EAST BAY ASIAN LOCAL DEVELOPMENT CORPORATION
BUILDING HEALTHY AND VIBRANT NEIGHBORHOODS SINCE 1975

RECEIVED
By Alameda County Environmental Health 9:10 am, May 23, 2016

May 13, 2016

Ms. Dilan Roe, P.E., Program Manager
Ms. Karel Detterman, P. G., Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502

RE: **Soil and Groundwater Investigation Work Plan**, Properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612.
Fuel Leak Case No. RO0003153
Geotracker Global ID T10000006348

Dear Alameda County Environmental Health:

Please find attached for your review the following document:

- Soil and Groundwater Investigation Work Plan, Properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612. (ACEH Document No. RO3153_WP_R_2016-05-13)

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.

Please call me at (510) 287-5353 ext. 339 if you have any questions.

Sincerely,

Everett Cleveland Jr.,
Senior Project Manager

1825 San Pablo Avenue, Suite 200, Oakland, CA 94612 Phone: 510.287.5353 Fax: 510.763.4143 www.ebaldc.org

Essel Environmental Consulting
351 California Street, Suite 615
San Francisco, CA 94104
1-800-595-7616 Phone
510-380-6610 Fax

May 12, 2016

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1.0 INTRODUCTION

East Bay Asian Local Development Corporation (EBALDC) has requested that Essel Environmental Consulting (Essel) prepare this work plan proposing additional subsurface environmental investigation at the properties located at 760 22nd Street and 2201 Brush Street in Oakland, California. Elevated concentrations of petroleum hydrocarbons were detected in soil and ground water beneath the west-central edge of the properties during an investigation in September 2015 and the extent of this impact was defined on the site during additional investigation in February 2016. In an April 20, 2016 electronic mail to EBALDC, Alameda County Environmental Health (ACEH) requested a work plan proposing delineation of this impact off-site. The proposed work is intended to assess the extent of petroleum hydrocarbons in soil and ground water to the northwest of the site and will involve advancing four borings and collecting soil and ground-water samples from the borings for laboratory analyses.

1.1 Site Location, Description, and Background

The two properties are located at the addresses of 760 22nd Street and 2201 Brush Street in Oakland, California and are located a short distance to the southwest of the intersection of West Grand Avenue, San Pablo Avenue, and Interstate Highway 980. The adjacent and abutting properties are on the west side of Brush Street between West Grand Avenue on the north and 22nd Street on the south.

At present, the northernmost property at 760 22nd Street is occupied by a metal frame/metal siding building, contains two mobile trailers and a number of parked buses, and is paved with concrete. A below grade pit, reportedly used for servicing large vehicles (trucks and buses) and referred to as the oil-changing pit, is located in the northern portion of the on-site building. The south-adjacent and abutting property at 2201 Brush Street is unpaved and also used to park buses. A 7,000-gallon diesel UST and a 2,000-gallon gasoline UST formerly were located at and next to (off-site, beneath the city sidewalk) the northeastern corner of the site, respectively. A small, raised concrete pedestal located at the east-central edge of the property is the location of a former fuel dispenser. The current site features and locations of the former USTs and fuel dispenser are shown on Plate 1.

East Bay Asian Local Development Corporation plans to redevelop the 760 22nd Street/2201 Brush Street properties with a multistory residential structure containing 59 residential living units. Preliminary architectural plans show that the building will cover the entire property. The building will include a podium

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351 California Street, Suite 615
San Francisco, CA 94104
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garage with parking at ground level and below ground level. Two, 3-high puzzle lifts will be constructed near the center of the property for below ground parking (total of 45 parking spaces). Below grade parking will involve excavation of soil beneath this central portion of the property to an approximate depth of 12 feet below the ground surface. Two elevators and two stairwells are proposed to be located at the northeastern corner of the building, which will overlie the location of the former diesel UST. One elevator and two stairwells are proposed to be located in the southeastern portion of the building in an area straddling the line between the two properties. Architectural drawings are, at present, preliminary; however elevator shafts may extend to a depth of 7 feet below the ground surface. Essel understands that the stairwells will not extend below grade. Plate 1 shows the approximate footprint of the future building and the locations of the puzzle lifts, stairwells, and elevators.

