California Affordable Housing Initiatives, Inc.

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August 8, 2017

Alameda County Department of Environmental Health
Mr. Mark Detterman
Local Oversight & Site Cleanup Program Manager
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: **EIS Project #1652-2A Workplan for Additional Soil and Soil Vapor Assessment 1228-1236 East 17th Street, Oakland, California**

Dear Mr. Detterman:

As a representative of property owner, California Affordable Housing Initiatives, Inc., of the subject property at 1228-1236 E. 17th Street, Oakland, California, I, Phil Neville, declare under penalty of perjury that the information and/or recommendations contained in the attached **Additional Soil and Soil Vapor Assessment – dated August 8, 2017,** prepared by Environmental Investigation Services Inc., is true and correct.

Sincerely,

Phil Neville
California Affordable Housing Initiatives, Inc.,
Oakland, CA

505 14th Street • Suite 650 • Oakland, CA • 94612-1468
Tel: 800-982-5221 • English TTY: 800-735-2929 • Spanish TTY: 800-855-3000 • PBCA@cahi-oakland.org

August 10, 2017
Alameda County Department of Environmental Health
Mr. Mark Detterman
Senior Hazardous Materials Specialist
Local Oversight & Site Cleanup Program Manager
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

SUBJECT: EIS Project #1652-2A Work Plan for Additional Soil and Soil Vapor Investigation
1228-1236 East 17th Street, Oakland, California
ACEHD Case No. RO0003243

Dear Mr. Detterman:

On behalf of California Affordable Housing Initiatives, Inc., the owner of the subject property, Environmental Investigation Services, Inc. (EIS) submits this Workplan to address your request for additional soil and soil vapor investigation at the property located at 1228-1236 East 17th Street, Oakland, California property (the Site). The purpose of this investigation is to conduct an additional soil and soil vapor assessment to complete the characterization of potential sub-surface impacts. This Workplan includes a limited soil and soil vapor investigation including the advancement of five shallow soil borings to collect discrete soil samples to assess near-surface potential lead impacts to soil in the northeastern and southeastern portions of the Site not previously sampled, eight borings in the northwestern portion to collect discrete samples to be composited in the laboratory for analysis of other potential contaminants not previously assessed in this area, and three soil vapor borings in the central portion of the property to address a potential vapor intrusion concern associated with historical uses of the southeastern adjoining property. A site location map is presented as Figure 1.

1.0 BACKGROUND & SITE SETTING

The Site is comprised of three contiguous parcels identified by assessor parcel numbers (APNs) 020-0214-012-1, 020-0214-013, and 020-0214-014 and addressed 1228-1236 East 17th Street, Oakland. The three parcels together form a generally rectangular-shaped area approximately 12,298 square feet (SF) in size. The Site currently consists of an undeveloped vacant lot vegetated with grass and weeds. EIS completed a previous Phase I Environmental Site Assessment (ESA) for the Site in October 2016 (EIS, 2016a). Depth to groundwater in the general area of the subject property was reported to occur at an approximate depth of 5 to 10 feet below the ground surface (bgs). Based on regional topography and proximity to the Oakland Estuary, local groundwater flow direction was inferred to be towards the south. In preparation for this Workplan, EIS reviewed groundwater information available on GeoTracker for a nearby environmental investigation site and confirmed a groundwater depth of approximately 6 to 11 feet bgs with a southerly flow direction (Sierra West, 2013). The Phase I ESA identified a recognized environmental condition (REC) associated with documented on-site lead impacts to soil. In addition, a potential vapor intrusion concern was identified in the ESA, based on the historical uses of the southeastern adjoining property addressed as 1745 14th Avenue. EIS understands that the Site is proposed to be developed with a three-story apartment building structure with an exterior at-grade parking lot. A site plan of the proposed development is depicted in Figure 2. The plan involves the covering of the entire site with hard scape including the concrete building

foundation and exterior driveway and parking area pavements. A community garden strip to extend along the northeastern boundary will consist of a raised planter bed with underlying concrete slab.

A. Historical Photograph Review

In preparation of this Workplan, EIS reviewed a series of photographs on Google Maps street-view feature. In a photo dated January 2014, a three-story residential structure is visible on the central and southeastern portion of the Site, with a concrete-paved parking lot and possible grassy play area in the northwestern portion. Dirt and grass-covered areas were also visible along the southwestern and southeastern boundaries of the Site. The residential building appeared to be unoccupied in the January 2014 photograph, as all windows were boarded up and evidence of fire damage were visible. A chain-link fence with locked gate surrounded the entire property. In the next available photograph, dated August 2014, the majority of the concrete-paved parking lot appeared to be broken-up and crushed, with the rubble piled onto the northwest side of the property. There appeared to be no other significant changes in the August 2014 photograph compared with the January 2014 photograph. In the next available photograph dated July 2015, the Site appears in its current condition as a fenced, vacant dirt lot vegetated with grass and weeds with no evidence of leftover rubble from the former building or pavements.

B. Phase II Limited Soil and Soil Vapor Investigation

EIS conducted field work for a Phase II Limited Soil and Soil Vapor Investigation of the Site on November 16, 2016 (EIS, 2016b). For the investigation, EIS advanced sixteen temporary soil borings using track-mounted GeoProbe direct-push technology (DPT) drilling equipment. Fourteen of the borings (SB-1 through SB-14) were advanced for the purpose of collecting soil samples, with the remaining two borings (SV-1 and SV-2) advanced to collect soil vapor samples. The location of the borings along with the ground-floor plan of the proposed apartment building structure is depicted in Figure 3. The rationale and analytical parameters for the previously collected samples are included in Table 1. Soil borings SB-1 through SB-14 were advanced throughout the entire Site and soil vapor borings SV-1 and SV-2 along the southeastern boundary. EIS collected soil samples at depths of 0.5 and 3.0 feet below the ground surface (bgs) from borings SB-1 through SB-14, and collected soil vapor samples from a depth of 5.0 feet bgs from borings SV-1 and SV-2. An attempt to collect soil vapor samples from at 10 feet bgs was unsuccessful and was abandoned due to encountered clayey soils at that depth. Grab groundwater samples were not collected during the investigation because the southeastern adjoining property potentially having residual impacts from historical uses is downgradient of the Site. The collection of soil vapor samples was considered more appropriate to evaluate such potential impacts.

Soils encountered during the investigation consisted primarily of damp, fine- to coarse-grained, gravelly sand, medium to high plasticity sandy and silty clay, and silty to clayey sand. Rubble from the previous building and/or parking lot pavement appeared to be buried onsite at shallow depths based on utility locator findings and fragments of building materials encountered in the soil borings. Groundwater was not encountered in any of the borings to an explored depth of up to 10 feet bgs. No field evidence of contamination, such as odor or staining in soil, was observed.

Twenty-one (21) of the total 28 analyzed soil samples contained lead concentrations that exceed the current Regional Water Quality Control Board (RWQCB) Environmental Screening Level (ESL) of 80 milligrams per kilogram (mg/kg) for this metal applied to a residential use scenario (RWQCB, 2016), including 12 of 14 samples collected from a depth of 0.5 feet bgs and 9 of 14 from 3.0 feet bgs. Two of the 0.5-foot bgs samples collected from opposite ends of the Site and analyzed for

organochlorine pesticides were non-detect for these compounds. In addition, four of the soil samples revealed lead concentrations exceeding the California Code of Regulations (CCR) Title 22 Total Threshold Limit Concentration (TTLC) waste characterization value of 1,000 mg/kg for lead, which would designate such soil as hazardous waste if removed and transported from the Site.

Analyses of soil vapor samples revealed low detections of the aromatic compounds benzene, toluene, ethylbenzene and total xylenes (BTEX), methyl ethyl ketone (MEK), and various other VOCs at concentrations beneath their respective ESLs for residential land use, where established.

Based on the numerous lead detections in the soil samples that exceeded the residential ESL for lead, EIS recommended submitting the Phase II report to the Alameda County Environmental Health Department (ACEHD). California Affordable Housing Initiatives, Inc. subsequently submitted the Phase II report to ACEHD.

California Affordable Housing Initiatives, Inc. as property owner of the Site entered into a Voluntary Remedial Action Agreement with ACEHD on June 6, 2017. ACEHD staff and California Affordable Housing Initiatives, Inc. discussed the results of the previous Phase II report dated December 9, 2016, in a meeting conducted in May 2017. ACEHD staff agreed with the concept of using site development to cap lead-impacted soil, but requested additional soil and soil vapor assessment to complete the characterization of the Site. On August 1, 2017, a meeting was held at the offices of ACEHD with all interested parties to discuss the draft Work Plan that had been previously submitted, and review details of the redevelopment project. ACEHD staff requested, as part of the Voluntary Cleanup Plan that a revised final Workplan be prepared and submitted to their agency for review, which is presented herein.

2.0 SCOPE OF WORK

EIS proposes the following tasks to meet general investigation requirements:

- Prepare this Workplan for ACEHD approval and oversight prior to initiating the field portion of the investigation. A Site-Specific Health and Safety Plan will also be prepared to cover the field-work activities.
- Notify USA North of the proposed boring locations and contract with a private locator to clear potential conflicts with underground utilities.
- Advance five borings (SB-15 through SB-19) with truck-mounted DPT drilling equipment. The borings will be advanced along the northeast and southeast sides of the Site to assess potential lead impacts in these areas of the Site.
- Continuously core the borings to a final depth of approximately 3.0 feet bgs. The soil cores will be logged from each borehole using the Unified Soil Classification System (USCS) for texture, relative moisture content, field evidence of contaminants (such as staining), and other observable characteristics and geologic features of interest.
- Collect soil samples from borings SB-15 through SB-19 at depths of 1.0 foot bgs and 3.0 feet bgs.

