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Alameda County Health Care Services Agency

1131 Harbor Bay Pkwy, Suite 250

Alameda, CA 94502

Subject: RO#00003159

Roofing Facility

745 Kevin Court

Oakland, CA 94621

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

Sincerely,



Robert A. Elliott



Aqua Science Engineers, Inc. 55 Oak Court, Suite 220, Danville, CA 94526
(925) 820-9391 - Fax (925) 837-4853 - www.aquascienceengineers.com

November 2, 2015

ALTERNATE WORKPLAN
For a
SOIL AND GROUNDWATER ASSESSMENT/REMEDIAL EFFORT
RO3159_WP_R_2015-11-02
at
Roofing Facility
745 Kevin Court
Oakland, CA 94621

ASE Job Number 4641

Submitted by:
AQUA SCIENCE ENGINEERS, INC.
55 Oak Court, Suite 220
Danville, CA 94526
(925) 820-9391



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1.0 INTRODUCTION

This submittal presents Aqua Science Engineer's, Inc. (ASE) alternate workplan for a soil and groundwater assessment/remedial effort at 745 Kevin Court in Oakland, California (Figures 1 and 2). A previous workplan, dated October 27, 2015 has already been submitted by ASE to the Alameda County Health Care Services Agency (ACHCSA). The proposed site assessment/remedial activities were initiated by Mr. Robert Elliott c/o Mr. Mark Elliott, the owner of the property and responsible party, as requested by the ACHCSA in their directive letter dated April 14, 2015.

2.0 BACKGROUND

The subject property has been owned by our clients, the Elliotts, since the mid 1970's and used by their family as a roofing company warehouse and yard. At the time of the property purchase, the buildings along the western property line and a 1,000 gallon underground storage tank (UST) already existed at the site. The Elliotts built the building on the eastern side of the property some time later.

A Phase I Environmental Site Assessment was completed for the subject site by ERAS Environmental in October 2014. During the Phase I, files from the ACHCSA and the Oakland Fire Department (OFD) were reviewed, and records were noted that a 1,000 gallon UST that held motor-vehicle fuel (gasoline) was located at the site, and removed in 1991 (by the Elliotts). The files were not complete – items regarding UST use permits and the UST removal report were missing. No files indicating soil or water sampling at the time of the UST's removal were found in the files.

In November 2014, AEI Consultants performed a Phase II Site Assessment at the subject site that included the installation of four shallow soil borings within and surrounding the former UST location for the collection of grab groundwater samples. Total petroleum hydrocarbons as gasoline (TPH-G), benzene, and toluene were identified in groundwater samples collected from three of the four grab water samples. The highest concentrations were identified in soil boring HP-2, located just north of the former UST, and included 6,200 parts per billion (ppb) TPH-G, 73 ppb benzene, and 12 ppb toluene. AEI concluded that the findings of their 2014 investigation indicated that gasoline-impacted soil exists in the area of the former UST, which appears to be acting as the source of groundwater impacts.

The April 14, 2015 directive letter from the ACHCSA makes three requests. These requests are as follows:

2.1 Request for a Site Investigation Workplan and Site Conceptual Model (SCM)

ASE is currently working on a SCM which will be delivered to the ACHCSA ftp site and GeoTracker once completed. ASE has prepared this alternate workplan to satisfy the requirement



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of a portion the ACHCSA's directive letter. Please see the proposed scope of work described in Section 3.0 below for specific details.

2.2 GeoTracker Compliance

ASE has become the Authorized RP Agent for the site within GeoTracker. The Eras 2014 Phase I, the AEI 2014 Phase II, and the ASE October 27, 2015 workplan have been uploaded. This alternate workplan will also be uploaded.

2.3 Preparation of a List of Landowners Form

The requested form has been uploaded to the ACHCSA ftp site.

