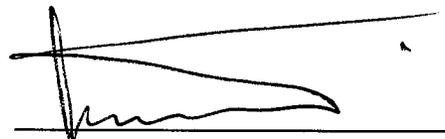
Name: Todd Cumberland

Address: 3629 SERPA RD
MALIBU, CA 90265

Signature: 

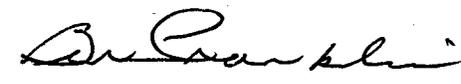
Name: HOLLY CUMBERLAND

Address: 3550 Cross Creek Lane
Malibu, CA

Signature: 

Name: LAWRENCE WEISDORN

Address: 23146 MARIPOSA DE ORO
MALIBU, CA 90265

Signature: 

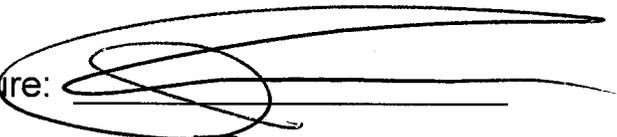
Name: BEN FRANKLIN

Address: 3500 CROSS CREEK RD
MALIBU, CA 90265

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: 
Name: R. JEFFREY FOLLERT
Address: 23247 PALM CANYON LN
MALIBU, CA 90265

Signature: 
Name: KAREN FOLLERT
Address: 23247 PALM CANYON LN
MALIBU, CA 90265

Signature: 
Name: JOHN LAMBETTI, MD
Address: 3268 SERRA RD
MALIBU, CA 90265

Signature: 
Name: JOAN LAMBETTI
Address: 3268 SERRA RD.
MALIBU, CA. 90265

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: William Armour

Name: WILLIAM ARMOUR

Address: 23222 ManiPosa de Oro
MALIBU 90265

Signature: Theresa Armour

Name: Theresa Armour

Address: 23222 ManiPosa de Oro
Malibu, Ca., 90265

Signature: John Payne

Name: JOHN PAYNE

Address: 3507 Cross Creek Ln
Malibu, CA 90265

Signature: Jean Rosenfeld

Name: JEAN ROSENFELD

Address: 3515 Cross Creek Ln
Malibu CA 90265

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: Jane B. Franz
Name: JANE B. FRANZ
Address: 3623 SERRA RD.
MALIBU CA 90265

Signature: Ellen L. Weitman
Name: Ellen L. Weitman
Address: 3727 Serra Road
Malibu, CA 90265

Signature: _____
Name: _____
Address: _____

Signature: _____
Name: _____
Address: _____

Hans W. and Anneliese Knur
23267 Palm Canyon Lane, Malibu CA 90265\

Signature: Al. Harsel

Name: Alison Harsel

Address: 3314 Serra Road
Malibu, CA

Signature: e

Name: Alexander P. Harsel MD

Address: 3314 Serra Road
Malibu, CA

Signature: _____

Name: _____

Address: _____

Signature: _____

Name: _____

Address: _____

Response to July 27 Comment Letter from Hans and Anneliese Knur (C-10)

Response to Comment 1

Question 2 of Project FAQs, dated July 21, 2014 and available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>), addresses concerns over the science related to the project.

Response to Comment 2

A surface and groundwater quality monitoring program are mandated by the City's MOU and would be detailed in the Project's permit requirements. See Section 3.4.2 of Chapter 3 – Project Description.

Response to Comment 3

The City is sensitive to the costs the Project would place on residential property owners. However, it is speculative to suggest that homeowners would be displaced.

Financing costs of each Project phase, including assessment district formation, as may be supplemented by any available grant or low interest loan programs, are being addressed by the City outside of the CEQA process as they are beyond the scope of this EIR.

The proposed Project is being prepared in response to orders by the SWRCB and LARWQCB that mandate that septic discharges cease by prescribed deadlines. The City's MOU with the LARWQCB and SWRCB governs the service area boundaries of the Project and establishes Project phasing. Failure to comply with these orders could result in fines being levied against the property owners and the City.

Response to Comment 4

Discussion of Project-related social or economic impacts is not required by CEQA. Such an analysis would be prepared in conjunction with assessment district formation for each phase of Project implementation. The latest preliminary information on the assessment district formation for Phase 1 may be found by contacting the City Public Works Department.