- Advance eight borings (A-1 through A-4; B-1 through B-4) with truck-mounted DPT drilling equipment. The borings will be advanced on the northwestern side of the property to further assess concentrations of potential contaminants in this area of the Site.
- Continuously core the soil borings to a final depth of approximately 3.0 feet bgs. The soil cores will be logged from each borehole as described above using USCS guidelines.
- Collect discrete soil samples from borings A-1 through A-4 and B-1 to B-4 at depths of 1.0 foot bgs and 3.0 feet bgs. The laboratory will be instructed to organize the samples into 4-point composite samples representative of A- and B-series borings for each depth to characterize soil quality for the approximate 1.0- and 3.0-foot bgs horizons of the soil profile.
- Collect three soil vapor samples from borings SV-3 to SV-5. The soil vapor samples will be collected from a depth of 5.0 feet below the design depth of the concrete mat or slab foundation of the proposed apartment building structure.
- Transfer all soil and soil vapor samples to a State-certified laboratory under chain of custody documentation. Soil samples collected from borings SB-15 through SB-19 will be analyzed for lead using (USEPA) Method 6020. Laboratory-composited A- and B-series soil samples will be analyzed for total petroleum hydrocarbons as gasoline, diesel and motor oil (TPH-g/d/mo) by U.S. Environmental Protection Agency (USEPA) Method 8015B, polyaromatic hydrocarbons (PAHs) by USEPA Method 8270-SIM, and CAM 17 Metals (including lead) by USEPA Method 6020. The soil vapor samples will be analyzed for VOCs by EPA Method TO-15.
- Seal borings with neat cement grout tremied-in from the bottom of the boring to the surface after completion of sampling.
- Prepare a professional technical report to present the sampling activities, analytical results, and findings of the investigation.

3.0 TEMPORARY SOIL BORINGS

3.1 BORING INSTALLATION

Prior to all drilling work, the locations of the proposed exploratory boring locations will be delineated with white marking paint and Underground Service Alert contacted at least two working days (48 hours) prior to boring advancement, as required by law, for utility line location and marking. A private utility locator will also clear the boring locations prior to drilling. All site work will be performed in accordance with a Site-Specific Health and Safety plan (Attachment A). The locations of the proposed soil and soil vapor borings are depicted in Figure 3. The rationale and analytical parameters for the proposed soil and soil vapor samples are included in Table 1.

A. SOIL BORINGS/SOIL SAMPLING

The borings will be advanced using truck-mounted limited access GeoProbe™ equipment. The borings will be advanced by hydraulically pushing the GeoProbe sampling device to the desired sampling depths. EIS has contracted with Environmental Control Associates (ECA), a California-licensed C-57 drilling contractor, to complete the borings. All downhole drilling equipment will be cleaned prior to drilling, cleaned between boreholes, and prior to leaving the Site. The proposed boring locations are depicted in Figure 3; however, the exact boring locations will be determined based on accessibility and field conditions. Soil encountered in each borehole will be logged using the Unified Soil Classification System (USCS) for texture, relative moisture content, field evidence of contaminants (such as staining), and other observable characteristics and geologic features of interest. To collect a soil sample, six-inch-long sample sleeves will be cut away from the 4.0-foot-long by 2 ½-inch-diameter acetate core liners of the DPT coring system and labeled and logged onto a chain-of-custody document for delivery to a State-certified laboratory for analysis.

B. SOIL VAPOR SAMPLE COLLECTION

Temporary soil vapor probes in borings SV-3, SV-4 and SV-5 will be installed at depths of approximately 5.0 feet beneath expected design depth of the concrete-mat or slab foundation of the proposed apartment building structure. The locations of the proposed soil vapor probes are depicted on Figure 3. The location of the soil vapor probes will be sited on the basis of general geographic distribution beneath the footprint of the proposed building structure, with one of the probes situated in the area of the future elevator pit. The soil vapor probe will consist of a preassembled soil vapor sampling tip connected to a length of Teflon™ tubing, with the sampling tip set in a 1-foot-thick sand-pack interval. The sand pack will be topped with an approximate 1-foot interval of dry bentonite chips followed by hydrated bentonite chips to the surface to seal the soil vapor sampling interval within the borehole from ambient air at the surface, thus ensuring sample integrity and representativeness. A schematic diagram of the in situ soil vapor sampling probe is presented in Figure 4.

The Teflon™ tubing from the sampling tip will be extended above the ground surface and connected to an in-line filter, a laboratory prepared flow regulator, and Summa® sampling canister. After the construction of the soil vapor sampling system is completed, the entire assembly will be left inactive for an equilibrium period of at least two hours.

The soil vapor probe and sampling train will then be purged of three casing volumes, which includes the internal volume of the tubing, the void space of the sand pack surrounding the sampling tip, and the void space of the overlying dry bentonite chips in the annular space. The vacuum gauge on the purge-canister flow controller and/or elapsed time will be monitored to confirm that that three well volumes of vapor have been purged from the sampling apparatus.

After purging is completed, the sampling apparatus will be covered prior to sampling by a specialized plastic shroud provided by the analytical laboratory. To initiate sampling, the valve on the sampling canister is opened to induce flow from the sampling probe into the canister under the applied vacuum pressure of the canister. A flow rate of approximately 150 to 200 milliliters per minute (ml/min) will be maintained throughout sample collection by the laboratory-provided flow controller. Leak testing will be performed during sampling using helium gas injected into the shroud covering the sampling assembly (i.e., soil vapor probe connection to flow controller and sampling canister) as depicted in Figure 4. The canister will be closed when a vacuum of two to four inches of mercury has been reached

to seal the sample. The soil vapor samples will be labeled and logged onto a chain-of-custody document for delivery to a State-certified laboratory for analysis.

3.2 COMPLETION ACTIVITIES

All drill cuttings and equipment decontamination wash and rinse water will be stored onsite at the client-designated location in sealed drums pending analysis and disposal. Upon completion of all sampling activities, the borings will be backfilled to the ground surface using neat cement grout. Surface patching will comply with local regulations to repair paved surfaces to original condition. Upon completion of all other field activities, EIS will arrange for disposal of drill cuttings and rinse water, as appropriate.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

The QA/QC review for sample handling and custody procedures includes a verification of sample labels, containers, and chain-of-custody forms before samples are transferred to the selected analytical laboratory. Field QA/QC procedures include the collection of a duplicate soil vapor sample from one of the soil vapor borings.

5.0 LABORATORY ANALYSES

EIS will use McCampbell Analytical, Inc. of Pittsburg, California, a State-certified analytical laboratory, to analyze the soil samples. Selected soil samples will be analyzed for TPH-g and TPH-d/mo by USEPA Method 8015B, PAHs by USEPA Method 8270-SIM, and CAM 17 metals (including lead) by USEPA Method 6020. All soil vapor samples will be transported to BC Laboratories, Inc., a State-certified analytical laboratory located in Bakersfield, California, and analyzed for VOCs by USEPA Method TO-15. For leak-checking purposes, the soil vapor samples will also be analyzed for helium.

6.0 TECHNICAL REPORT

A report of the activities described in this Workplan will be prepared following receipt of all laboratory analytical results. The report will include a description of all work performed, site and vicinity maps showing boring locations, tabulated analytical data, laboratory analytical reports and chain-of-custody documentation, and findings and conclusions.

7.0 PROJECT SCHEDULE

Upon receipt of approval, EIS will coordinate with contractors to initiate the activities described in this Workplan. We anticipate the field portion of this work to require one to two days to complete. The laboratory turn-around time will be approximately ten working days. The technical report will be prepared and submitted within three weeks of receipt of all laboratory results.

Please contact EIS at (408) 402-9800 if you have any questions regarding this report.

Sincerely,

Environmental Investigation Services, Inc.

Philip V. McLaughlin, PG No. 5434
Senior Geologist

Attachments:

Tables
Table 1 – Soil Boring Rationale – Previous and Proposed Borings

Figures
Figure 1 – Site Location Map
Figure 2 – Site Plan of Proposed Development
Figure 3 – Soil Boring Location Map
Figure 4 – Soil Vapor Probe Construction Diagram
Figure 5 – Soil Vapor Sampling Train Diagram

Attachment A – Site-Specific Health and Safety Plan

References

Environmental Investigation Services, Inc. (EIS), 2016a, *Phase I Environmental Site Assessment for 1228, 1232, 1236 East 17th Street, Oakland, California*. October 24, 2016.

Environmental Investigation Services, Inc. (EIS), 2016b, *Phase II Limited Soil & Soil Vapor Investigation Report, 1228-1236 East 17th Street, Oakland, California*. December 9, 2016.

San Francisco Bay Regional Water Quality Control Board (RWQCB), 2016, *Interim Final, User's Guide Derivation and Application of Environmental Screening Levels*. February 2016 (Rev. 3).

Sierra West Consultants, Inc. (Sierra West), 2013, *First Semi-Annual Groundwater Monitoring and Sampling Report of 2013, 1839 Foothill Boulevard, Oakland, California*. April 22, 2013.

TABLES

TABLE 1
Soil Boring Rationale
Previous and Proposed Borings
1228-1236 E. 17th Street
Oakland, California
Project No. 1652-2A

Activity	Boring ID	Date	Media/Type	Sample Depths (feet bgs)	Analytes	Rationale
Previous Borings	SB-1 to SB-14	11/17/2016	Soil/Discrete	0.5 & 3.0	Lead	Characterize potential lead impacts to near surface soils to depth of 3.0 feet bgs across the Site for due diligence purposes.
	SV-1 & SV-2	11/17/2016	Soil Vapor	5.0	VOCs	Characterize potential soil vapor impacts from historical off-site uses of downgradient, southeastern adjoining property.
Proposed Borings	SB-15 to SB-19	TBD	Soil/Discrete	0.5 & 3.0	Lead	Characterize potential lead impacts to near surface soils to depth of 3.0 feet bgs in areas along southeastern and northeastern margins of Site to address data gap of areas not previously sampled or evaluated for potential lead impacts.
	A-1 to A-4 & B-1 to B-4	TBD	Soil/Composite	0.5 & 3.0	TPH, VOCs, PAHs & CAM 17 Metals	Characterize potential TPH, PAH and metal impacts to near surface soils at depth horizons of 0.5 and 3.0 feet bgs across two areas in the northwestern portion of the Site encompassed by A- and B-series borings. The discrete samples to be collected at depths of 0.5 and 3.0 foot bgs from the four A-series borings and the four B-series borings (total of 16 samples) will be organized in the laboratory into 4-point composite samples reprentative of the 0.5 and 3.0 depth horizons for the areas encompassed by each set of borings. Data collected from these samples will address data gap of characterizing potential impacts of soil to be left onsite after completion of grading activities.
	SV-3 to SV-5	TBD	Soil Vapor	5.0	VOCs	Characterize potential soil vapor impacts from historical off-site uses of downgradient, southeastern adjoining property. Additional soil vapor samples to address an identified data gap of characterizing potential soil vapor impacts across the entire Site.