3.0 PROPOSED SCOPE OF WORK

The purpose of this assessment/remedial effort is to provide additional data to be used to determine whether the site may be closed as a low threat case under the new California Regional Water Quality Control Board, San Francisco Bay Region Low-Threat Closure Policy. This workplan has been designed to fill in data and fulfill requirements set forth in the ACHCSA directive letter. The specific proposed scope of work detailed below is meant to satisfy one of the requests made by the ACHCSA, Item 1d which is to determine if free-floating hydrocarbons exist in the area of the former UST. The responsible party and the tenant on site have requested that prior to performing any additional traditional assessment activities (soil borings, monitoring wells), they be allowed to create an excavation within the former UST pit to determine if free-floating hydrocarbons exist in the area of the former UST. They request this alternate plan because (a) the tenant is a licensed hazardous waste contractor with heavy equipment and trained personnel on-site that can perform the excavation activities for a very low cost, (b) this will allow for a chance to perform source removal (removal of contaminated soil and potentially contaminated groundwater/free-product) using their on-site equipment and vacuum trucks, (c) this will eliminate the possibility of having to destroy a monitoring well in the middle of the former UST excavation should remediation by excavation be required at a later date, and (d) if free-floating hydrocarbons are not evident within the excavation, then permanent monitoring wells may not be required in the future. The scope of work is as follows:

- 1) Notify Underground Service Alert (USA) of the excavation and have the area cleared of subsurface utility lines by a private subsurface utility line locating company.
- 2) Using an excavator, excavate an 8-foot wide by 8-foot long by 10-foot deep excavation directly through the area of the former UST.
- 3) Stockpile excavated soil on-site on top of plastic sheeting, covered by plastic sheeting. It is estimated that approximately 25 cubic yards of soil will be excavated.



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- 4) Remove groundwater from within the excavation as overexcavation activities continue to allow for visual inspection of the excavation bottom and sidewalls. This task will be performed using a vacuum truck.
- 5) Place any removed groundwater into an on-site holding tank for future handling.
- 6) Collect excavation sidewall soil samples once the desired depth is reached.
- 7) Collect a grab groundwater sample from the excavation once groundwater has been allowed to flow into excavation.
- 8) Analyze the excavation sidewall soil samples and grab groundwater sample at a CAL-EPA certified analytical laboratory for total petroleum hydrocarbons as diesel (TPH-D) by modified Method 8015 (both with and without a silica-gel cleanup) and total petroleum hydrocarbons as gasoline (TPH-G), benzene, toluene, ethyl benzene, and total xylenes (collectively known as BTEX), plus naphthalene and fuel oxygenates by EPA Method 8260B.
- 9) Collect a composite soil sample from the stockpiled soil for purposes of profiling the soil into an appropriate landfill.
- 10) Analyze the stockpiled soil sample at a CAL-EPA certified analytical laboratory for TPH-D by modified Method 8015 and TPH-G, BTEX, plus naphthalene and fuel oxygenates by EPA Method 8260B.
- 11) Place a steel plate over the excavation for a period of up to 30 days.
- 12) On a weekly basis, remove the steel plate to allow for visual inspection of the groundwater within the excavation. If free-floating hydrocarbons are present, it will be noted, and the thickness will be measured using an interface probe and product bailer.
- 13) If free-floating hydrocarbons are present, they will be skimmed from the top of the water table using a vacuum truck, and the product will be placed within 55-gallon drums for future off-site disposal. This process will continue until free-floating hydrocarbons are no longer present or 30 days have elapsed, whichever comes first. ASE will then determine an appropriate course of action.
- 14) Properly dispose of any soil, groundwater or free-floating hydrocarbons that are generated during this process.
- 15) Prepare a report of the findings of the work detailed above.



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Details of the assessment are presented below.

TASK 1 NOTIFY USA TO CLEAR DRILLING LOCATIONS OF UNDERGROUND UTILITY LINES

ASE will mark the proposed boring locations with white paint and will notify Underground Service Alert (USA) to have underground utility lines marked in the site vicinity at least 48-hours prior to drilling. ASE will also contract with a private underground utility locating company to clear each drilling locations of underground lines prior to drilling.