Alternative D, Pipe Effluent to Hyperion Wastewater Treatment Plant, was analyzed in Section 5.3.4 of the EIR. While the pipeline to Hyperion would result in many of the impacts discussed in this section, one key concern is the ability to put the pipeline in PCH and the long-term stability of that pipeline given sea level rise, potentially increased storm surges, and the slope stability issues that commonly occur along that stretch of PCH. The assumption that one of the major benefits of building a pipeline to Hyperion is that hundreds of properties along PCH would be able to connect and share expenses is speculative. As with the proposed Project, an assessment district or some other funding mechanism would be required to finance the construction of the project and there is no reason to believe that landowners along PCH would be willing to participate (especially

as these landowners, unlike the City, are not under the orders of the SWRCB and LARWCB to cease discharges from OWDSs). The EIR is not required to evaluate an alternative that has an effect that cannot be reasonably identified or that has remote or speculative implementation.

Bonnie Blue

From: Ken Duzy <kskd2@ix.netcom.com>
Sent: Monday, July 28, 2014 4:25 PM
To: Bonnie Blue
Cc: Jim Thorsen; Bob Brager; John Mazza
Subject: DEIR comments

RECEIVED
JUL 28 2014
PLANNING DEPT.

Dear Ms. Blue-

As one of the residents of the Malibu civic center area who is going to have to pay for the waste water treatment facility until the day I die or move away, I object to the current DEIR because of its minimal planning beyond Phase 1, which will serve almost solely businesses, and especially its plan to defer certain costs related to Phase 1 until Phases 2 and 3, which are almost wholly residential. Why should those Phase 1 costs, that we have been told will be deferred, not be built in Phase 1 and paid for in Phase 1? | 1

An even more important short-coming is the assumption that what is designed for Phase 1 will be appropriate for Phases 2 and 3. I see little evidence of an in depth study that the technology chosen for Phase 1's businesses will be a good fit at a reasonable cost for the residential customers of Phases 2 and 3. | 2

Finally, at a recent public information meeting, when asked about the cost to residential properties in Phases 2 and 3, the response was largely "someone else is working on that." How can an intelligent cost-benefit analysis be made if we cannot be told the cost of the system. Is \$200,000 per residence about right? Is it high? Is it low? Are we getting a gold-plated solution designed without regard to cost or a system tailored for the businesses that are eager to expand or a bare-bones system that will need add-ons almost immediately? And at what cost? | 3

I suggest that the current DEIR be remanded back to the designers until they can tell us exactly what will be built in all phases and how much it will cost each business and homeowner built out, along with cost benefit analyses of alternative designs.

The civic center homeowners are being required to take on an enormous financial risk and burden. The current DEIR does not demonstrate that we will get an appropriate system at an appropriate cost.

Sincerely,

Ken Duzy
23837 Harbor Vista Dr.
Malibu, CA 90265

Response to July 28 Comment Letter from Ken Duzy (C-11)

Response to Comment 1

See Question 11 of Project FAQs, dated July 21, 2014, available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>).

Response to Comment 2

The MBR process (the proposed treatment technology) is a biological wastewater treatment process that has been widely used on the type of wastewater expected from the Malibu commercial and residential properties. Because the commercial properties consist of dry retail (toilet and wash basin flows only) and restaurant uses, the character of the wastewater is similar to residential, differing in concentration rather than in composition. This difference in concentration has been taken into account in the design of the treatment plant. There are no industrial flows that could be high in toxicants or hard to treat compounds.

The selection of treatment process has been reviewed by the Technical Advisory Committee (TAC), who agreed with the treatment process selection. The TAC included several wastewater treatment experts, including Dr. Michael Stenstrom, Distinguished Professor in the Civil and Environmental Engineering Department at the University of California, Los Angeles, and Mr. Lea Fisher, a retired senior process treatment expert from one of the largest wastewater design consultancies in the United States. Dr. Stenstrom is an expert in wastewater treatment processes and has extensive direct experience with the MBR process. He teaches and leads research in wastewater treatment processes and technologies in UCLA's School of Engineering and is therefore 'current and up to date' on the various treatment technologies including MBR. Dr. Stenstrom was present at all the TAC meetings where the selection of the recommended treatment process was discussed. The meeting(s) that he missed focused on other elements of the project, and therefore his absence from these meeting(s) does not undermine the validity of the recommendation of MBR treatment. Mr. Lea Fisher was also involved in the process selection and the subsequent sizing of MBR process units for this project. Mr. Fisher has designed numerous treatment plants throughout the United States, including the recent MBR treatment plant at Ironhouse Sanitary District in Oakley, California.