Notes:
bgs = below the ground surface. The soil vapor samples will actually be collected from depth 5.0 feet below the base of concrete mat foundation or concrete slab of the proposed building structure.
TPH = Total petroleum hydrocarbons. Samples to be analyzed for gasoline- and diesel/motor oil-range hydrocarbons.
VOCs = Volatile organic compounds
PAHs = Polyaromatic hydrocarbons
CAM-17 Metals = California Assessment Manual 17 metals

FIGURES

Environmental Investigation Services, Inc.
15951 Los Gatos Boulevard, Suite 17
Los Gatos, CA 95032
Ph: (408) 402-9800 Fax: (408) 402-9830

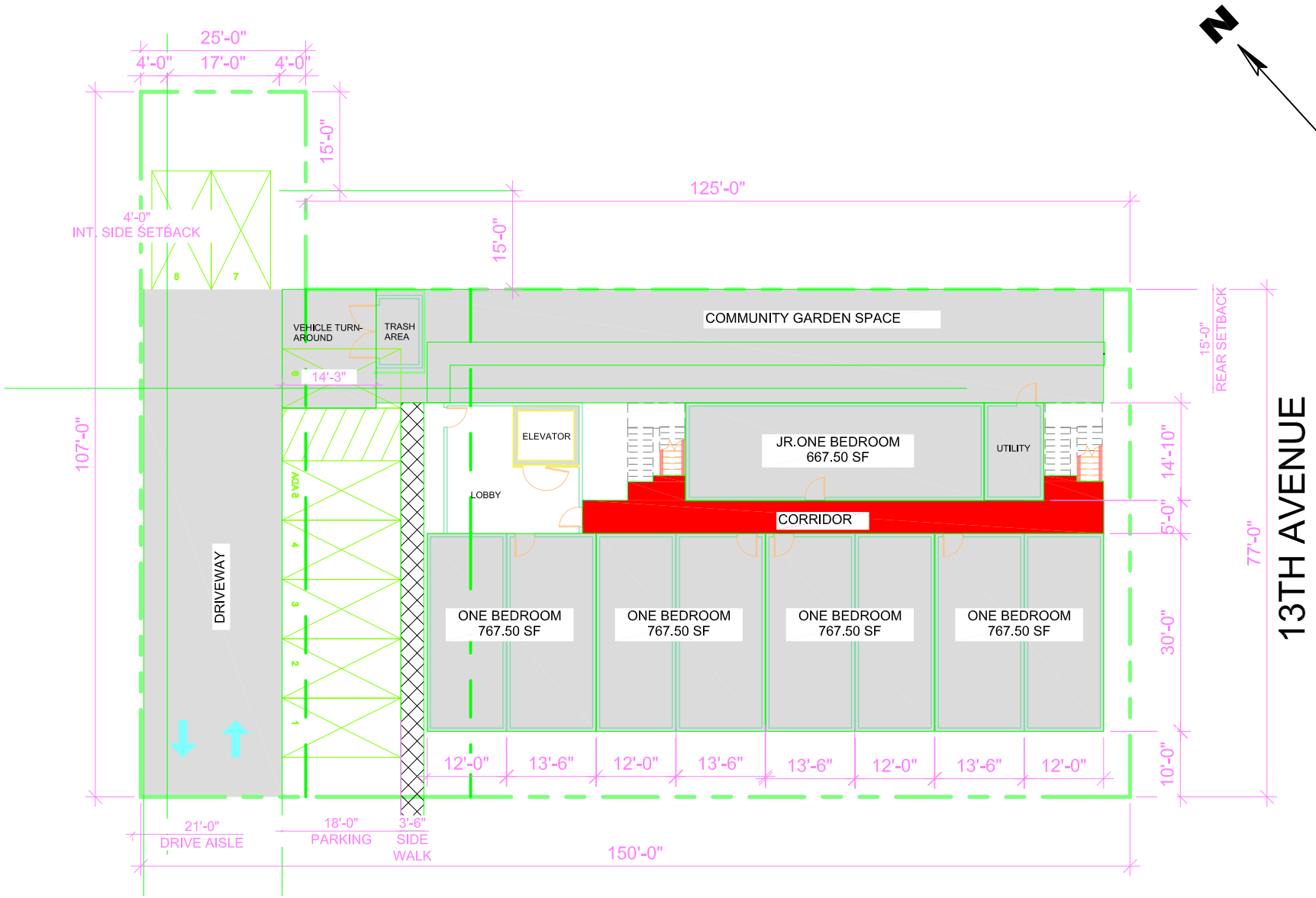
Site Location Map

1228, 1232, and 1236 E. 17th Street, Oakland, California

Figure: 1
EIS Project: 1652-2A
June 28, 2017

File Path:

Approximate Scale: 1" = 25'



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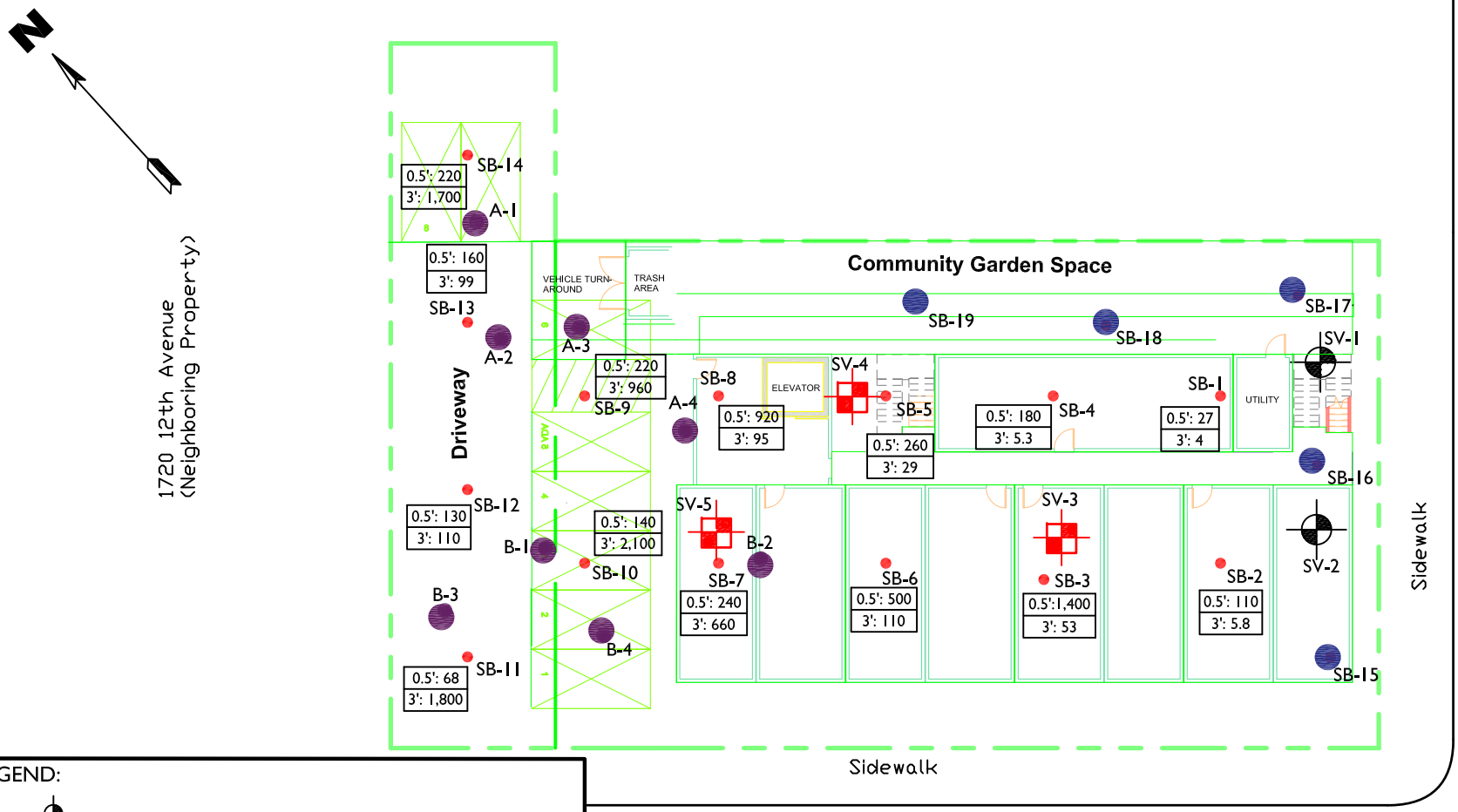
Site Plan of Proposed Development

1228, 1232, and 1236 E. 17th Street, Oakland, California

Figure: 2
EIS Project: 1652-2A
August 8, 2017

File Path:

Approximate Scale: 1" = 25'



EAST 17TH STREET

LEGEND:

- SV-1 — Prior Soil Vapor Well Location
- SB-1 — Prior Soil Boring Location
- B-1 — Proposed Waste Characterization Soil Boring
- A-1 — Proposed Soil Boring
- SV-5 — Proposed Soil Vapor Well

SB-2	← Boring ID
0.5': 200	← Lead concentration at 0.5 ft. bgs
3': 10	← Lead concentration at 3 ft. bgs

Tables display chemical concentration data from soil samples collected on November 17, 2016. All chemical concentration data displayed are in milligrams per-kilogram (mg/kg).

