WOOD
PARTNERS

28 October 2014
Project 730482302

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Work Plan for Installation of Soil Gas Probe
2302 -2332 Valdez Street
Oakland, CA
Alameda County SCP Case No. RO0003149
Langan Project: 731641601

Dear Mr. Detterman:

As a legally authorized representative of WP West Acquisitions, LLC, and on behalf of WP West Acquisitions, LLC, I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document titled *Work Plan for Installation of Soil Gas Probe, 2302 – 2332 Valdez Street, Oakland, CA, Alameda County SCP Case No. RO0003149*, are true and correct to the best of my knowledge.

Sincerely yours,

Brian Pianca
WP West Acquisitions, LLC

30 October 2014

Mr. Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Health Agency
Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Subject: **Work Plan for Installation of Soil Gas Probe**
2302–2332 Valdez Street
Oakland, California
ACEH Case Number RO0003149
Langan Project: 731641601

Dear Mr. Detterman:

On behalf of WP Aguisitions, LLC, Langan Treadwell Rollo (Langan) has prepared this *Work Plan for Installation of Soil Gas Probe* (work plan) for the property located at 2302-2332 Valdez Street (Site) in Oakland, California (Figure 1). The Site is T-shaped and bound by commercial and residential properties to the north, Waverly Street to the east, 23rd Street and a parking garage facility to the south, and Valdez Street to the west. The Site has an area of approximately 46,350 square feet (1.06 acres) which is currently occupied by a one-story warehouse type building and an at-grade parking lot.

This work plan was requested by Alameda County Environmental Health (ACEH) at our meeting on 14 October 2014 to further assess soil gas quality at the project site. The work plan presents our proposed soil gas probe installation, monitoring, and analytical activities for the Site. The installation of the soil gas probe, monitoring, and analytical activities proposed in this work plan are designed to investigate the presence of residual volatile organic compounds (VOCs) in soil gas that may be present beneath the Site as a result of the former underground storage tanks (USTs).

BACKGROUND

The Site was previously utilized by the Oakland Tribune as a maintenance facility from 1943 to about 1986. The Site contained three service bays with hydraulic lifts for vehicle repair, located on the eastern side of the building; a gasoline dispensing pump was formerly located near the center of the building; and a floor sump, presumably used to drain fluids from cleaning the floors, located in the northeastern corner of the building. The sump was reportedly removed and sealed in 1988. In addition, two underground storage tanks (USTs) (one 8,000-gallon gasoline tank and one 750-gallon waste oil tank) were previously located beneath the Valdez Street sidewalk, directly outside of the western side of the building. The two USTs were removed in February 1988. During removal, approximately 60 cubic yards of soil were excavated and aerated on site.

Between August 1988 and August 1990, nine groundwater monitoring wells (MW-1 through MW-9) were installed on the Site and adjacent right-of-ways. The analytical results of the

groundwater samples collected by others indicated groundwater was impacted at the Site. Between 1990 and 1996, numerous notices from Alameda County Department of Environmental Health (ACEH) were sent to the owner stating that additional sampling was required. Starting in January 1996, the nine groundwater monitoring wells were reportedly purged and sampled annually over the next three years. In a letter dated 31 July 1998, administrative case closure was granted by ACEH with additional evaluation contingent upon the following condition:

> "If a change in land use is proposed or excavation of soils is planned at this site, then an evaluation of risk from exposure to contaminated soil and groundwater must be made."

PREVIOUS INVESTIGATIONS

Phase I ESA

Langan completed a Phase I Environmental Site Assessment (ESA) at the project Site. The results are summarized below and presented in our *Phase I Environmental Site Assessment, 2302-2332 Valdez Street and 2321-2335 Waverly Street, Oakland, California*, dated 30 September 2014.

