LRM consulting inc.

November 6, 2017

Keith Nowell, PG., CHG.
Alameda County Health Services Agency (County)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Response to EnviroAssets, Inc. (EAI) Comments on The Supplemental Remedial Investigation Report for Former Red Hanger Kleaners, 6235-6239 College Ave., Oakland, CA
RO00002981

Dear Mr. Nowell:

This letter has been prepared as a response to the comments set forth by EAI (2017a)[1] in response to the conclusions set forth in the Supplemental Remedial Investigation Report prepared by LRM Consulting, Inc. (LRM) for the above-referenced site (herein referred to as the CCV site). This letter is intentionally brief and focused on the overarching assertions and inappropriate accusations made by EAI, suggesting that LRM has ignored available data and has formulated conclusions which "ignore accepted engineering principles, and stretch professional credibility in a transparent attempt to bring additional responsible parties into the CCV Site investigation and cleanup program". LRM considers these accusations as both false and preposterous, as supported by the logic below.

First, it should be noted that the LRM report makes no reference to the words, "responsible parties" (RPs), nor does LRM have any jurisdiction or role in the identification of RPs at the CCV site; that distinction, based on our experience over the past 25 years of working with the County on similar cases, resides solely with the County whom is more than qualified to consider all data and information available to it in an effort to identify all parties they see fit as potential RPs (PRPs). To suggest that LRM's conclusions, which once again make no reference to RPs, constitute a "transparent attempt" to bring other RPs to the site is false.

Second, LRM maintains its conclusion that based on available data and multiple lines of evidence (not to mention standard and acceptable engineering principles and practices), historical dry cleaning operations over nearly a 50-year period at the 6251-6255 College Ave. property may have contributed tetrachloroethylene (PCE) to the subsurface, and that those impacts may have contributed, or continue to contribute, to the presence of PCE detected beneath the ground at adjacent properties; including at the CCV site located less than 20 feet southwest of the 6251-6255 College Ave. property. More importantly, LRM maintains its recommendation, clearly stated as conclusions/recommendations number 3 on Page 6 of LRM's report, that further investigations at the 6251-6255 College Ave. property are necessary to determine the magnitude and extent of any past release, and whether a release at this location may be the source of elevated soil vapor impacts at adjacent property locations. The bases for LRM's conclusions and recommendations are as follow:

[1] EAI, 2017a. Letter from EAI to the County: Re: LRM, Supplemental Remedial Investigation Report, September 27, 2017. Red Hanger Kleaners, 6235-6239 College Avenue, Oakland, CA 94618. November 3rd.

- Groundwater monitoring well MW-1 is located on the southwestern corner of the 6251-6255 College Ave., property (see Figure 1). Based on available groundwater elevation data from this well and the remaining five monitoring wells located on the immediately adjacent properties (see Figure 1), at a minimum, the southwestern corner of the 6251-6255 College Ave. property is located hydraulically upgradient of the CCV site, and the property located at 6241-6247 College Ave. As such, MW-1 serves as the upgradient well for the CCV property, indicative of groundwater quality at locations immediately upgradient of the CCV site.

- The presence of PCE in the groundwater sample at MW-1, and its concurrent absence (above detection limits) from the closest downgradient wells on both the CCV site and the 6241-6247 College Ave sites (i.e, MW-2 located less than 20 feet away from MW-1 and on the 6241-6247 College Ave. property, and MW-3 located approximately 50 feet away from MW-1 and on the CCV site) indicate that based on available data, PCE-impacted groundwater exists hydraulically upgradient of the CCV property. These data also suggest that a release of PCE to the subsurface may have occurred at a location hydraulically upgradient of the CCV property. It should also be noted that the presence of PCE in the deep (i.e, 15 feet bgs) soil vapor sample collected immediately adjacent to MW-1 (i.e, at SG-12-15) and on the 6251-6255 College Ave., property, further supports the potential for a subsurface release of PCE upgradient of the CCV site.[2]

- As previously indicated, the 6251-6255 College Ave., is located less than 20 feet northeast (and hydraulically upgradient) of the CCV site. Based on publicly available information, the 6251-6255 College Ave., property was reportedly used for dry cleaning operations from 1938 to the 1985/1986 time frame, wherein PCE was a commonly used cleaning solvent. Moreover, available County records (which do not cover time periods older than 1986/1987) reportedly suggest inappropriate storage of drums containing waste "PERC" materials occurred at the 6251-6255 College Ave., property prior to 1987; this information further supports the potential for dry cleaning operations at the 6251-6255 College Ave. property to have caused a release of PCE to the subsurface. Worth noting is that Fugro (2017)[3] includes an independent evaluation of other existing information, including a review of city records, a survey of sewer lines, and review of permit and site usage records, all of which contributed to a similar conclusion by Fugro regarding the potential for an independent release of PCE to the subsurface at the 6251-6255 College Ave. property.