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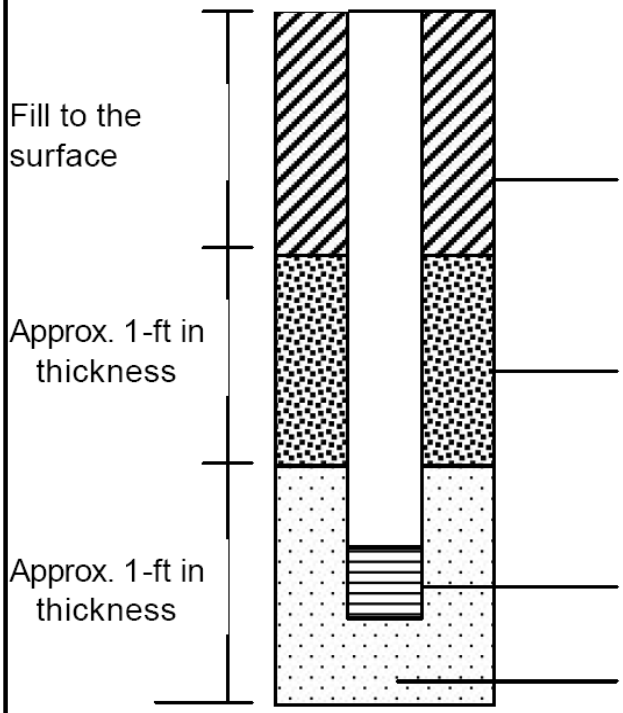
Soil Boring Location Map

1228, 1232, and 1236 E. 17th Street, Oakland, California

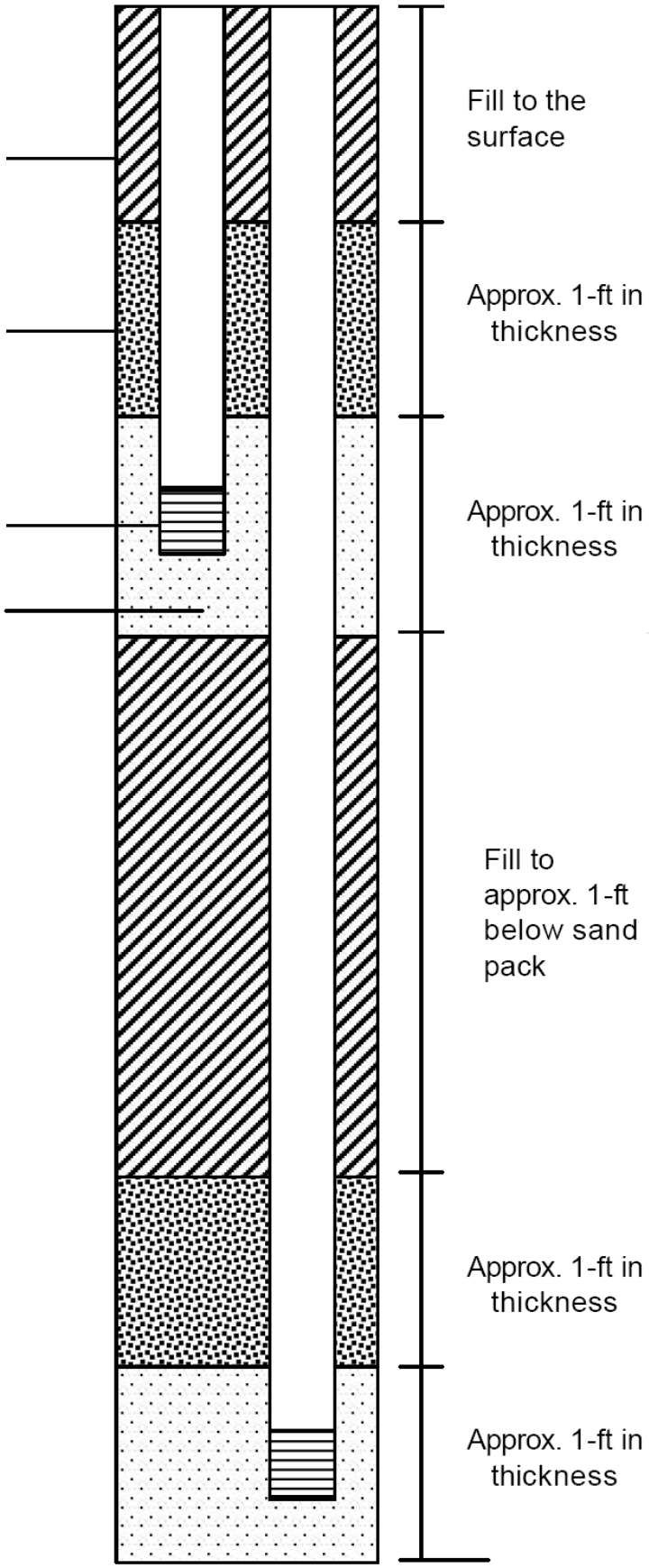
Figure: 3
EIS Project: 1652-2A
June 27, 2017

File Path:

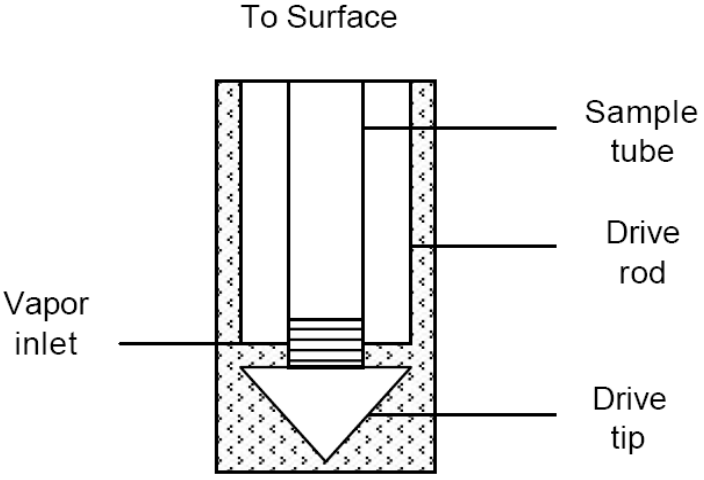
Permanent/Semi-permanent Gas Probe Construction Diagram



Multi-depth Gas Probe Construction Diagram



Temporary Gas Probe Method



Note: Probes are not drawn to scale. Total depths are to be determined in the field.

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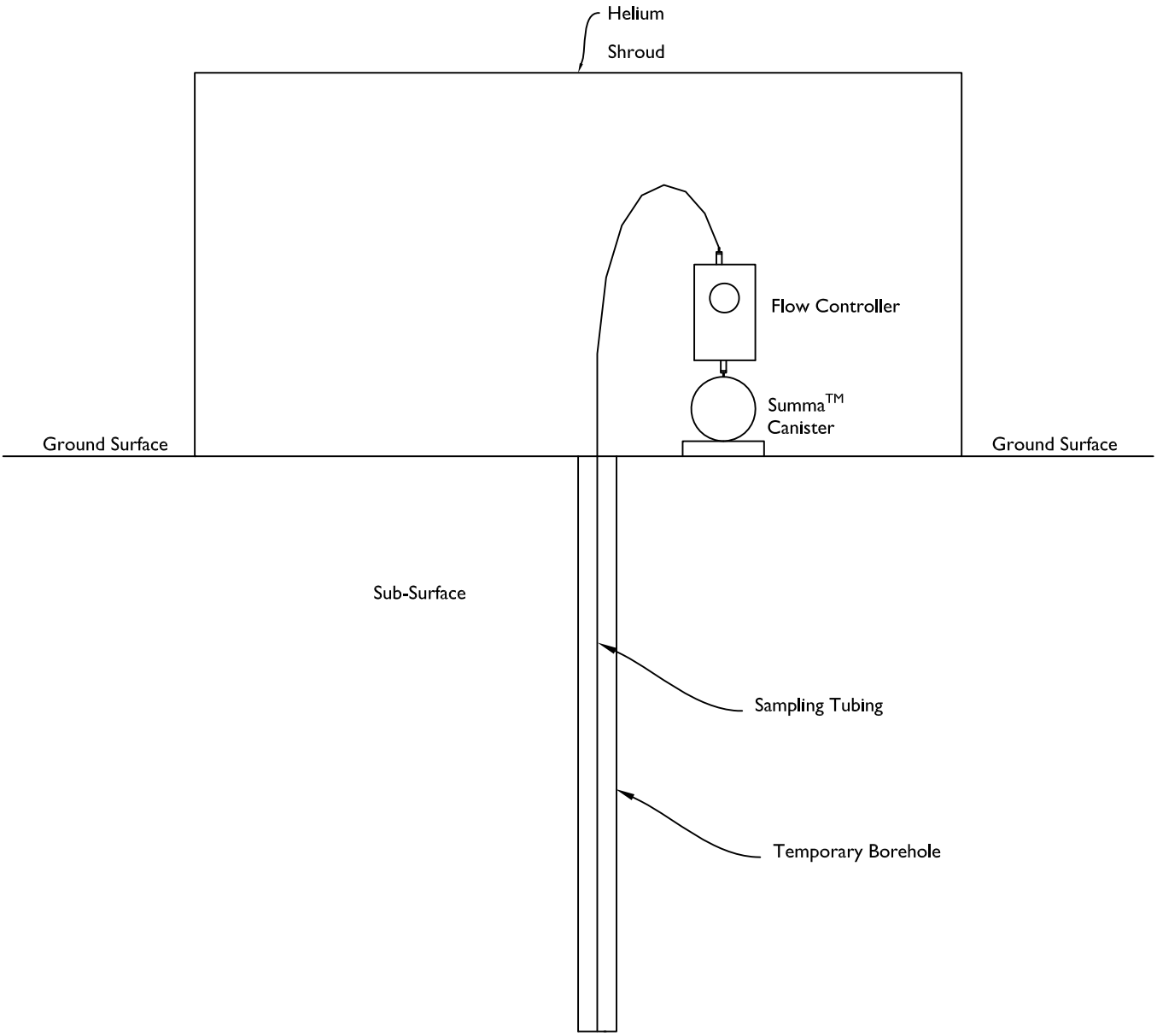
Soil Vapor Probe Construction Diagram

1228, 1232, and 1236 E. 17th Street
Oakland, California

Figure: 4
EIS Project: 1652-2A
August 8, 2017



Drawing Not to Scale

Environmental Investigation Services, Inc.
15951 Los Gatos Boulevard, Suite 17
Los Gatos, CA 95032
Ph: (408) 402-9800 Fax: (408) 402-9830

Soil Vapor Probe Sampling Train Diagram

1228, 1232, and 1236 E. 17th Street
Oakland, California

Figure: 5
EIS Project: 1652-2A
August 8, 2017

ATTACHMENT A- Site Specific Health and Safety Plan

ENVIRONMENTAL INVESTIGATION SERVICES, INC.