Response to Comment 3

Please refer to the response to Comment 1 above.

WILLIAM F. WOLHAUPTER
P.O. BOX 425
MALIBU, CALIFORNIA 90265
(310) 456-3902
FAX (310) 456-3902

July 24, 2014

REF
JUL 24 2014
PLANNING DEPT.

Planning Commission
Mikke Pierson, Chair
City of Malibu
23825 Stuart Ranch Road
Malibu, CA 90265

Dear Sir:

I have lived at 3515 Cross Creek Road, Malibu since completing construction of my home in 1980. I am quite familiar with the creek which flows past my property. I have seen it as a dry creek bed and a roaring torrent. One year, a large storm tore out the cattails, brought dead trees and huge amounts of hikers' trash in its swollen waters; almost wiping out the Pacific Coast Highway bridge over the creek.

A neighbor, with the aid of government, spent untold amounts of money "restoring" the creek bed, only to have a large storm the next winter put it into its present condition.

One year, some governmental agency (I can't remember which), came to me and asked to put in a well on my property so samples of ground water could be taken. They came in on a regular basis for about a year but I was never allowed to see the results of these tests. I think if these samples are part of the evidence used to support these contamination claims, they should be made available to me.

As a student, I had a great interest in natural sciences and the environment. As a businessman and farmer, I am also interested in water quality issues. Many have claimed the waters around here are contaminated but offer no conclusive evidence as to the source of the contamination. Analyzing the water in the lagoon is only valid for the lagoon. If any contamination exists, the sites of samples and origins of contamination should be stated. Polluters should not be tolerated, whether individual, corporate or governmental. All evidence should be presented so that qualified independent surveys can reproduce results and thereby validate these claims. Only then, if a source can

Planning Commission

Page 2

July 23, 2014

be established, should the offender be required to clean up. If no source can be conclusively be established it is then incumbent on the government, as a whole, to clean the environment, not to experiment with only a limited number of taxpayers to benefit the public at large.

1

Environment is an all-encompassing word. Anything that is affected is part of the environment and therefore must be addressed in an E.I.R. Since this project is basically an experiment with no known final outcome, the fiscal effect must be addressed as well as the hypothetical results. Subsidies can be justified when the government acts to benefit the whole, but it is not justified in having the few subsidize the many.

2

This project is, in my opinion, putting the cart before the horse.

Very truly yours,

William F. Wolhaupter

Copy to:

David Brotman

John Mazza

Jeffrey Jennings

Roohi Stack

Joyce Parker-Bozylinski

Response to July 24 Comment Letter from William F. Wolhaupter (C-12)

Response to Comment 1

Question 2 of Project FAQs, dated July 21, 2014 and available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>), addresses concerns over the science related to the project.

Response to Comment 2

The City is sensitive to the costs the Project would place on residential property owners; however, CEQA does not require an analysis of Project costs. Financing costs of each Project phase are being addressed by the City outside of the CEQA process as they are beyond the scope of this EIR.

See Question 11 of Project FAQs, dated July 21, 2014, available on the City's website (<http://www.malibucity.org/DocumentCenter/View/6800>).

MARC I. STERN
23700 MALIBU COLONY ROAD
MALIBU, CA 90265

RECEIVED
JUL 18 2014
PLANNING DEPT.

July 17, 2014

City of Malibu Planning Department
23825 Stuart Ranch Road
Malibu, CA 90365

Attention: Bonnie Blue, Senior Planner

Dear Ms. Blue:

Pursuant to the application for public hearing filed on May 31, 2014 and posted on July 10, 2014, we are writing to oppose the proposed Malibu Civic Center wastewater treatment facility project, draft environmental impact report no. 13-001.

We believe this development will negatively impact our community and that the nature and extent of this project discriminates against the residents of Malibu Colony.

Sincerely,



Marc I. Stern

Response to July 17 Comment Letter from Marc Stern (C-13)

Response to Comment 1

The commenter's objection to the Project is noted. The potential environmental impacts of the Project have been evaluated in the EIR. With the implementation of standard conditions and mitigation measures, all potential impacts would be reduced to a less than significant level, with the exception of construction noise and vibration impacts. Mitigation measures would be implemented to minimize construction noise and vibration as much as feasible, and the impacts would only occur during the temporary period of construction.

The comment does not describe the type of discrimination in question.