- As previously footnoted herein, EAI has falsely referred to LRM "ignoring" various data, which according to EAI supports the premise that historical dry cleaning operations at the 6251-6255 College Ave. property did not result in a release of PCE to the subsurface, with no additional investigations required to prove such a premise. First, no such data were ignored by LRM in generating its report; rather LRM's interpretation of that data clearly differs from the seemingly biased opinion by EAI. For example, LRM does not interpret the absence of PCE in a single soil vapor sample at 7 feet bgs adjacent to groundwater monitoring well MW-1 (i.e, at SG-12-7) on the 6251-6255 College Ave., property as evidence of the lack of a potential release of PCE from

[2] EAI has falsely claimed that LRM has ignored other data, including the absence of PCE in the shallower (7-foot bgs) soil vapor sample collected adjacent to MW-1 (at SG-12-7) and/or screening level measurements of sub-slab vapor performed by EAI beneath the footprint of the existing building on the 6251-6255 College Ave. These data have not been ignored, as discussed later within this response letter.

[3] Fugro (2017). Summary of Utility and Topographic Surveys, 6235 College Ave., Oakland, CA., September 28th.

that property to the subsurface. Notwithstanding all of the other lines of evidence contradicting this premise as summarized above, it is not surprising that a single soil vapor sample collected: a) far from the footprint of historical dry cleaning operations, likely sewer lateral connection points, and potential locations of the reported improperly stored "PERC" drums, and b) after the many documented improvements/changes to the building (and sewer system) on the 6251-6255 College Ave. property, would yield a result below the method detection limit. Logically, the potential release of PCE at the 6251-6255 College Ave., site is most likely to have occurred at locations near the historical dry cleaning machines and associated drains/sewer lateral connections, and not in the limited area monitored by SG-12-7 in the very southwestern corner of the 6251-6255 College Ave., property; hence, the lack of a PCE detection at 7 feet bgs far from logical release locations is not an indication of an absence of a release; especially in the context of other evidence to the contrary cited herein. Most importantly, as recommended by LRM on Page 6 of its report, further investigation of the 6251-6255 College Ave., property is needed to further assess the potential for such a release.

Similarly, even disregarding the significant limitations of the substandard, screening-level method of sub-slab sampling using a photoionization detector (PID) (as opposed to the standard summa canister sampling and laboratory analysis of samples) as performed by EAI (2017b)[4] at a few sub-slab sample locations across the 6251-6255 College Ave. property (a sampling effort which necessarily invited documented concerns from the County over both method of sampling and the need for additional sampling[5]), the absence of PCE in the EAI screening-level sub-slab samples does not necessarily reflect the absence of a potential release of PCE at the 6251-6255 College Ave. property during its period of operations. First, due to the limited depth of sub-slab sampling, sub-slab vapor data are more indicative of whether there is an ongoing potential for vapor intrusion and potential indoor air quality concerns relative to current onsite building; even if these samples had been collected at locations representative of past dry cleaning operations at the 6251-6255 College Ave. property (a point which Fugro (2017) refutes), the results of these samples do not, in LRM's professional opinion, reflect the potential for the presence of PCE at greater depths across the 6251-6255 College Ave property and at locations where dry cleaning operations took place over nearly a 50-year period some 3 decades ago.

It is LRM's understanding that a vapor or moisture barrier may reportedly be present beneath all or parts of the existing onsite building at the 6251-6255 College Ave., property, which would further render the already substandard sub-slab vapor sample results collected by EAI from above such a barrier as unrepresentative relative to the potential occurrence of past subsurface releases of PCE at the 6251-6255 College Ave. property. Lastly, the aforementioned sub-slab vapor sampling at the 6251-6255 College Ave., property reportedly occurred after a sizeable soil excavation effort (presumably as part of site improvements), which apparently resulted in the removal and placement of a measurable volume of soil stockpiled at the ground surface for a period of time, which in turn may, at a minimum, have aerated and induced the volatilization and reduction in PCE concentrations potentially present in both the excavated soil and/or in vapors

[4] EAI (2017b). Screening Subslab Vapor Survey, 6251, 6253, 6255 College Ave., 305 and 307 63rd Street, Oakland, CA. May 26th.
[5] Email from Dilan Roe to Michael Harrison, RE: Red Hanger Kleaners, Dated: May 31, 2017 at 12:57 pm.

within, adjacent to (via path of least resistance for vapor flow), and beneath the excavation footprint.