SITE SPECIFIC

HEALTH AND SAFETY PLAN

1236 E. 17TH STREET
OAKLAND, CALIFORNIA

EIS PROJECT # 1652-2A
JUNE 29, 2017

ENVIRONMENTAL INVESTIGATION SERVICES, INC.
15951 LOS GATOS BLVD, SUITE 17
LOS GATOS, CA 95032 PH:408.402.9800

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Attachment A – Task Hazard Analyses
Attachment B – Chemical Safety Cards & Material Safety Data Sheets
Attachment C – Nearest Emergency Medical Facility
Attachment D – Site Safety Briefing Meeting Form

1.0 INTRODUCTION

This Health and Safety Plan (HASP) provides guidance for personnel who will be working at the site, and may be potentially exposed to any hazardous waste or substances.

This HASP was developed per California Code of Regulations, Title 8, Section 5192, to provide general health and safety guidance for work activities conducted at the site. According to California Occupational Safety and Health Administration (Cal/OSHA) requirements, each contractor working at this site must prepare a site specific HASP that addresses the safety and health hazards for all work activities and includes requirements and procedures for employee protection. The HASP must be kept on-site, and prior to any work done at the site, the Project Manager and field staff must be familiar with the HASP.

This HASP applies to all personnel, consultants, and subcontractors conducting work on the subject property. This HASP will be amended as necessary for implementation of any additional activities associated with the remediation & development of the site.

2.0 SITE INFORMATION AND SCOPE OF WORK

The objective of this site specific health and safety plan is to ensure that site investigation activities are performed in a manner protective of the health and safety of site workers and other site users entering the work zone.

2.1 SITE INFORMATION

This section provides general and historical information associated with the site.

2.1.1 GENERAL DESCRIPTION

The Site is located at 1236 E. 17th Street in Oakland California. The Site is currently an undeveloped grassy lot. The property is surrounded by chain-link fencing.

2.1.2 SITE BACKGROUND AND HISTORY

EIS completed a previous Phase I ESA for the Site in 2016. Refer to EIS's previous report for a detailed summary of the Site history.

2.2 SCOPE OF WORK

The Phase II Site Investigation will consist of the following tasks:

- Notify USA North and a private utilities locator of the proposed boring locations to clear underground utilities.
- Coordinate appropriate permitting and grout inspection with Alameda County Public Works agency.

- Advance a total of 16 borings throughout the lot. Collect soil vapor samples at three locations.

- Prepare a technical report documenting all field and laboratory methods, findings, and results.

3.0 PROJECT HEALTH AND SAFETY ORGANIZATION

3.1 PROJECT MANAGER: PHILIP MCLAUGHLIN

The Project Manager (PM) has overall management authority and responsibility for all site operations, including health and safety.

3.2 PROJECT SAFETY OFFICER: TYLER SPROULE

The Project Safety Officer is a staff member assigned to oversee health and safety requirements of the project and provide any needed support. The Project Safety Officer will be the first point-of-contact for all of the project's health and safety matters. Duties include the following:

- Approving this Health and Safety Plan, and any required changes & revisions.
- Approving of the designated Site Safety Officer (SSO)
- Reviewing all personal exposure monitoring results.
- Investigating any reported unsafe acts or conditions.

3.3 SITE SUPERVISOR: JOSEPH ADAMS

The Site Supervisor has the overall responsibility and authority to direct work operations at the job site. The Project Manager may act as the Site Supervisor while on site.

3.3.1 RESPONSIBILITIES

The Site Supervisor is responsible for:

- Discussing deviations from the work plan with the SSO and PM.
- Discussing safety issues with the PM, SSO, and site workers.
- Assist the SSO with the implementation of this Health and Safety plan and ensure compliance.
- Assist the SSO with site inspections for compliance of both the HASP and SGMP.

3.3.2 AUTHORITY

The Site Supervisor has the authority to:

- Verify that all operations are in compliance with the requirements of this HASP and SGMP, and halt any activity which poses a potential hazard to personnel, property, or the environment.
- Temporarily suspend individuals from field activities for infractions against the HASP pending consideration by the PM, SSO, and Project Safety Officer.

3.3.3 QUALIFICATIONS

In addition to being Hazardous Waste Operations and Emergency Response (HAZWOPER)-qualified (see Section 4.1), the Site Supervisor is required to have completed the 8-hour HAZWOPER Supervisor Training Course in accordance with 29 CFR 1910.120 (e)(4).

3.4 SITE SAFETY OFFICER: JOSEPH ADAMS

The Site Safety Officer has the overall responsibility and authority to oversee all on-site safety measures implemented by the HASP and must be present on site during all site operations or may designate an individual to act in place of the SSO during such times as it is determined that the SSO does not need to be physically present.

3.4.1 RESPONSIBILITIES

The Site Safety Officer is responsible for:

- Update the site-specific HASP to reflect changes in site conditions or the scope of work. HASP updates must be reviewed and approved by the Project Safety Officer.
- Inspect the site for compliance with this HASP.
- Discussing safety issues and potential health and safety hazards with the PM, Site Supervisor, and site workers.
- Work with the Site Supervisor and PM to develop and implement corrective action to correct deficiencies discovered during site inspections. Deficiencies will be discussed with project management to determine appropriate corrective action(s).
- Contact the Project Safety Officer for technical advice regarding safety issues.
- Provide a means for employees to communicate safety issues to management in a discreet manner.
- Determine emergency evacuation routes, establishing and posting local emergency telephone numbers, and arranging emergency transportation.
- Ensure that all site personnel and visitors have received the proper training and medical clearance prior to entering the site.
- Establish any necessary controlled work areas (as designated in this HASP or other safety documentation).
- Present tailgate safety meetings.
- Select an alternate SSO by name and inform him/her of their duties, in the event that the SSO must leave or is absent from the site.

3.4.2 AUTHORITY

The Site Safety Officer has the authority to:

- Verify that all operations are in compliance with the requirements of this HASP and SGMP, and halt any activity which poses a potential hazard to personnel, property, or the environment.
- Temporarily suspend individuals from field activities for infractions against the HASP pending consideration by the PM, SSO, and Project Safety Officer.

3.4.3 QUALIFICATIONS

In addition to being HAZWOPER-qualified (see Section 4.1), the SSO is required to have completed the 8-hour HAZWOPER Supervisor Training Course in accordance with 29 CFR 1910.120 (e)(4).

3.5 EMPLOYEES

3.5.1 RESPONSIBILITIES

Responsibilities of employees associated with this project include, but are not limited to:

- Understanding and abiding by the policies and procedures specified in the HASP and other applicable safety policies, and clarifying those areas where understanding is incomplete.
- Providing feedback to health and safety management relating to omissions and modifications in the HASP or other safety policies.
- Notifying the SSO of unsafe conditions and acts.

3.5.2 AUTHORITY

The health and safety authority of each employee assigned to the site includes the following:

- The right to refuse to work and/or stop work authority when the employee feels that the work is unsafe (including subcontractors or team contractors), or where specified safety precautions are not adequate or fully understood.
- The right to refuse to work on any operation where the safety procedures specified in this HASP or other safety policies are not being followed.
- The right to contact the SSO or the Project Safety Officer at any time to discuss potential concerns.

3.6 SUBCONTRACTORS

Each subcontractor is considered to be an expert in all aspects of the work operations for which they are tasked to provide, and each subcontractor is responsible for compliance with the regulatory requirements that pertain to those services. Each subcontractor is expected to perform its operations in accordance with its own unique safety policies and procedures, in order to ensure that hazards associated with the performance of the work activities are properly controlled. Copies of any required safety documentation for a subcontractor's work activities will be provided for review prior to the start of onsite activities, if required.

Each subcontractor's management will provide qualified employees and allocate sufficient time, materials, and equipment to safely complete assigned tasks. In particular, each

subcontractor is responsible for equipping its personnel with any required personnel protective equipment (PPE).

Hazards not listed in this HASP but known to any subcontractor, or known to be associated with a subcontractor's services, must be identified and addressed to the Project Manager or the Site Supervisor prior to beginning work operations. The Site Supervisor or authorized representative has the authority to halt any subcontractor operations, and to remove any subcontractor or subcontractor employee from the site for failure to comply with established health and safety procedures or for operating in an unsafe manner.

3.7 VISITORS

Authorized visitors (e.g., client representatives, regulators, management staff, etc.) requiring entry to any work location on the site will be briefed on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer's health and safety policies. In addition, this HASP specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these requirements at all times.

Unauthorized visitors and visitors not meeting the specified qualifications will not be permitted within established work areas.