Essel (2015; 2016) performed two subsurface investigations on the properties in September/October 2015 and February/March 2016. A ground-penetrating radar survey (to clear proposed boring locations) performed before the first investigation identified an anomaly (referred to as the geophysical anomaly) near the west-central edge of the site. Relatively high concentrations of total petroleum hydrocarbons as gasoline (TPHg), as diesel (TPHd), and, in particular, as motor oil (TPHmo) were found in soil at 14½ feet below the ground surface at boring ECB-10, advanced at a location a few feet to the north of the geophysical anomaly. In February 2016, borings ECB-15 through ECB-20 were advanced to assess the extent of impact to soil and ground water at and around the geophysical anomaly. Elevated levels of TPHg, TPHd, and, in particular, TPHmo were detected in soil samples collected at depths of 12½ to 13½ feet below the ground surface in borings advanced at the geophysical anomaly (boring ECB-15) and at distances within 15 feet of the anomaly (borings ECB-16 and ECB-17). The results of the two investigations suggested that the petroleum hydrocarbon impact to soil extends approximately 25 feet north of the anomaly to a point between borings ECB-19 and ECB-9, approximately 20 feet south of the anomaly to a point between borings ECB-17 and ECB-20, and an estimated 20 feet west of the anomaly beyond boring ECB-16 and a short distance beneath the adjacent residential and commercial properties. The absence of detectable petroleum hydrocarbons in soil from boring ECB-18 indicates the impact to soil does not extend more than a few feet to the east of the anomaly. The vertical extent of the elevated concentrations in the soil appears to be restricted to the interval between 12 and 16 feet below the ground surface. Plate 1 shows the locations of the geophysical anomaly and borings advanced during Essel's two investigations and previous investigations.

In ground water, high total petroleum hydrocarbon levels were found in an area equivalent to the area of elevated soil impact. As in soil, the highest total petroleum hydrocarbon concentrations were detected at boring ECB-15 (center of the geophysical anomaly). Total petroleum hydrocarbons were not detected in ground water at the locations of borings ECB-9 (north), ECB-18 (east), ECB-20 (south) or ECB-11 (southwest) and these borings defined the extent of impact to ground water in these directions. Detectable concentrations of the three ranges of total petroleum hydrocarbons likely extend a short distance to the west (beyond boring ECB-16) and northwest of the anomaly area beneath the adjacent residential and commercial properties. Contour maps generated from petroleum-hydrocarbon concentrations in the ground water show a north-northwest to northwest orientation of the petroleum hydrocarbon plume.

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2.0 PROPOSED WORK

The proposed work will include sampling and analyzing soil and ground water at four borings that will be advanced off-site to the northwest of the site. The work tasks proposed are described as follows.

2.1 Boring Locations and Access

Plate 1 shows the distribution of TPHg in ground water in the geophysical anomaly area and is representative of the extents of TPHd and TPHmo. As indicated previously, contour maps for the three ranges of petroleum hydrocarbons suggest a north-northwest or northwest orientation of the hydrocarbon plumes in the ground water. The off-site extent of this impacted ground water is not anticipated to be a significant distance from the western edge of the property. Plate 1 also shows that boring ECB-13, which was advanced at a location along West Grand Avenue in September 2015, is potentially at a downgradient location from the hydrocarbon plume and is considered a data point. This boring is approximately 125 feet to the north-northwest of the geophysical anomaly and petroleum hydrocarbons were not detected in soil or ground water at this location.

Essel proposes advancing four additional off-site borings; one in the backyard of the adjacent private residence, two inside the adjacent City Print & Mail building, and one along West Grand Street to the west of ECB-13, as shown on Plate 1. Based on the orientations of the hydrocarbon plumes, these respective locations are considered approximately downgradient from and at distances of 40 to 155 feet from the geophysical anomaly. One of the interior proposed borings is offset to the west from the axis of the TPHg plume to account for a more northwesterly direction of ground-water flow.

Essel understands that EBALDC has forwarded a letter requesting permission to drill the off-site borings on the adjacent private properties. Preliminary contacts with the owners of the private residence and City Print & Mail indicate that permission may be granted to advance the borings.

2.2 Permit, Utility Clearance, and Health and Safety

Essel will submit a permit application to advance the borings to the Alameda County Public Works Agency (ACPWA) and will notify the ACPWA a minimum of 5 working days before the start of on-site activities. Essel will also submit an encroachment permit application to the City of Oakland Planning and Building Department (City) to advance the proposed boring along West Grand Avenue. The four boring locations will be marked and Essel will notify Underground Services Alert of Northern California and Nevada a minimum of 48 hours before the date of planned drilling. Essel will also subcontract with a private utility locator to clear boring locations with respect to potential underground utilities.

The existing site-specific Health and Safety Plan (Plan) will be updated before conducting fieldwork and this Plan will be available at the site during field activities. Essel and subcontractor personnel will be apprised of potential on-site hazards during a field orientation meeting that will be conducted before field work begins.