Langan's Phase I ESA revealed no evidence of recognized environmental conditions (REC) in connection with the Site and evidence of one Controlled Recognized Environmental Condition. A controlled REC (CREC) is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action [NFA] letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitation (AULs), institutional controls, or engineering controls). The following CREC was identified:

> <u>CREC 1 – Fuel Leak Site Case Closure at Oakland Tribune Building, 2302 Valdez Street, Oakland, CA</u>
>
> Two USTs were removed from the 2302 Valdez Street property in February 1988. Petroleum hydrocarbon contamination was detected in the soil and groundwater and over excavation within the former USTs pits was performed and a total of nine groundwater monitoring wells were installed and sampled. Based on the analytical results, it appeared that the contamination was limited in area and that the groundwater contamination would continue to naturally attenuate over time.
>
> Based on the contaminated soil remediation and groundwater monitoring activities, administrative case closure for the fuel leak was granted by the ACDEHS in a letter dated 31 July 1998 for the former Oakland Tribune Building located at 2302 Valdez Street in Oakland, California.

Phase II Environmental Site Characterization

Langan completed a Phase II Environmental Site Characterization (ESC) at the Site. The results are summarized below and presented in our *Environmental Site Characterization, 2302-2332 Valdez Street and 2321-2335 Waverly Street, Oakland, California*, dated 22 October 2014.

SOIL

The Site is underlain by approximately two to five feet of fill, which is comprised of silt, sand, and clay mixtures which is in turn underlain by interlayered medium dense to very dense silty and clayey sand and medium stiff to hard silt and clay with varying amounts of sand and gravel. Gravel was encountered intermittently in the soil borings. In the northeastern portion of the Site, stiff to very stiff sandy silt to silty clay was encountered from depths of 13 and 18 feet to the maximum depth explored of 35 feet below ground surface (bgs).

Fill material containing soluble lead concentrations exceeding the State of California hazardous waste criteria are located near boring EB-3, at a depth of 1.5 bgs, boring EB-4, at a depth of 1.5 feet bgs and 3.0 feet bgs, and boring EB-5, at depths of 1.5 feet bgs, 3.0 feet bgs, and 5.0 feet bgs (Figure 2). Considering that the Site's projected excavation will be approximately ten feet bgs, this shallow material will be excavated and disposed and therefore is not representative of the material to be left on Site. The fill material near the sampling locations and depths that exceeded the State of California hazardous waste criteria will be disposed as Class I hazardous waste. Remaining subsurface soils underlying the fill will likely be disposed of as unrestricted waste, pending sampling results.

SOIL GAS

Two sub-slab and three soil gas samples were collected in September of 2014 at the Site by Langan field personnel. Several VOCs were detected at concentrations at or above laboratory method reporting limits. The results of the sampling were compared to the San Francisco Bay Regional Water Quality Control Board's (RWQCB) lowest residential ambient air and indoor air Environmental Screening Levels (ESLs) (with a calculated attenuation factor[1]) and the RWQCB's lowest residential soil gas ESLs for potential vapor intrusion (Table E, RWQCB, 2013). Of the detected compounds, benzene was the only compound detected above its respective calculated ESL (1.68 µg/m^3) in the sub-slab sample, at a concentration of 1.9 µg/m^3 at location SSG-2. No other soil vapor or sub-slab vapor detections were reported at concentrations exceeding their residential ESLs during the investigation.

We understand that the Site will be redeveloped with ventilated parking under all residential units. Soil in the area of SSG-2 will be excavated to at least ten feet bgs. Based on the proposed soil excavation, the singular soil vapor exceedance, and the design plan for the Site, it is Langan's opinion that a vapor mitigation system (VMS) is not required for the proposed development project at the Site.

[1] There are no published ESLs for sub-slab vapor. The sub-slab ESLs were obtained by using residential indoor air ESLs with a DTSC default slab-attenuation factor of 0.05.

GROUNDWATER

Groundwater analytical results indicated low concentrations of TPHg and TPHd were detected in two on-Site groundwater monitoring wells (MW-2 and MW-4) at concentrations of 190 µg/L and 78 µg/L, respectively. The detection of TPHg in groundwater exceeded the RWQCB ESL of 100 µg/L and the TPHd did not exceed the RWQCB ESL of 100 µg/L. After additional groundwater purging and sampling, the concentrations of TPHg and TPHd were not detected at or above the method reporting limits in the same monitoring wells.