4.0 SAFETY PROGRAMS AND TRAINING

4.1 HAZWOPER QUALIFICATIONS

Personnel performing work at the job site must be qualified as HAZWOPER workers (unless otherwise noted in specific Task Hazard Analysis or by the SSO), and must meet the medical monitoring and training requirements.

Personnel must have successfully completed training meeting the provisions established in 29 CFR 1910.120 (e)(2) and (e)(3) (40-hour initial training). As appropriate, personnel must also have completed annual refresher training in accordance with 29 CFR 1910.120 (e)(8); each person's most recent training course must have been completed within the previous 365 days. Personnel must also have completed a physical exam in accordance with the requirements of 29 CFR 1910.120 (f), where the medical evaluation includes a judgment of the employee's ability to use respiratory protective equipment and to participate in hazardous waste site activities.

4.2 SITE-SPECIFIC SAFETY TRAINING

In addition to the general health and safety training programs, personnel will be:

- Instructed on the contents of applicable portions of this HASP and any supplemental health and safety information developed for the tasks to be performed.

- Informed about the potential routes of exposure, protective clothing, precautionary measures, and symptoms or signs of chemical exposure.
- Made aware of task-specific physical hazards and other hazards that may be encountered during site work. This includes any client-specific required training for health and safety.

The site-specific training will be performed prior to the worker performing the subject task or handling the impacted materials and on an as-needed basis thereafter. Training will be conducted by the SSO (or his/her designee) and will be documented on Attachment D, Site Safety Briefing Meeting Form.

4.3 HAZARD COMMUNICATION

All containers on site shall be properly labeled to indicate their contents. Labeling on any containers not intended for single-day, individual use shall contain additional information indicating potential health and safety hazards (flammability, reactivity, etc.).

Section 5.2 provides information concerning the materials that may be encountered as environmental contaminants during the work activities. In addition, any organization wishing to bring any hazardous material onto the work site must first provide a copy of the item's Material Safety Data Sheet (MSDS) to the SSO for approval and filing (the SSO will maintain copies of all MSDSs on site). All personnel shall be briefed on the hazards of any chemical product they use, and shall be aware of and have access to all MSDSs.

Attachment B provides copies of MSDSs for any environmental contaminants known to exist on site as well as items planned to be brought on site. This information will be updated as required during site operations.

4.4 CONFINED SPACE ENTRY

The SSO & Site Supervisor shall identify all potential confined spaces and will inform all employees of the location of confined spaces.

Confined space entry is not permitted under this HASP under any circumstances. If entry into confined spaces is necessary, a confined space entry plan and permit system must first be prepared and approved by the Project Manager and Project Safety Officer.

Examples of potential confined spaces include the following:

- Manholes and utility access points.
- Containment pits and sumps.
- Trenches greater than 4 feet in depth.
- Underground or aboveground storage tanks

4.5 HAZARDOUS, SOLID, OR MUNICIPAL WASTE

If hazardous, solid and/or municipal wastes are generated during any phase of the project, the waste shall be accumulated, labeled, and disposed of in accordance with applicable Federal, State, and/or local regulations.

4.6 GENERAL SAFETY RULES

All site personnel shall adhere to general safety rules during site operations. In addition, the housekeeping and personal hygiene requirements listed below will also be observed.

4.6.1 HOUSEKEEPING

During site activities, work areas will be continuously policed for identification of excess trash and unnecessary debris. Excess debris will be collected and stored in an appropriate container (e.g., plastic trash bags, garbage can, roll-off bin) prior to disposal. At no time will debris or trash be intermingled with waste PPE or contaminated materials.

4.6.2 SMOKING, EATING, OR DRINKING

Smoking, eating and drinking will not be permitted inside any controlled work area at any time. Field workers will first wash hands and face immediately after leaving controlled work areas (and always prior to eating or drinking). Consumption of alcoholic beverages is prohibited at any time.

4.6.3 PERSONAL HYGIENE

Employees will be provided washing facilities (e.g., buckets with water and Alconox, or hand/face wipes) at the work location. The use of water and hand soap (or similar substance) will required by all employees following exit from the Exclusion Zone, prior to breaks, and at the end of daily work activities.

4.6.4 BUDDY SYSTEM

All field personnel will use the buddy system when working within any controlled work area. Under no circumstances will any employee be present alone in a controlled work area.

4.7 STOP WORK AUTHORITY

All employees have the right and duty to stop work when conditions are unsafe, and to assist in correcting these conditions. Whenever the SSO determines that workplace conditions present an uncontrolled risk of injury or illness to employees, immediate resolution with the appropriate supervisor shall be sought. Should the supervisor be unable or unwilling to correct the unsafe conditions, the SSO is authorized and required to stop work, which shall be immediately binding on all affected employees and subcontractors.

Upon issuing the stop work order, the SSO shall implement corrective actions so that operations may be safely resumed. Resumption of safe operations is the primary objective; however, operations shall not resume until the Project Safety Officer has concurred that workplace conditions meet acceptable safety standards.

4.8 CLIENT SPECIFIC SAFETY REQUIREMENTS

No client specific safety requirements have been set.

5.0 HAZARD ASSESSMENT

It is incumbent upon every person conducting to minimize their exposure to the physical and chemical hazards located within the work site and surrounding areas.

5.1 TASK HAZARD ANALYSIS

Task hazard analysis (THA) is a technique used to identify hazards and hazard controls associated with a specific job function. THAs focus on the relationship between the workers, the task, the resources required to complete the task, and the work environment. These variables must be evaluated to identify the potential hazards associated with the task. Once identified, steps can be taken to eliminate, reduce, or control the hazards to an acceptable risk level.

5.1.1 UNANTICIPATED WORK ACTIVITIES/CONDITIONS

Operations at the site may require additional tasks not identified in Section 2.2 or addressed in Attachment A THAs. Before performing any task that is not covered in this HASP, a Task Hazard Analysis should be prepared and approved by the Project Safety Officer.

5.2 ENVIRONMENTAL CONTAMINANT EXPOSURE HAZARDS

The following is a discussion of the hazards presented to worker personnel during this project from on-site chemical and radiological hazards known or suspected to be present on site. Hazards associated with chemical products brought to the site during work operations are addressed separately, under the Hazard Communication process described in Section 4.3.

Exposure symptoms and applicable first aid information for each suspected site contaminant listed in Section 2 are located in the following subsections. Additional data is provided in Chemical Safety Cards, located in Attachment B.

5.2.1 PETROLEUM HYDROCARBONS

In the former oil use area of the site there is a limited area of petroleum hydrocarbon affected soil. Based on previous soil investigations, the presence of petroleum hydrocarbons in soil should not pose an unacceptable health risk but care should be taken if impacted soil is encountered.

Hydrocarbon fuels (including gasoline, diesel fuel and jet fuel) are complex mixtures of hydrocarbons and additives. The constituents of hydrocarbon fuels possess a range of vapor pressures. For highly volatile components, chronic exposures or exposures to a high concentration may cause unconsciousness, coma, and possible death from respiratory failure. Exposure to low concentrations of vapor may produce flushing of the face, slurred speech,

and mental confusion. Fuels are also irritating to the skin, and may cause drying and dermatitis as a result of prolonged contact.

Various components and additives of the fuels can themselves present significant additional hazards. The aromatic compounds benzene, toluene, ethylbenzene and xylene (BTEX) are of greatest concern in relation to site investigation activities, and are addressed separately below. However some additives used for performance enhancement (e.g., methyl tert-butyl ether - MTBE), oxygenation (e.g., alcohols and MTBE) and water scavenging (e.g., ethylene glycol methyl ether - EGME) can also present significant hazards as a result of prolonged inhalation or skin exposure. In the past tetra-ethyl and tetra-methyl lead, both of which have been identified as carcinogens and present moderate skin contact hazards, were added to gasoline for anti-knock control.

There are no set limits for petroleum hydrocarbons; however, gasoline guidelines may be used instead. Both the OSHA Permissible Exposure Limit (PEL) and the American Conference of Governmental Industrial Hygienists Threshold Limit Value (ACGIH TLV) for gasoline are 300 ppm. Control of inhalation exposure to gasoline (and its various constituents and additives) can be accomplished through the use of air purifying respirators equipped with organic vapor cartridges. The use of skin protection (i.e., chemically-protective gloves) is required when handling gasoline-contaminated materials.

5.2.2 LEAD

Based on area investigations, the presence of lead in soil is possible but should not pose an unacceptable health risk. Care should be taken if impacted soil is encountered.

Lead is a metal obtained through mining and mineral extraction. Historically, lead was commonly used in paints and piping; currently, lead is used in the manufacturing of items such as ammunition and car batteries.

At room temperature, lead is a non-combustible, odorless, bluish-white to silvery-grey solid. Lead does not readily degrade in the subsurface.

Lead exposure can occur through inhalation and ingestion. Short-term exposure to high concentration, particularly in unventilated areas, may cause irritation in the skin and eyes. Repeated or extended exposure can cause nausea, abdominal pain, and vomiting, and may impact blood, bone marrow, nervous systems, and kidneys. It is considered a probable human carcinogen.

The OSHA PEL 8-hour time-weighted average for lead is 0.050 mg/m^3. Breathing protection, safety spectacles, and protective gloves can be used to prevent exposure.

5.2.3 CHLORINATED SOLVENTS

Based on EIS's previous Phase I ESA findings, there is potential that organochlorine pesticide (OCPs) impacts exist in subject. Common chlorinated solvents include tetrachloroethylene (PCE) and trichloroethylene (TCE).

PCE and TCE are manufactured chemicals used for dry cleaning and metal degreasing. They are also used in the manufacture of other chemicals and for textile finishing and dyeing. PCE and TCE have been produced commercially since the early 1900s.

