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By Alameda County Environmental Health 9:50 am, Nov 17, 2016

Ms. Dilan Roe
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: 1233 Bockman Road
San Lorenzo, California
ACEH Case No: RO00003217

Dear Ms. Roe:

PaulsCorp, LLC, has retained Pangea Environmental Services, Inc. (Pangea) for environmental consulting services for the project referenced above. Pangea is submitting the attached report on my behalf.

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached report are true and correct to the best of my knowledge.

Sincerely,

Andrew J. Lavaux
Managing Director Multifamily Development

November 16, 2016

Ms. Kit Soo
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Re: **Site and Perimeter Air Monitoring, and Dust Mitigation Plan**
Bockman Road Property
1233 Bockman Road
San Lorenzo, California 94577
Voluntary Remedial Action Case #RO0003217

Dear Ms. Soo:

On behalf of PAULS Corporation, LLC, Pangea Environmental Services, Inc. (Pangea) has prepared this *Site and Perimeter Air Monitoring, and Dust Mitigation Plan* (Air/Dust Monitoring and Mitigation Plan) for the property located at 1233 Bockman Road in San Lorenzo (Site)(Figure 1). This Air/Dust Monitoring and Mitigation Plan was required by a November 8, 2016 email from Alameda County Department of Environmental Health (ACDEH). The purpose of this Air/Dust Monitoring and Mitigation Plan is establish procedures for air/dust monitoring and related mitigation measures for safeguarding nearby residents from volatile organic compounds (VOCs) and/or airborne particle matter (dust) generated during redevelopment of the Site.

BACKGROUND

This Air/Dust Monitoring and Mitigation Plan expands on air monitoring and dust mitigation measures provided in the following documents: ENGEO's *Site Management Plan (SMP)* dated May 16, 2016 (Revised June 27, 2016); PANGEA's *SMP* S*upplement* dated August 17, 2016; PANGEA's *Pilot Study Workplan* dated October 7, 2016; and PANGEA's *Draft Corrective Action Plan* dated October 7, 2016 (Revised October 14, 2016).

As documented in the Draft CAP, the primary chemicals of concern (COCs) include the following volatile organic compounds (VOCs): benzene, ethylbenzene, tetrachloroethene (also known as perchloroethene [PCE]). The VOCs have been detected in shallow soil gas in excess of conservative Subslab/Soil Gas Vapor Intrusion: Human Health Risk Levels (Table SG-1), residential environmental screening levels (ESLs) established by the San Francisco Bay Region Water Quality Control Board (RWQCB). Other VOCs detected in soil gas were well below ESLs. Metal concentrations in soil were also below ESLs or likely represented background conditions, other than barium and lead impact found in deeper Site soil near the apparent former underground storage tank (UST) location at the former auto repair facility in the western portion of the Site. No soil or groundwater impact was detected above ESLs.

AIR MONITORING FOR VOCs

This plan involves air monitoring of VOCs during the excavation and handling of Site soil. (Dust monitoring is described in following sections). A portable RAE Systems MiniRAE 3000 Photo-Ionization Detector (PID) or equivalent will be used to collect VOC measurements near soil work activity as necessary for worker health and safety during onsite excavation activities. If VOC concentrations are measured above 50 parts per million per volume (ppmv) during the handling of any contaminated soil, PID readings will be collected every hour along the downwind perimeter of the Site. If the Site is windless, PID readings will be taken from the perimeter location(s) closest to the Site activities. The dominant downwind direction at the Site is towards the east based on previous Site observations. The downwind direction and speed will be estimated daily using a windsock mounted at the Site. Wind speed estimation using the sock position is shown on Table A.

Table A – Wind Speed Estimation from Windsock

Sock Position	Approximate Wind Speed (miles per hour)
At Rest	0 – 4
At 45º	4 – 8
At 60º	8 – 14
Straight	14 – 18

A handheld digital anemometer will also be used to confirm the wind speed. A high wind condition is defined as 18 mph sustained for at least 5 minutes in any 1-hour period.

AIR MITIGATION MEASURES

VOC emissions from the Site will be maintained below 50 parts per million per volume (ppmv) in accordance with the Bay Area Air Quality Management's Regulation 8, Organic Compounds Rule 40. The 50 ppmv threshold also corresponds to an action level that is 50% of the 8-hour time-weighted-average permissible exposure limit of 100 ppmv for PCE and ethylbenzene established by Cal OSHA. If VOC concentrations exceed the 50 ppmv (above background), operations will cease until the source of the vapor emissions is identified and mitigated. Potential mitigation steps would include covering the area/stockpile with heavy duty plastic and/or applying a vapor/odor suppressant such as Simple Green™ onto the soil.