Analytical results of the groundwater samples collected from the off-Site monitoring well MW-9 indicated TPHg was detected at a concentration of 620 µg/L and TPHd was detected at a concentration of 460 µg/L. Volatile organic compounds (VOCs) detected in the groundwater sample collected from MW-9 include benzene and naphthalene (concentrations of 2.3 µg/L and 6.2 µg/L), just exceeding the RWQCB ESLs of 1.0 µg/L and 6.1 µg/L, respectively. After a second sampling event conducted by Langan field personnel on 24 September 2014, the detected concentrations of TPHg and TPHd at MW-09 were reduced to 520 ug/L and 220 ug/L, respectively, and VOCs were not detected exceeding applicable ESLs.

Because the wells were idle for a number of years prior to Langan's recent redevelopment, purging and sampling activities at the Site, it is Langan's opinion that the most recent sampling results following purging are most representative of the current groundwater conditions at the Site. Comparison of our recent soil and groundwater analytical results to historical data indicate the previously approved remedial activities (consisting of excavation of the two former USTs) removed the primary source of petroleum hydrocarbons to groundwater. Low levels of dissolved petroleum hydrocarbons remain in groundwater, as indicated by concentrations of TPH-d and TPH-g that were detected in the off-Site vicinity of MW-09.

PROPOSED SOIL GAS PROBE INSTALLATION

Installation

To address the request by ACEH, we propose to install one soil gas probe in general accordance with the California Department of Toxic Substances Control's (DTSC) documents titled "*Advisory – Active Soil Gas Investigation"* dated April 2012 and "*Final Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air"* dated October 2011. We propose to install the soil gas probe to a depth of 5-feet bgs as shown on Figure 2. The soil gas probe will be removed during excavation activities for construction of the new building.

To construct the soil gas probe, direct push sample rods will be advanced to the proposed soil gas probe depth, and Nylaflow® tubing with a 1/8-inch inside diameter will be connected to a nylon soil vapor screen with a 1.5-inch length and 3/8-inch diameter. Monterey, kiln-dried sand with 30% porosity will be used to install a one foot filter pack at the bottom of the soil gas probe borehole. The 1.5-inch screen will be placed at the midpoint of the sand filter pack. A 3-inch layer of dry bentonite will be placed above the filter pack followed by one foot of hydrated bentonite. Bentonite grout will be used to seal the remainder of the annular space around the

soil gas probe to one foot below the ground surface, and the surface completion will be finished with concrete to match the surrounding floor. The bentonite grout serves to create a seal around the sample collection tubing to prevent ambient air intrusion into the soil gas sample. A valve will be installed at the surface end of the sample-collection tubing at the surface and a traffic rated well box will be installed to secure the well head.

Monitoring and Sampling

The bentonite grout surrounding the upper portion of the soil gas probe will be allowed to cure for a 24 hour period prior to purging and sampling. The sampling manifolds will be constructed of 1/8-inch stainless steel or Teflon tubing, a valve for connecting a luer-lock syringe for purging, a 200 mL/min flow regulator, and two vacuum pressure gauges. One pressure gauge will be installed between the flow regulator and the well head to monitor the vacuum maintained during the shut-in test (as below) and to measure the vacuum applied to the vapor well, and the other will be placed after the flow regulator to measure the vacuum pressure within the sample canister. Samples will be collected into 1 liter (L) Summa canisters with an initial vacuum of 30 inches-Hg.

A shut-in test will be performed after the construction of each sampling manifold. The shut-in test will consist of closing the valves at the vapor well head and on the Summa canister, then using a syringe to create a 14 to 20-inches-Hg vacuum within the sampling system. If the vacuum is maintained with less than 10% deviation for five minutes, then the manifold will be determined to be sufficiently sealed. Following the shut-in test, the valve to the vapor well will be placed under a helium shroud and opened.