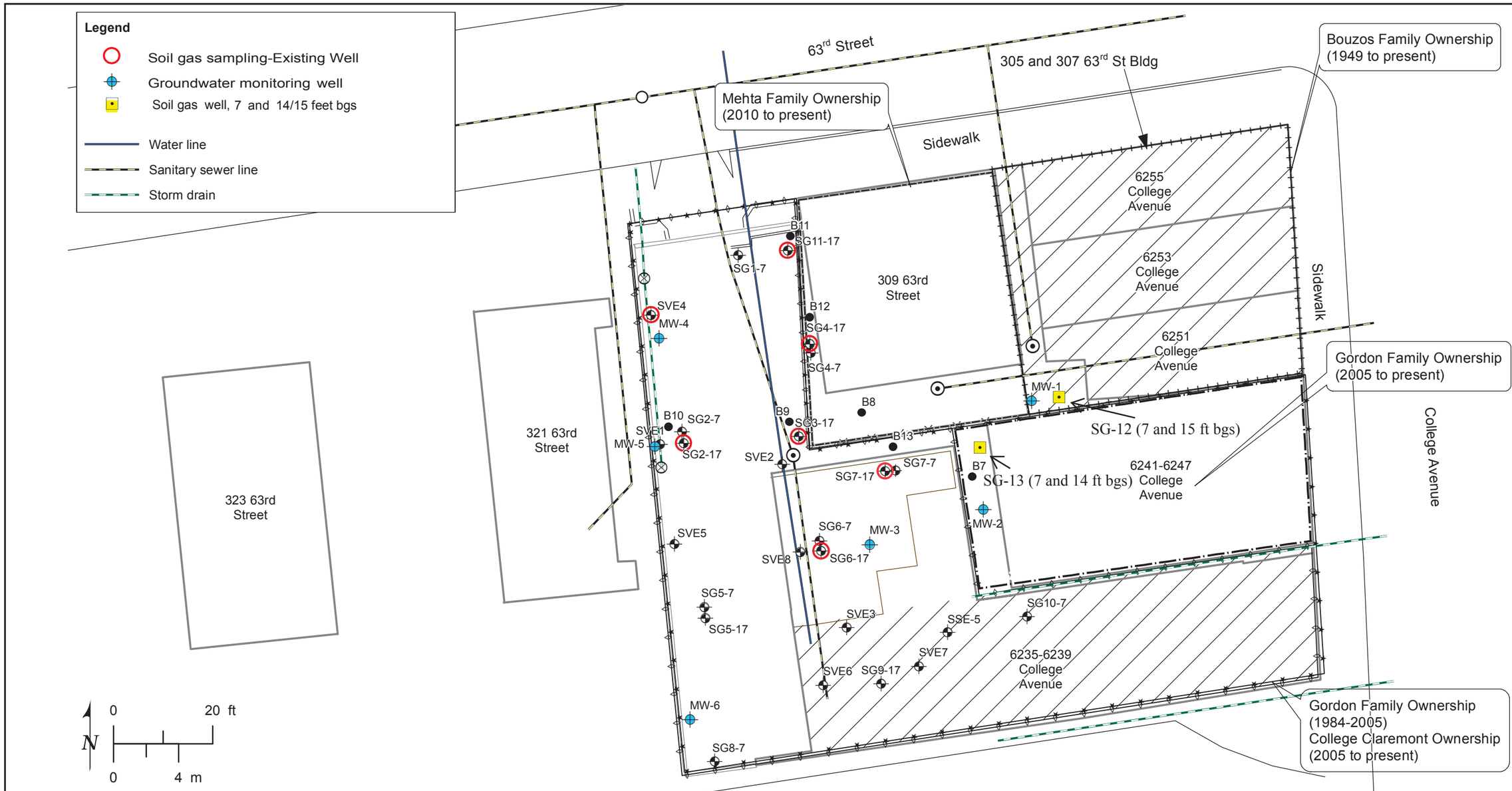
In light of unsubstantiated accusations made by EAI (2017a), LRM considers EAI's dismissal of the multiple lines of evidence suggesting the potential release of PCE to the subsurface at the 6251-6255 College Ave. property as summarized above, in favor of reliance on: A) a single, non-detect soil vapor sample at 7 feet bgs adjacent to MW-1 (i.e, at SG-12-7 and far away from locations of historical dry cleaning operations); and/or B) the absence of PCE in a few unrepresentative, substandard measurements of PCE in sub-slab vapor across the 6251-6255 College Ave. property as the basis of categorically (and without further investigation) excluding the 6251-6255 College Ave. property as another potential source of PCE to the subsurface as transparently biased and in poor engineering practice.

Closing

LRM appreciates the opportunity to submit this response letter to EAI's comments on LRM's report to the County, and if necessary, would welcome discussing the same with both the County and EAI. If you have any questions, please contact Mehrdad Javaherian at mehrdad@lrm-consulting.com or at 415-706-8935.

LRM Consulting, Inc.

Mehrdad Javaherian, Ph.D., MPH, PE, LEED®GA



Note: Building extents at 321 and 323 63rd Street are approximate.

Manhole
Drain inlet
Sanitary sewer cleanout
Soil vapor extraction point
Previous boring
Building outline
Fence
Garage

Property Ownership

Bouzos Family, 1949 to present
College Claremont, 2005 to present
Gordon Family, 1984-2005
Gordon Family, 2005 to present
Mehta Family, 2010 to present

Former dry cleaners use

Basemap Source: Fuguro, 2017

SOIL VAPOR AND GROUNDWATER MONITORING LOCATIONS

FORMER RED HANGER KLEANERS
OAKLAND, CALIFORNIA

LRM consulting inc.

Date: 8/17/2017

Figure: 1