TASK 2 CREATE AN EXCAVATION IN THE AREA OF THE FORMER UST

Using an excavator supplied by the current tenant, create an excavation that is 8-feet wide, by 8-feet long, and up to 10-feet deep in the area of the former UST. The purpose of this excavation is two-fold, (a) to allow for source removal of contaminated soil within the former UST pit, and (b) create an excavation, a void, at the groundwater level to determine if free-floating hydrocarbons will accumulate on the groundwater within the excavation.

TASK 3 STOCKPILE THE EXCAVATED SOIL

Soil that is removed from the excavation will be stockpiled on-site, placed on top of and be covered by plastic sheeting. Any soil that appears too wet for stockpiling will be placed within water-tight bins that currently exist at the site (owned by the current tenant).

TASKS 4 & 5 REMOVE GROUNDWATER FROM THE PIT AS EXCAVATION ACTIVITIES OCCUR

Using a vacuum truck supplied by the current tenant, groundwater will be removed from the pit as excavation activities occur. This will allow for visual inspection of the excavation sidewalls and bottom. A depth of 10-feet is planned for the excavation. This depth is assumed to be approximately 3-feet deeper than the bottom of the former UST.

The removed groundwater will then be pumped into an on-site holding tank for later handling.

TASK 6 COLLECT SOIL SAMPLES FROM THE EXCAVATION

Soil samples will be collected from each sidewall at a depth equal to the assumed capillary fringe, and deeper if soil coloration or hydrocarbon odors appear different from the capillary fringe depth. Since the excavation will likely be fully-saturated at the bottom, no bottom of excavation soil samples are anticipated. Soil samples will be collected into brass sample containers directly from the excavator bucket. Samples will be trimmed, sealed with Teflon tape and plastic caps, labeled with the site location, sample designation, date and time the sample was collected, and the initials of the person collecting the sample. The samples will be placed into an



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ice chest containing wet ice for delivery under chain of custody to a CAL-DHS certified analytical laboratory.

Additional soil from the excavation will be removed for hydrogeologic description and will be screened for volatile compounds with a photoionization detector (PID). The soil will be screened by emptying soil from one of the tubes into a plastic bag. The bag will be sealed and placed in the sun for approximately 10 minutes. After the hydrocarbons have been allowed to volatilize, the PID will measure the vapor through a small hole, punched in the bag. These PID readings will be used as a screening tool only since these procedures are not as rigorous as those used in an analytical laboratory.

TASK 7 COLLECT A GRAB GROUNDWATER SAMPLE FROM THE EXCAVATION

Once soil excavation activities are completed, and groundwater has re-appeared in the excavation, ASE will collect a grab groundwater sample for analysis. Prior to sampling, the groundwater surface in the pit will be checked for a sheen or free-floating hydrocarbons. This task assumes that free-floating hydrocarbons are not present at the time of sampling. The groundwater sample will be collected using a disposable polyethylene bailer. Groundwater samples will be decanted from the bailer into 40-ml glass volatile organic analysis (VOA) vials, preserved with hydrochloric acid, and sealed without headspace. The samples will then be labeled with the site location, sample designation, date and time the samples were collected, and the initials of the person collecting the samples. The samples will be placed into an ice chest with wet ice for transport to the analytical laboratory under chain of custody.

TASK 8 ANALYZE THE SOIL AND GROUNDWATER SAMPLES

The soil and groundwater samples detailed above will be analyzed at a CAL-EPA certified analytical laboratory for TPH-D by modified Method 8015 (both with and without a silica-gel cleanup), and TPH-G, BTEX, plus naphthalene and fuel oxygenates by EPA Method 8260B. Soil samples analyzed will include a sample collected from the capillary zone, as well as additional samples if there is any indication of contamination based on odors, staining or PID readings.