The helium shroud allows an atmosphere of known helium content to be maintained above the vapor well, which allows for the detection of leaks of ambient air into the vapor well and sample. The helium content within the shroud will be maintained at approximately 20% and monitored with a portable helium and hydrogen detector during purging and sampling. The shroud will consist of a clear plastic box with ports for connecting a helium compressed gas cylinder and the helium detector.

A single purge volume will be calculated by adding the pore space volume associated with the filter pack and the volume of all of the tubing within the well and in the sampling manifold. In accordance with DTSC sampling guidelines, approximately three times the single purge volume will be purged from the system, using a 60 mL luer-lock syringe. The last 50 mL of gas that is purged will be analyzed with the portable helium detector to ensure that there were no ambient air leaks into the sampling train. The vapor samples will then be collected into Summa canisters until a residual vacuum of approximately 5-inches-Hg is left. The canisters will remain under the residual vacuum during transport from the sampling location to the analytical laboratory to indicate if any leaks of ambient air into the canister occurred.

Analysis

Samples will be delivered to the analytical laboratory under chain-of-custody protocol and will be analyzed for VOCs by EPA Method TO-15. Samples will also be analyzed for helium to quantify any intrusion of ambient air into the vapor well during sampling and to confirm sample integrity for quality assurance/quality control (QA/QC) purposes. The soil vapor samples will be analyzed for VOCs by EPA Method TO-15 by a California certified analytical laboratory such as Curtis & Tompkins, Ltd, (Curtis & Tompkins) of Berkeley, California.

DATA EVALUATION AND REPORTING

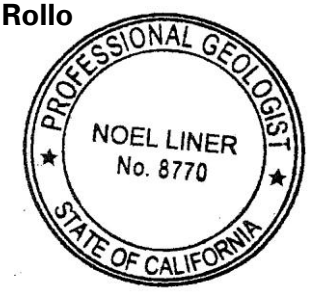
Soil gas VOC concentrations will be compared RWQCB's lowest residential ambient air and indoor air ESLs (with a calculated attenuation factor) and the RWQCB's lowest residential soil gas ESLs for potential vapor intrusion (Table E, RWQCB, 2013). The investigation will be compiled in a report documenting the installation activities, sampling and analytical results. The report will include summary tables of sampling results and a figure with the soil gas probe location.

SCHEDULE

The field work is estimated to take one day to complete, and sampling will be performed at a one day after the installation. Laboratory analysis will be performed on a rush turnaround time. We expect to have a draft of the report available for review within two weeks of receiving the sample results, and a finalized report shortly thereafter, which we can transmit to you. Additionally, we will be available to discuss the results of the sampling once they become available.

If you have any questions, please contact us at (415) 955-5200.