DUST MONITORING

Dust monitoring will be conducted daily at the Site during any grading or earthwork activities at the Site using a perimeter continuous logging station and using a portable dust meter.

Perimeter dust monitoring for real-time PM_{10} concentrations will be conducted each work day (approximately 7AM to 5PM) using a mounted, battery-powered, TSI Dust Trak 8530 meter or equivalent. Perimeter dust monitoring results will be recorded continuously on a daily basis from a fixed tripod-mounted station setup along the east property boundary (see Figure 2). Wind direction and wind speed will also be monitored periodically throughout the day using a handheld digital anemometer and a windsock mounted at the Site. Should the downwind direction fluctuate or vary at the Site, the mounted dust meter will either be relocated to an appropriate downwind perimeter location, or additional dust measurements will be collected on an hourly basis in the downwind direction using a portable dust meter. Field personnel will visit the monitoring station during the beginning, middle, and end of each work day to ensure to ensure the meter is operating.

Onsite dust monitoring for real-time PM_{10} concentrations will be also conducted adjacent to any grading or earthwork activities using a portable TSI AIM 510 meter or equivalent. The dust monitoring results will be written manually on preformatted data field sheets. All manual entries are to be made in a legible and orderly manner using permanent ink. Erasures will be avoided. If an error is made, it is to be crossed out with a single line and the correction immediately made. Cancellations or insertions should be initialed, dated, and explained (in the margin, if possible) by an appropriate notation. All operating details and conditions should be recorded. Each page will be signed and dated by the individual making the entry and performing the work. An example of the Air and Dust Monitoring Log for field work is provided in Appendix A.

DUST MITIGATION MEASURES

Dust from the Site will be maintained below the California Ambient Air Quality Standard (CAAQS) PM_{10} concentration of 50 $\mu g/m^3$ in accordance with 17 California Code of Regulations [CCR] 70200. Should PM_{10} readings exceed 50 $\mu g/m^3$ (above background) for more than for 5 minutes along the perimeter, or for more than 15 minutes downwind of the grading/earthwork location, graded surfaces of any nature shall be wetted with water or Soil Sement®, or otherwise suitably contained to prevent nuisance from dust or spillage onto city streets or adjacent properties. For high wind days, the upwind/downwind subtraction will be used to calculate the dust contribution from the site at the property boundary as well as the ten percent contribution above the federal National Ambient Air Quality Standard PM_{10} value of 150 $\mu g/m^3$. For example, the Site would be in compliance with the agency requirement assuming the following:

- PM_{10} (upwind) = 200 $\mu g/m^3$
- PM_{10} (downwind) = 220 $\mu g/m^3$
- Contribution from the Site = 20 $\mu g/m^3$
- Total loading at ten percent of 220 $\mu g/m^3$ = 22 $\mu g/m^3$

Equipment, materials and roadways on the Site shall be used in a manner or treated as to prevent excessive dust conditions. Dust and dirt control activities shall not result in any material entering the storm drain system.

These procedures supplement the procedures in the Storm Water Pollution Prevention Plan (SWPPP) approved for the site grading operations, which include best management practices (BMP) implemented throughout excavation activities.

Dust control measures during any grading, earthwork or handling of aggregate will consist of spraying the minimum amount of water needed to suppress the dust onto the soil and work area, and limiting the speed of traffic through the work area to 15 miles per hour. Any soil not off-hauled from the Site the same day will be stockpiled on plastic sheeting and covered with plastic, if significant rain is expected, or if visible dust is being generated from the stockpiles.

DOCUMENTATION AND RECORD KEEPING

Documentation of all air and dust monitoring will include copies of air and dust monitoring logs and/or written field notes. All monitoring equipment maintenance and calibration will also be documented. Photos will be taken of the monitoring stations and various dust mitigation measures used at the Site.

Sincerely,
Pangea Environmental Services, Inc.