TASKS 9 & 10 COLLECT AND ANALYZE THE STOCKPILED SOIL SAMPLES

Soil samples will be collected from the stockpiled soil and composited prior to being analyzed at a CAL-EPA certified analytical laboratory for TPH-D by modified Method 8015, and TPH-G, BTEX, plus naphthalene and fuel oxygenates by EPA Method 8260B. The data will be used to profile the soil into an appropriate landfill facility.



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TASKS 11, 12 & 13 CHECK SURFACE OF PIT WATER FOR FREE-FLOATING HYDROCARBONS

A steel plate will be set over the excavation for a period of approximately 30 days. On a weekly basis, the plate will be moved so that the surface of the pit water can be inspected for free-floating hydrocarbons. If no free-floating hydrocarbons are observed, the plate will be returned over the excavation. However, if free-floating hydrocarbons are observed, it will be noted and the product thickness will be measured with an interface probe and/or a product bailer. The free-floating hydrocarbons will then be skimmed off the surface of the groundwater using an on-site vacuum truck until no free-floating hydrocarbons remain. This process will continue weekly for a period of approximately 30 days. After the 30 days, ASE will prepare a letter report detailing the findings of the 30-day experiment for the review of the ACHCSA. The letter will provide recommendations for the next step based on the findings.

Hypothetically, if free-floating hydrocarbons are not observed over the 30 day period, ASE will recommend the excavation be backfilled with clean, imported material and resurfaced. If free-floating hydrocarbons did exist, were skimmed from the surface, and did not return, then ASE will recommend the same. However, if free-floating hydrocarbons exist, and repeated skimming doesn't eliminate the free-floating hydrocarbons, then ASE will likely recommend additional remedial activities to eliminate the free-floating hydrocarbons.

TASK 14 DISPOSE OF POLLUTED SOIL, GROUNDWATER AND FREE-FLOATING HYDROCARBONS, AS NECESSARY

ASE will arrange for the proper disposal of the stockpiled soil and extracted groundwater that will be generated during the excavation activities. If free-product is found and skimmed off the water table, it too will be disposed of at a local recycling facility. ASE will include all manifests of the wastes disposed in our final report of remedial activities.

TASK 15 PREPARE A REPORT

ASE will prepare a report presenting the methods and findings of this assessment/remedial effort. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this project including tabulated analytical results, conclusions and recommendations. Copies of the analytical report and chain of custody will be included as appendices. The report, analytical data, and drawings will also be uploaded to the state Geotracker database.

The report will also issue ASE's recommendations for further assessment activities that may be required to satisfy the remaining requests of the ACHCSA in their April 14, 2015 directive letter. Specifically, ASE will propose the necessary assessment activities (ie. soil borings, wells or vapor samples), as needed, to gather the data necessary to evaluate the site for a low-threat closure.



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4.0 SCHEDULE

ASE will schedule field activities immediately upon approval of this workplan by the ACHCSA.

Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.

A handwritten signature in black ink that reads "Robert E. Kitay". The signature is written in a cursive style with a long horizontal stroke at the end.