2.3 Borings

A licensed drilling contractor will advance borings using a direct-push drill rig equipped with a 2½-inch-outside-diameter, hollow steel rod. Borings are anticipated to be advanced to a maximum depth of 20 feet

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351 California Street, Suite 615
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below the ground surface. A limited access drill rig will be used to advance the three borings on the adjacent private properties and an attempt will be made to reach the 20-foot depth. Continuous soil cores will be collected from the borings in clear plastic sleeves that will be contained inside the steel rod. Each sleeve will be removed from the core barrel after each sampling interval and replaced with a clean plastic sleeve for the next lower sampling interval. Soil cores retrieved from the borings will be screened in the field for evidence of contaminants. A photoionization detector (PID) will be used to check for volatile organic vapor concentrations. Field screening will also include visual observation of the soil for discoloration and noting any odors. Soil encountered during drilling will be described and classified using the Unified Soil Classification System.

Drilling equipment will be decontaminated between boring locations. After drilling and sampling (described below), each borehole will be backfilled with neat cement slurry from the total depth of the boring to the ground surface. A representative of the ACPWA will witness backfilling of the boreholes per requirements of the drilling permit.

2.4 Sampling Soil and Ground Water

Soil samples selected for laboratory analyses will be collected from the borings with the intent of defining the upper and lower limits of impact and the potential maximum concentrations in each boring using field indicators (PID readings, odor, discoloration, depth of ground water). The number of samples per boring retained for analyses may range from two to four based on what is encountered in the borings. Soil samples selected for laboratory analysis will be retained in the plastic sleeves. A minimum 6-inch-long section of the plastic sleeve will be cut at the selected sample depth and the ends of each sleeve will be covered with Teflon sheets, sealed with plastic caps, and wrapped with duct tape. Each sample will then be labeled with a unique identifying number and placed on ice in a cooler pending delivery to the laboratory.

Ground-water samples will be collected from the borings through ¾-inch-diameter polyvinyl chloride (PVC) casings that will be placed in each borehole. After placement, each temporary well will be checked for free-phase petroleum product using an electronic oil-water interface probe. Water samples will be collected using ¼-inch-diameter polyethylene tubing, which will be inserted into the PVC casings and attached to a peristaltic pump, or by bailing. Water samples will be placed into laboratory-supplied containers that will be of appropriate size and contain the appropriate preservative for the laboratory analyses requested. Sample containers will be filled completely to eliminate air bubbles, sealed with the container caps, labeled with a unique identifying number, and placed on ice in a closed cooler.

Essel will complete Chain-of-Custody forms for both soil and ground-water samples. These forms will accompany the samples to the laboratory.

2.5 Laboratory Testing

Soil and ground-water samples will be analyzed by a state of California certified testing laboratory. The samples will be submitted for analysis for TPHg, TPHd, and TPHmo (USEPA Method 8015), and VOCs (USEPA Method 8260). Selected soil and all ground-water samples will be analyzed for PAHs (USEPA Method 8270-SIM).

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2.6 Technical Report

A technical report will be prepared for the investigation and will present the results of field and laboratory work, interpretations of the data collected, conclusions and recommendations, and updated conceptual site model and data gap summary tables. The report will be signed and stamped by appropriately licensed persons.

3.0 REFERENCES CITED

Essel Environmental Consulting, 2015, *Soil and ground-water investigation report, properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612*. Project No. 15166, November 6.

_____, 2016, *Soil and ground-water investigation report, properties at 760 22nd Street and 2201 Brush Street, Oakland, California 94612*. Project No. 15166, March 31.