Sincerely yours,
Langan Treadwell Rollo



Noel Liner
Project Geologist

Peter J. Cusack
Senior Associate

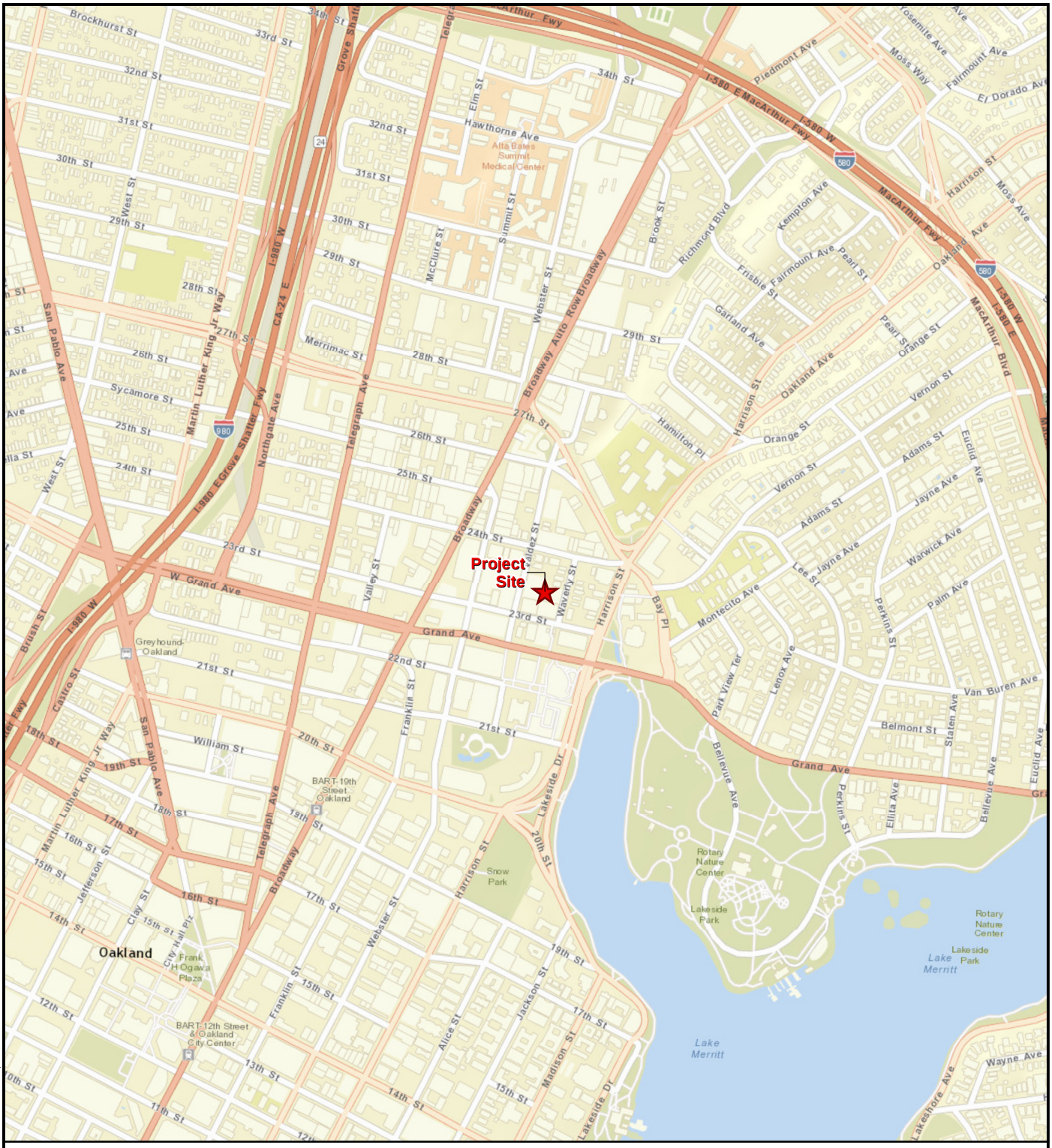
731641601.03 PJC

cc: Mr. Brian Pianca – Wood Partners

Enclosures:

Figure 1 – Site Location Map
Figure 2 – Site Plan

FIGURES



Notes:

1. World street basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN.
2. Map displayed in California State Plane Coordinate System , Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