Bob Clark-Riddell, P.E.
Principal Engineer

cc: Andrew Lavaux, PAULS Corporation, LLC, 100 Saint Paul Street, Denver, Colorado 80206

ATTACHMENTS

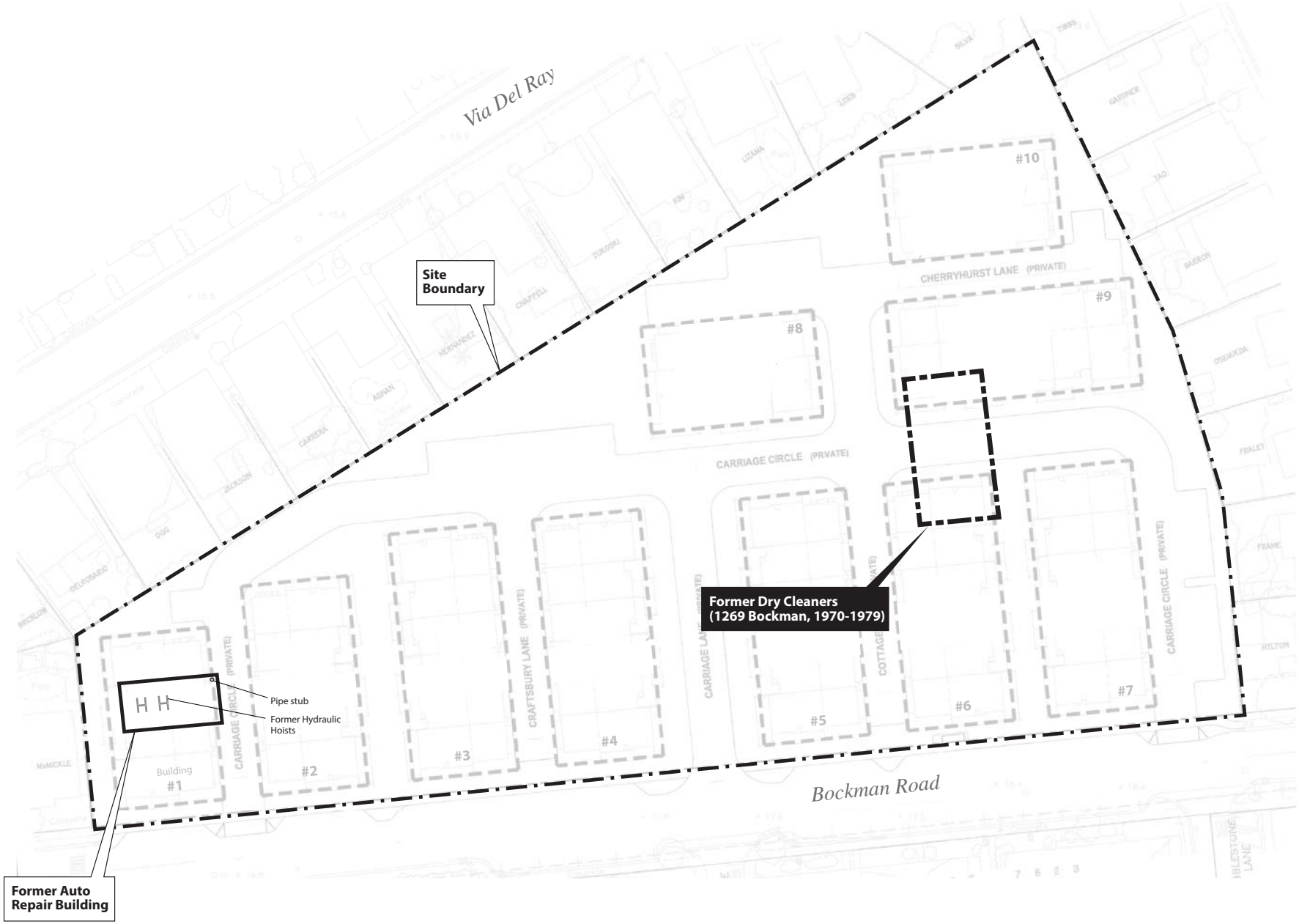
Figure 1 – Vicinity Map
Figure 2 – Site Map
Appendix A - Air and Dust Monitoring Log

Figure 1

1233 Bockman Road
San Lorenzo, California

PANGEA

Vicinity Map



1233 Bockman Road
San Lorenzo, California

PANGEA

Site Map

APPENDIX A

Air and Dust Monitoring Log

AIR AND DUST MONITORING LOG

Site:

Station ID:

Recorded By:

Date:

Dust Monitor Model:

Dust Monitor Serial Number:

PID Meter Model:

PID Meter Serial Number:

Time	Wind Direction	Wind Speed (mph)	PM10 Concentration (ug/m3)	PID Reading (ppmv)	Notes