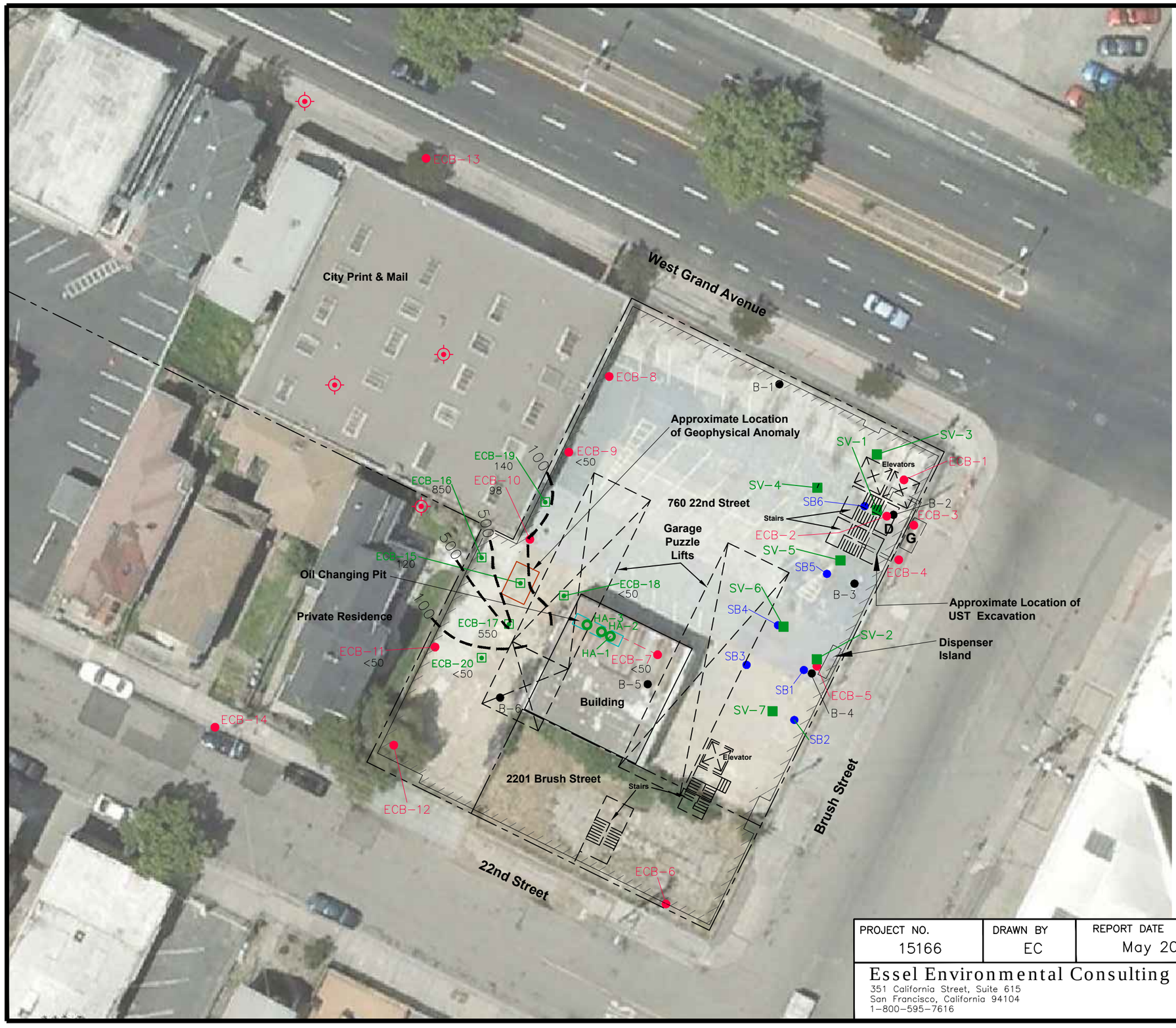
ESSEL ENVIRONMENTAL CONSULTING

Rodger C. Witham, P.G., C.E.G.
Senior Geologist

REGISTERED GEOLOGIST
RODGER C. WITHAM
11/17
Nº EG1566
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Nik Lahiri
Principal

Plate 1 – Site Plan and Proposed Boring Locations



EXPLANATION

- APPROXIMATE PROPERTY BOUNDARY
- SOIL BORING LOCATION (PES ENVIRONNMENTAL, INC., 2005)
- SOIL BORING LOCATION (PES ENVIRONNMENTAL, INC., 2011)
- SOIL BORING LOCATION (ESSEL, 2015)
- SOIL BORING LOCATION (ESSEL, 2016)
- SOIL VAPOR WELL LOCATION (ESSEL, 2015, 2016)
- HAND AUGER LOCATION (ESSEL, 2016)
- FORMER UNDERGROUND STORAGE TANK
- D DIESEL
- G GASOLINE
- BUILDING FOOTPRINT
- 500 LINE OF EQUAL CONCENTRATION OF TPHg IN MICROGRAMS PER LITER = PARTS PER BILLION
- 850 CONCENTRATION OF TPHg IN MICROGRAMS PER LITER = PARTS PER BILLION
- < LESS THAN
- TPHg TOTAL PETROLEUM HYDROCARBONS AS GASOLINE

NOTES

UNDERGROUND STORAGE TANK LOCATIONS FROM HAGEMAN-SCHANK, INC. (1987)

ECB-7 ADVANCED 30 DEGREES FROM VERTICAL. DASHED LINE SHOWS TRACE OF BORING.

- PROPOSED BORING LOCATION

N

Approximate Scale

0 30 60

feet

SOURCE: GOOGLE EARTH MAY 31, 2007

PROJECT NO.	DRAWN BY	REPORT DATE
15166	EC	May 2016

Essel Environmental Consulting
351 California Street, Suite 615
San Francisco, California 94104
1-800-595-7616

Site Plan and
Proposed Boring Locations
760 22nd Street and
2201 Brush Street
Oakland, California

PLATE 1