

## **G. Fred Lee & Associates**

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### **Comments on the Deficiencies in the Development of the Gregory Canyon Landfill G. Fred Lee, PhD, AAEE Bd Cert Env. Eng., F.ASCE Anne Jones-Lee, PhD**

Via email Jim.Henderson@sdcounty.ca.gov

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Jim Henderson

We wish to provide the following comments on deficiencies in ability of the proposed Gregory Canyon Landfill to protect public health, water resources, and the environment for as long as the wastes deposited in that landfill will be a threat.

#### **Background to these Comments**

I (G. Fred Lee) have been involved in evaluating the potential impacts of landfills on groundwater quality and the environment since the mid-1960s, and have evaluated more than 80 landfills including the proposed Gregory Canyon Landfill. Much of my experience developed from more than five decades of involvement in evaluating the technical aspects of MSW landfill design, operation, closure, and post closure is synthesized in our “Flawed Technology” report available on our website [[www.gfredlee.com](http://www.gfredlee.com)] as:

Lee, G. F., and Jones-Lee, A., “Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste,” Report of G. Fred Lee & Associates, El Macero, CA, December (2004). Updated June (2010).

<http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>

In addition to providing discussion of key issues, the “Flawed Technology” report provides more than 140 references to the technology literature on issues that need to be reliably evaluated in evaluating the potential impacts of a proposed landfill, many of which are applicable to the proposed Gregory Canyon Landfill.

We have also developed guidance on evaluating potential impacts of landfills:

Lee, G. F., and Jones-Lee, A., “Guidance for Evaluating the Potential Environmental Quality Impacts of a Landfill,” Report of G. Fred Lee & Associates, El Macero, CA (2008). <http://www.gfredlee.com/Landfills/EvaluationImpactLF.pdf>

That review discusses a wide range of potential impacts of landfills on the health, water resources, and interests of those in the sphere of influence of a proposed landfill.

Many of the other papers and reports we have developed on these issues are available at: <http://www.gfredlee.com/plandfil2.htm>. Additional information on our qualifications to submit these comments is available on our website at: <http://www.gfredlee.com/exp/lfimpactexp.pdf>.

### **Unsuitable Location for a Landfill**

A fundamental problem with the development of the proposed Gregory Canyon Landfill is the unsuitability of the Gregory Canyon area for a landfill. The fractured ground base for this proposed landfill coupled with the connection of the landfill base to high-value groundwaters and elevated groundwater table render this site unsuitable for any landfill. The landfill developer proposed an engineered barrier consisting of plastic sheeting and clay layers, and trenches to compensate for the unsuitability of the site. However, even if such a system were reliably constructed it would eventually deteriorate and fail to prevent landfill leachate from entering the groundwater system that is hydraulically connected to the base of the landfill.

### **Review of the Proposed Gregory Canyon Landfill**

In the 1990s we submitted detailed comments on deficiencies in the proposed character of the Gregory Canyon Landfill for providing protection of public health, water resources, and the environment for as long as the wastes in the landfill would be a threat. We pointed out that that landfill would eventually pollute groundwaters that are of importance to the San Diego County Water Authority and North County residents. The original, and now revised, landfill liner design will not prevent groundwater pollution by landfill leachate for as long as the wastes in the landfill will be a threat, which will be forever. The revised liner design would only serve to postpone groundwater pollution; it will not prevent it. The characteristics of the hydrology of the area make it impossible to reliably monitor the eventual groundwater pollution before widespread pollution has occurred. The landfill proponent's claim that the proposed landfill would not be situated over an aquifer is misleading; the area under the landfill is hydraulically connected to a high value aquifer that will be polluted by landfill leachate as the liner system eventually fails.

### **Inadequate Assured Postclosure Funding**

Another significant problem with the proposed landfill is that assured funding for postclosure landfill monitoring, maintenance, and groundwater remediation is provided for a limited portion of the time during which the wastes in this landfill would be a threat. The landfill developer claimed that the financial assurance will provide the required postclosure care. However, since the landfill would be a threat to pollute groundwaters for hundreds to thousands of years, there is no meaningful assurance that the financial instruments proposed will, in fact, be available for that period of time. Since the wastes in the landfill will be a threat essentially forever, the County could ultimately have to pay for the clean-up of the polluted groundwater that will occur at that landfill.

### **Inadequate Implementation of Regulatory Requirements**

In the early 1990s I was a consultant to the California Water Resources Control Board on the development of Chapter 15 (now Title 27) the updated state landfilling regulations. Those

regulations were explicit in requiring that a landfill containment system prevent impairment of the groundwater resources that are potentially impacted by the failure of the landfill liner system. The importance of such provisions is discussed in:

Lee, G. F. and Jones-Lee, A., "Groundwater Quality Protection Issues," Report of G. Fred Lee & Associates, El Macero, CA, February 2007; Presented in part at CA/NV AWWA Fall Conference, Sacramento, CA, October (2007).  
<http://www.gfredlee.com/Groundwater/GWProtectionIssues.pdf>

Lee, G. F., and Jones-Lee, A., "Groundwater Quality Protection Issues," Presented in part at CA/NV AWWA Fall Conference, Sacramento, CA, PowerPoint Slides, G. Fred Lee & Associates, El Macero, CA, October (2007).

<http://www.gfredlee.com/Groundwater/GWProtectionIssues-sli.pdf>

The Gregory Canyon Landfill solid waste facility permit (SWFP) application package was available at the County of San Diego Solid Waste Local Enforcement Agency (LEA) website [[http://www.sdcounty.ca.gov/deh/waste/chd\\_gregory.html](http://www.sdcounty.ca.gov/deh/waste/chd_gregory.html)]. A critical review of that application reveals substantial amounts landfill advocacy propaganda and unreliable claims concerning the protective nature of the proposed landfill. That application should be rejected as being significantly deficient in providing adequate, reliable, and complete information on the ability of the proposed Gregory Canyon Landfill to provide protection of public health, water resources, and the environment from the wastes proposed for deposition in the landfill.

The State and Regional Water Boards have failed to implement the letter and intent of Chapter 15, Title 27 by permitting landfills that will obviously eventually pollute groundwaters and impair the use of those groundwaters for domestic and other uses. The permitting of the proposed Gregory Canyon Landfill will not comply with the requirements of state of California regulations for developing landfills. It should not be allowed to be developed.

G. Fred Lee and Anne Jones-Lee