At room temperature, PCE/TCE is a nonflammable colorless liquid. It evaporates easily and has a sharp, sweet odor similar to chloroform, which most people can smell at a level of about one part per million (ppm). Other names for tetrachloroethylene are PCE/TCE released into soil will readily evaporate or may leach slowly to groundwater, for it biodegrades slowly in soil.

Exposure to high concentrations of tetrachloroethylene, especially in poorly ventilated areas, can cause nose and throat irritation and dizziness, headache, sleepiness, confusion, nausea, difficulty in speaking and walking, unconsciousness, and death. Severe skin irritation may result from repeated or extended skin contact with tetrachloroethylene. It is considered to be a potential human carcinogen.

The OSHA PEL exposure limit ceiling is 200ppm for 5 minutes in any 3-hour period, with a maximum peak of 300ppm.

5.3 ASSESSMENT OF EXPOSURE HAZARDS

Inhalation – Excavation activities have the potential for airborne release of contaminants. Appropriate dust and fugitive emission controls, as well as monitoring and the use of appropriate PPE will greatly minimize the potential for exposure.

Skin Contact – Direct contact to skin will be minimized through engineering controls inherent to the operation, use of hand tools, and dermal protective equipment. Specially, workers should wear Nitrile gloves and wash hands thoroughly with cleaning agent before and after working in the exclusion zones.

Ingestion – Protection against exposure via ingestion can be accomplished by performance of proper decontamination procedures when exiting contaminated work areas (see Section 8.2).

5.4 PHYSICAL HAZARDS

General physical hazards concerning all tasks are slippery surfaces, unstable surfaces, holes or ditches, dusty conditions, and heat/cold stress. Identified physical hazard during soil boring activities are workers struck by equipment, restricted movement, and excessive noise exposure.

Eye contact must be made with equipment operators before approaching moving equipment. The operator should stop the equipment before the worker approaches to reduce the potential hazard. Site personnel not directly involved with the work activity and observers must remain outside the "swing" radius of operating equipment.

Overhead electrical lines and underground utility lines could also present a potential safety hazard if contacted or disturbed. Observe safe distances from underground utilities of at least 5 feet and overhead utilities of at least 10 feet. In accordance with OSHA requirements,

greater distances are required for lines carrying greater than 50,000 volts. Greater distance should also be maintained if there is a risk that stray or broken (snapped) cables could come into contact with electrical lines.

6.0 ACTIVITY SPECIFIC REQUIREMENTS

6.1 SUPPLEMENTAL SAFETY PROCEDURES

As discussed in Section 5.0, personnel may be exposed to a variety of chemical and physical hazards. Additional procedures applicable to this project may be needed for hazards, situations, tools, and equipment not covered in this HASP.

Whenever unanticipated conditions are encountered, work shall stop, the area will be secured, and the Site Supervisor and SSO will be notified of the situation before any further action is taken.

7.0 PERSONAL PROTECTIVE EQUIPMENT

7.1 PERSONAL PROTECTIVE EQUIPMENT

The purpose of personal protective equipment (PPE) is to provide a barrier which will shield or isolate individuals from the chemical and/or physical hazards that may be encountered during work activities. Table 7-1 lists the minimum PPE required during site operations and additional PPE that may be necessary. The specific PPE requirements for each work task are specified in the individual THAs found in Attachment A.

Table 7-1

Type	Material	Additional Information
Minimum PPE		
Safety Vest	High-visibility	
Boots	Leather	ANSI approved safety toe.
Safety Glasses		ANSI approved.
Hard Hat		ANSI approved.
Work Uniform		No shorts or sleeveless shirts.
Additional PPE		
Hearing Protection	Ear plugs and/or muffs	In hazardous noise areas.
Leather Gloves		If working with sharp objects or powered equipment.
Protective Chemical Gloves	Nitrile, PVE, Neoprene, or Viton	When handling contaminated soil or equipment.

Respiratory Protection		During occurrence of gas, vapor, or dust emission.
Faceshield	Debris/splash shield	

7.2 DECONTAMINATION

Established decontamination procedures for personnel and equipment are necessary to control contamination and to protect field personnel.

All field personnel will wash their hands and face with soap and water before eating, drinking, smoking or chewing tobacco. These activities will be restricted to the designated rest area(s) in the Support Zone.

To minimize equipment requiring decontamination, dedicated equipment should be used for any work that may contact chemically affected soil. Decontamination procedures include removing loose soil from equipment and vehicles' exteriors with brooms or brushes. Soil not removed by brushing will be removed by washing.

7.3 PPE DOFFING AND DONNING INFORMATION

Have a "buddy" check your ensemble to ensure proper donning before entering controlled work areas. Without mirrors, the most obvious discrepancies can go unnoticed and may result in a potential exposure situation.

8.0 SITE CONTROL

8.1 GENERAL

The purpose of site control is to minimize potential contamination of workers, protect the public from site hazards, and prevent vandalism. The degree of site control necessary depends on the site characteristics, site size, and the surrounding area.

Controlled work areas will be established at each work location, and if required, will be established directly prior to the work being conducted. Diagrams designating specific controlled work areas may be drawn on site maps, posted in the support vehicle or trailer and discussed during the daily safety meetings. If the site layout changes, the new areas and their potential hazards will be discussed immediately after the changes are made.

8.2 CONTROLLED WORK AREAS

Each HAZWOPER controlled work area will consist of the following three zones:

- Exclusion Zone: Contaminated work area.
- Contamination Reduction Zone: Decontamination area.

- Support Zone: Uncontaminated or "clean area" where personnel should not be exposed to hazardous conditions.

Each zone will be periodically monitored. The Exclusion Zone and the Contamination Reduction Zone are considered work areas. The Support Zone is accessible to the public (e.g., vendors, inspectors).

8.2.1 EXCLUSION ZONE

The Exclusion Zone is the area where primary activities occur. This area may be marked with hazard tape, barricades or cones, or enclosed by fences or ropes. Only personnel involved in work activities, and meeting the requirements specified in the applicable Task Hazard Analysis and Sections 4.1 and 4.2, will be allowed in an Exclusion Zone.

The extent of each area will be sufficient to ensure that personnel located at/beyond its boundaries will not be affected in any substantial way by hazards associated with work activities.

All personnel should be alert to prevent unauthorized, accidental entrance into controlled-access areas (the Exclusion Zone and CRZ). If such an entry should occur, the trespasser should be immediately escorted outside the area, or all HAZWOPER-related work must cease. All personnel, equipment, and supplies that enter controlled-access areas must be decontaminated or containerized as waste prior to leaving (through the CRZ only).

8.2.2 CONTAMINATION REDUCTION ZONE

The Contamination Reduction Zone is the transition area between the contaminated area and the clean area. Decontamination is the main focus in this area. The decontamination of workers and equipment limits the physical transfer of hazardous substances into the clean area. This area must also be contained and access limited to personnel involved in decontamination. Decontamination procedures are further explained in Section 7.2.

8.2.3 SUPPORT ZONE

The Support Zone is an uncontaminated zone where administrative and other support functions, such as first aid, equipment supply, emergency information, etc., are located. The Support Zone shall have minimal potential for significant exposure to contaminants (i.e., background levels).

Employees will establish a Support Zone (if necessary) at the site before the commencement of site activities. The Support Zone would also serve as the entry point for controlling site access.

8.3 SITE ACCESS DOCUMENTATION

If implemented by the PM, all personnel entering the site shall complete the "Site Entry/Exit Log" located at the site trailer or primary site support vehicle.

8.3.1 VISITOR ACCESS

Visitors to any HAZWOPER controlled-work area must comply with the health and safety requirements of this HASP, and demonstrate an acceptable need for entry into the work area. All visitors desiring to enter any controlled work area must observe the following procedures:

- Each visitor must receive the proper training required by this HASP.
- Each visitor will be briefed on the hazards associated with the site activities being performed and acknowledge receipt of this briefing by signing the appropriate tailgate safety briefing meeting form.
- All visitors must be escorted while on the job site.

If the site visitor requires entry to any Exclusion Zone, but does not comply with the above requirements, all work activities within the Exclusion Zone must be suspended. Until these requirements have been met, entry will not be permitted.

8.4 SITE SECURITY

Site security is necessary to:

- Prevent the exposure of unauthorized, unprotected people to site hazards.
- Avoid the increased hazards from vandals or persons seeking to abandon other wastes on the site.
- Prevent theft.
- Avoid interference with safe working procedures.

To maintain site security during working hours:

- Identify authorized persons and establish limitations to their approved activities.
- Assign responsibility for enforcing authority for entry and exit requirements.
- Where feasible, install fencing or other physical barrier around the site.
- Have the PM approve all visitors to the site. Make sure they have valid purpose for entering the site. Have trained site personnel accompany visitors at all times and provide them with the appropriate protective equipment.

9.0 EMERGENCY RESPONSE PLANNING

In case of injury, administer first aid immediately. All injuries, accidents, or near-miss events shall be reported to the Project Manager and SSO as soon as possible depending on the nature of the injury. **IN THE EVENT OF A SERIOUS INJURY OR ACCIDENT:**

CALL 911

9.1 EMERGENCY ACTION PLAN

Although the potential for an emergency to occur is remote, an emergency action plan has been prepared for this project should such critical situations arise. The largest onsite emergency risk is physical injury or illness to a site worker. The emergency action plan will be reviewed by all personnel prior to the start of field activities.

Three major categories of emergencies could occur during site operations:

- Illnesses and physical injuries (including injury-causing chemical exposure)
- Catastrophic events (fire, explosion, earthquake, or chemical)
- Safety equipment problems

9.1.1 EMERGENCY REPONSE COORDINATOR

The Project Manager, Site Supervisor, or Site Safety Officer.