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Feet

N

2302-2332 VALDEZ STREET
2321-2335 WAVERLY STREET
Oakland, California

SITE LOCATION MAP

LANGAN TREADWELL ROLLO

Date 9/29/2014	Project 731641601	Figure 1

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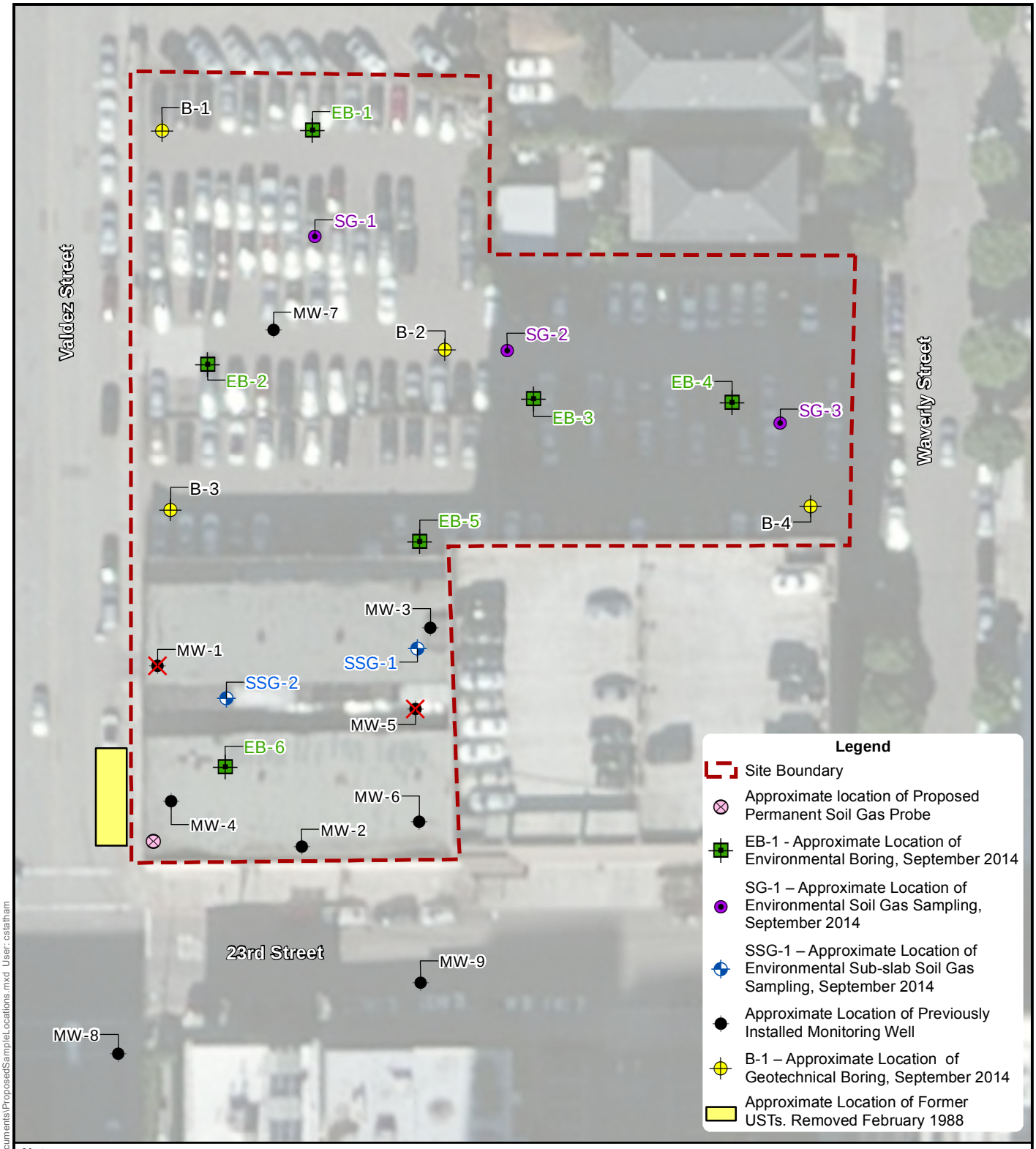

Notes:

1. World aerial imagery basemap is provided through Langan's Esri ArcGIS software licensing and ArcGIS online. Source of aerial imagery is Microsoft from 10/26/2010. Credits: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community
2. Map displayed in California State Plane Coordinate System, Zone III, North American Datum of 1983 (NAD83), US Survey Feet.

0 25 50 100
Feet

2302-2332 VALDEZ STREET
2321-2335 WAVERLY STREET
Oakland, California

SITE PLAN

LANGAN TREADWELL ROLLO

Date 10/27/2014	Project 731641601	Figure 2

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