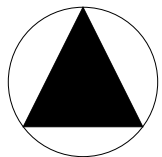
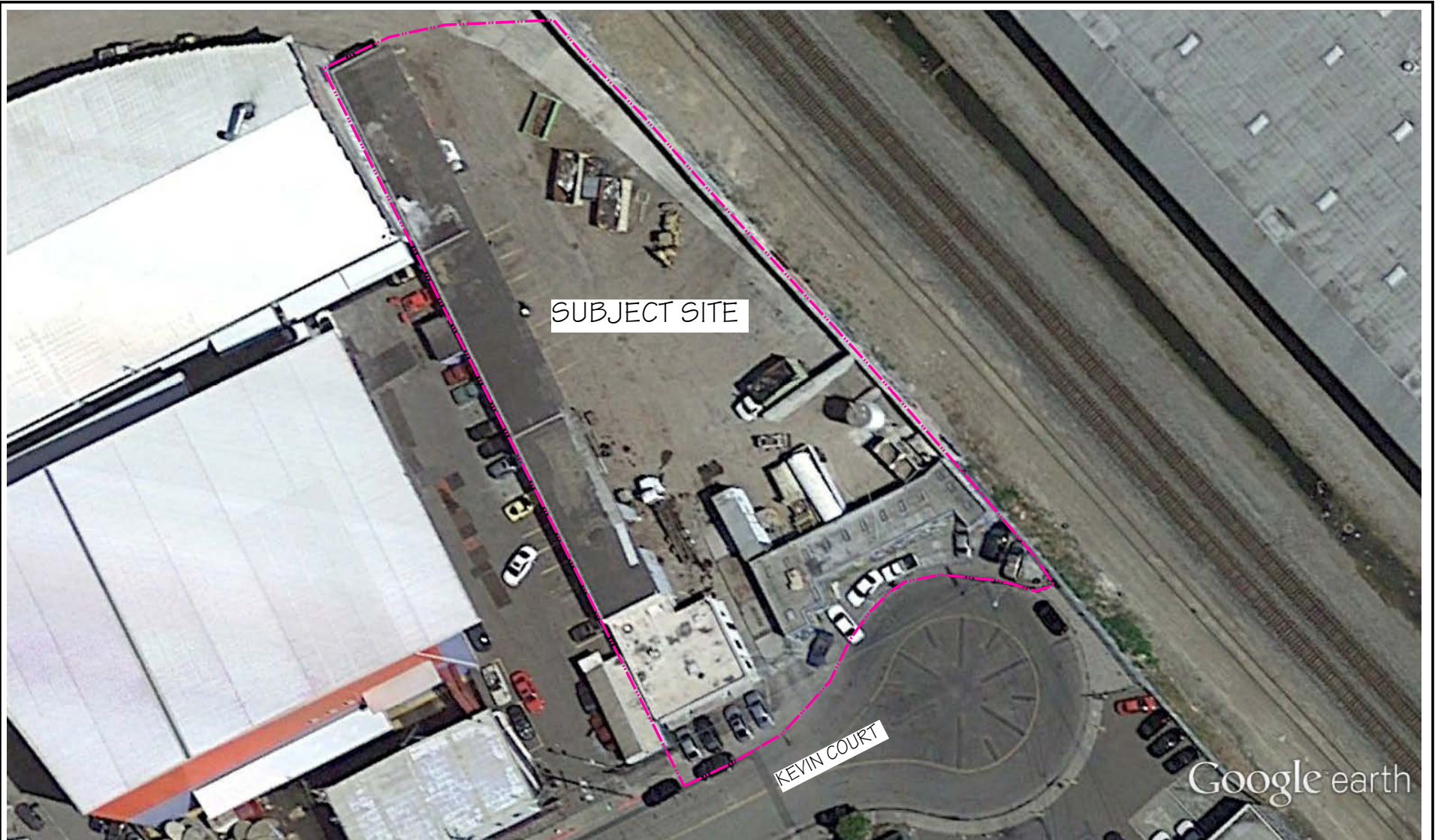