9.1.2 SITE-SPECIFIC EMERGENCY PROCEDURES

A vehicle shall be available on the site during all work activities to transport injured personnel to the identified emergency medical facilities. The route to the nearest emergency medical facility is shown in Attachment C

9.1.3 SPILL CONTAINMENT PROCEDURE

Work activities may involve the use of hazardous materials (i.e. fuels, solvents) or work involving drums or other containers. The following procedures will be used to prevent or contain spills:

- All hazardous material will be stored in appropriate containers
- Tops/lids will be placed back on containers after use.
- Containers of hazardous materials will be stored appropriately away from moving equipment.
- All hazardous commodities in use (i.e. fuels) shall be properly labeled.
- Containers shall only be lifted using equipment specifically manufactured for that purpose.

At least one spill response kit, to include an appropriate empty container, materials to allow for booming or diking the area to minimize the size of the spill, and appropriate clean-up material shall be available at each work site (more as needed).

9.1.4 ACCIDENT/INCIDENT REPORTING

All accidents and incidents that occur on-site during any field activity will be promptly reported to the SSO and the PM.

If any employee of a subcontractor is injured, documentation of the incident will be accomplished in accordance with the subcontractor's procedures; however, copies of all

documentation (which at a minimum must include the OSHA Form 301 or equivalent) must be provided to the SSO within 24 hours after the accident has occurred.

9.2 EMERGENCY CONTACTS

9.2.1 NEAREST HOSPITAL

Highland Hospital
1411 East 31st Street, Oakland, CA
Phone: 911 or (510)437-4800

9.2.2 NEAREST FIRE DEPARTMENT

Oakland Fire Station #4
1235 INTERNATIONAL BLVD, OAKLAND, CA 94606
PHONE: 911

9.2.3 HAZARDOUS MATERIALS SPILL/CLEAN UP CONTRACTOR

Clean Harbors Environmental
1010 Commercial Street, San Jose, CA
Phone: (408) 451-5000

9.2.4 UNDERGROUND SERVICE ALERT

Phone: 811 or (800) 227-2600

9.2.5 NEAREST PG&E OFFICE:

1425 Clay Street, Oakland, CA 94612
Phone: (800) 743-5000

9.2.6 NEAREST TELEPHONE LOCATION

Work Truck – Cell Phone 408-609-6380

ATTACHMENT A
TASK HAZARD ANALYSES

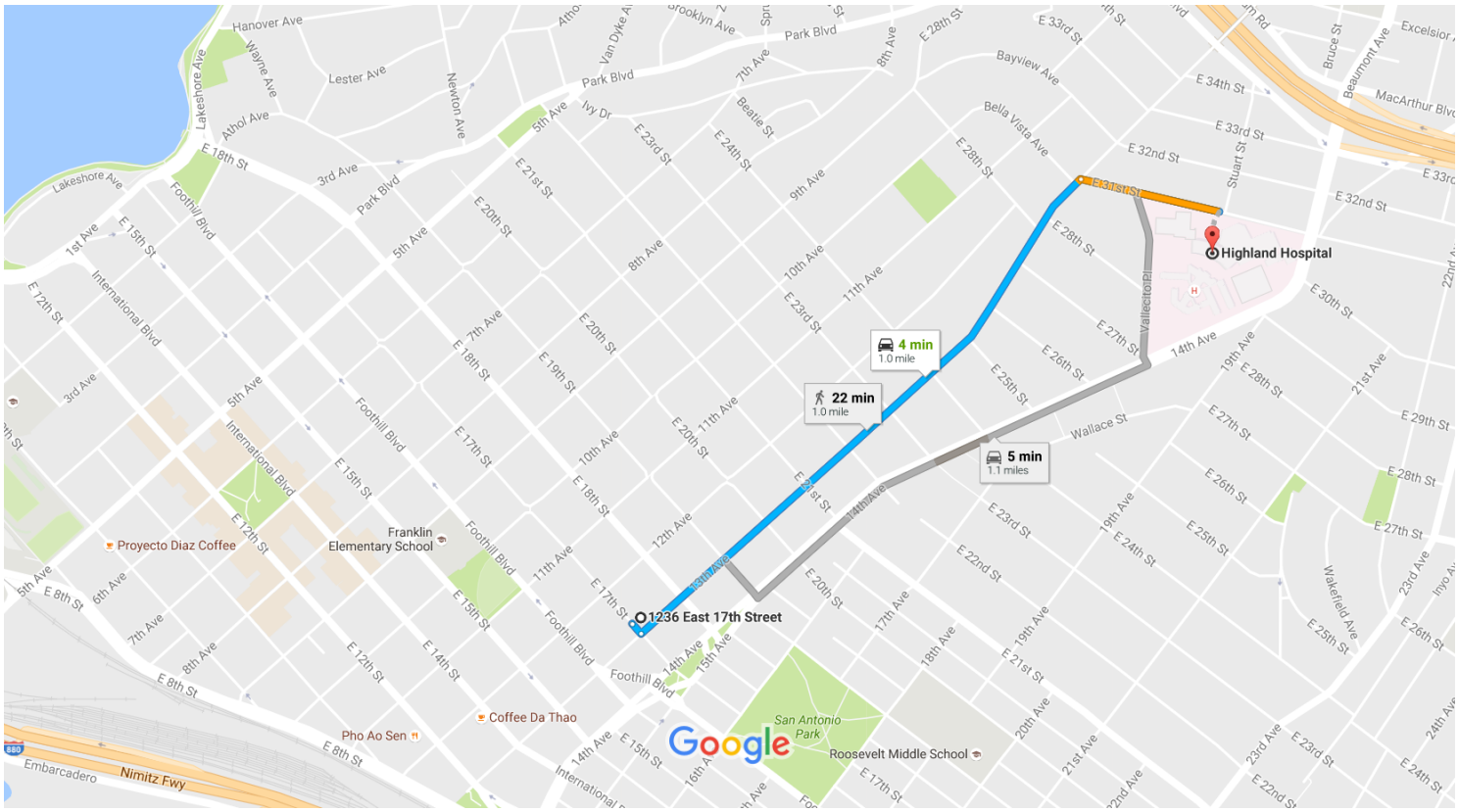
Task Hazard Analysis				
Activity: Subsurface Drilling & Sampling		Analysis by	Reviewed by	Date
Principal Steps	Potential Hazards	Recommended Controls		
1. Site Survey.	• Above ground, overhead, & underground pipes, utilities, & other hazards. • Electrocution or shock. • Fire/explosion. • Materials falling on workers. • Hazards unique to site.	Perform underground service alert (USA #811) and visual reconnaissance. Mark all underground hazards. Proceed with excavation only where underground, surface, or overhead hazards are removed or absent.		
2. Mobilize equipment.	• Above ground, overhead, & underground pipes, utilities, & other hazards. • Tilting or slipping of rig on non-level or unstable surfaces. • Fatigue, heat stress/stroke. • Materials/tools falling on workers. • Cuts, abrasions, & trauma from mechanical equipment. • Noise. • Eye injury. • Electrocution or shock. • Fire/explosion. • Traffic hazards. • Access/egress hazards. • Weather hazards.	Equipment check, maintenance, training, vigilance, and use of personal protective equipment (PPE).		
3. Excavation & sampling activities.	• Vapors, dusts, & respiratory hazards. • Volatilized organics or gases. • Subterranean gas, electric, product, and water lines; tanks; drums. • Noise. • Fatigue, heath stress/stroke. • Cuts, abrasions, & trauma from mechanical equipment. • Materials/tools falling on workers.	Equipment check, maintenance, training, vigilance, and use of personal protective equipment (PPE). Use dedicated equipment in areas with known chemical impacts. Perform vapor monitoring with a photoionization detector (PID) if necessary.		

Task Hazard Analysis				
Activity: Subsurface Drilling & Sampling		Analysis by	Reviewed by	Date
Principal Steps	Potential Hazards	Recommended Controls		
	• Eye injury. • Electrocution or shock. • Fire/explosion. • Weather hazards. • Slip/trip hazard • Soil stability (cave-in)			
4. Soil stockpiling.	• Vapors, dusts, & respiratory hazards. • Volatilized organics or gases. • Noise. • Fatigue, heath stress/stroke. • Cuts, abrasions, & trauma from mechanical equipment. • Traffic hazards. • Access/egress hazards.	Soils with oily or shiny appearance, liquid saturation, elevated organic vapor measurements, or discoloration not related to lithologic facies changes should be stockpiled separately in drums, buckets, or on a liner, and fenced or otherwise protected pending disposal.		
5. Demobilize equipment.	• Above ground, overhead, & underground pipes, utilities, & other hazards. • Tilting or slipping of rig on non-level or unstable surfaces. • Fatigue, heat stress/stroke. • Materials/tools falling on workers. • Cuts, abrasions, & trauma from mechanical equipment. • Noise. • Eye injury. • Electrocution or shock. • Fire/explosion. • Traffic hazards. • Access/egress hazards. • Weather hazards.	Decontaminate equipment exposed to soil with possible chemical impacts by removing loose soil with brooms or brushes. Remaining soil should be removed by washing.		

ATTACHMENT B
CHEMICAL SAFETY CARDS & MATERIAL SAFETY DATA SHEETS

ATTACHMENT C
NEAREST EMERGENCY MEDICAL FACILITY

Google Maps 1236 E 17th St, Oakland, CA to Highland Hospital Drive 1.0 mile, 4 min



Map data ©2016 Google 500 ft

1236 East 17th Street

Oakland, CA 94606

1. Head southeast on E 17th St toward 13th Ave

85 ft

2. Turn left at the 1st cross street onto 13th Ave

0.8 mi

3. Turn right onto E 31st St

Destination will be on the right

0.2 mi

Highland Hospital

1411 East 31st Street, Oakland, CA 94602

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

ATTACHMENT D
SITE SAFETY BRIEFING MEETING FORM

Safety Meeting Conducted by: _____ Date: _____

Subjects:

- Site Health and Safety
- Chemical Hazards
- Equipment Hazards
- Electrical Hazards
- Personal Decontamination
- Personal Hygiene
- Employee Rights / Responsibilities
- Hazard Evaluations
- Emergency Response Procedures

Signature	Organization	Date

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