Robert E. Kitay, P.G.
Senior Geologist



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FIGURES



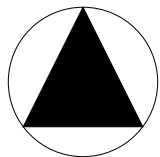
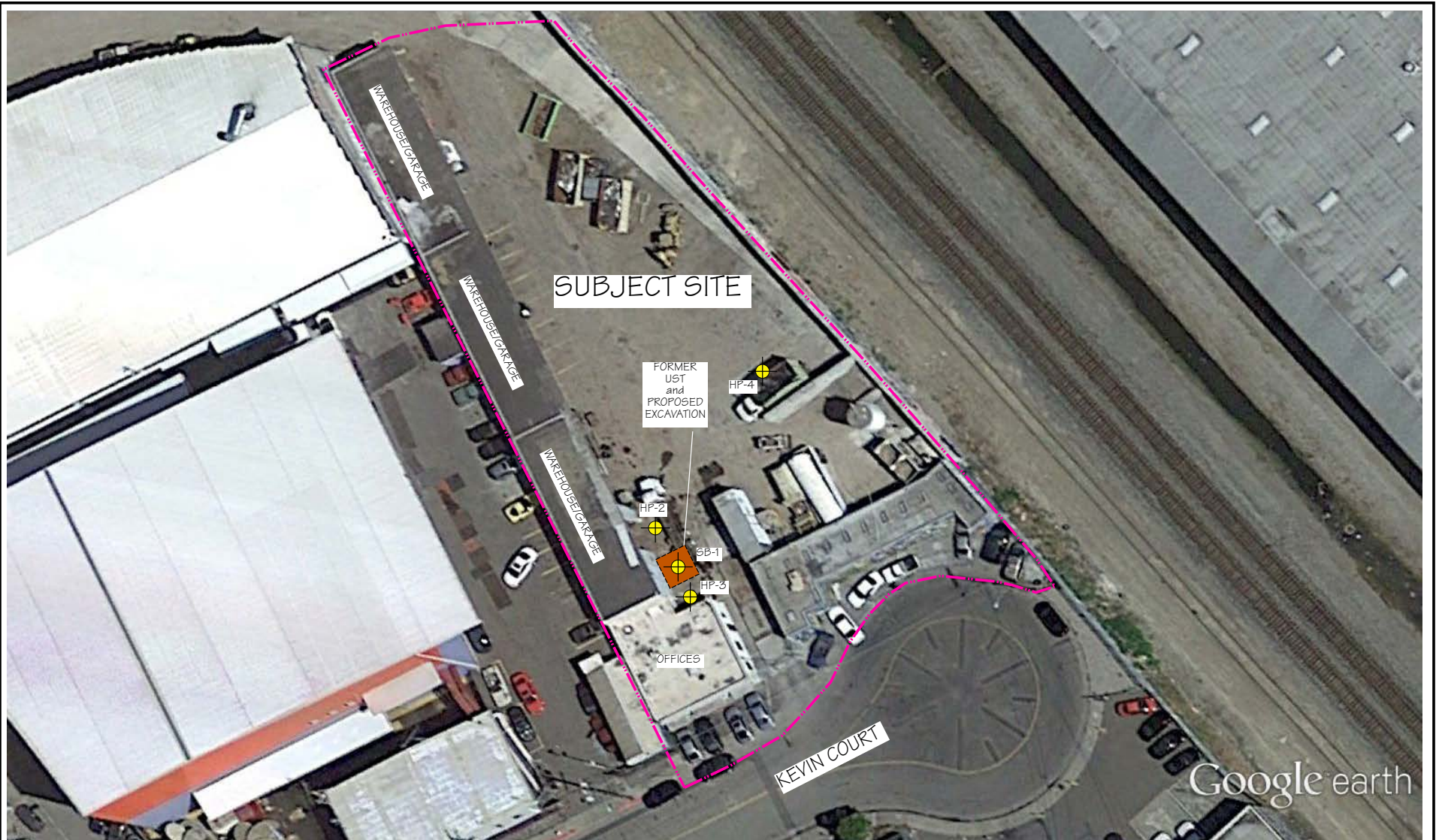
NORTH
NOT TO SCALE

SITE LOCATION MAP

Elliott Property
745 Kevin Court
Oakland, California

Aqua Science Engineers

Figure 1



NORTH
NOT TO SCALE

LEGEND



PREVIOUS SOIL BORING LOCATION,
DRILLED BY AEI CONSULTANTS
IN NOVEMBER 2014



LOCATION OF FORMER UST, AND LOCATION
OF PROPOSED EXCAVATION FOR FREE-
FLOATING HYDROCARBON INVESTIGATION

SITE LOCATION AND
PROPOSED EXCAVATION MAP

Elliott Property
745 Kevin Court
Oakland, California

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Figure 2