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Alameda County Environmental Health

# Salisbury Ave Associates, LLC

PETER: ROBERTSON

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November 1, 2007

Donna Drogos Alameda County Health Services Agency Environmental Health Services – Environmental Protection 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Attn: Barney Chan, Sr. Hazardous Materials Specialist

Subject: Site Investigation Work Plan RO #2945

2145 35th Ave. Oakland, CA 94602

Dear Mr. Chan:

Please find attached the revised Phase II Investigation Workplan for your review and approval. We plan to begin on-site demolition and subsurface investigation work in mid-November 2007, and so appreciate your attention to this project.

As required by the Directive Letter (ACEH, September 5, 2007), the following declaration is included:

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.

This letter is signed by an officer or legally authorized representative of Salisbury Avenue Associates LLC.

Please call Robert E. Roat, P.E. of Brighton Environmental Consulting at 510.919.4358 if you have any questions or wish to discuss this Workplan.

Peter Robertson

President

Salisbury Avenue Associates LLC

# PHASE II INVESTIGATION WORKPLAN 2145 35<sup>th</sup> Avenue Oakland, California

Prepared for

Salisbury Avenue Associates LLC 2917 MacArthur Blvd, #A3F Oakland, CA 94602

Rev. 0: Original Submittal to ACDEH Rev. 1: Revision to include Conduit Study Requested by ACDEH

*Prepared by* 



3815 Brighton Avenue Oakland, California 94602 <u>broat@earthlink.net</u> 510.919.4358



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PHASE II INVESTIGATION WORKPLAN 2145 35TH AVE OAKLAND, CALIFORNIA



#### SIGNATURE PAGE

All engineering information, conclusions, and recommendations contained in this report have been prepared by a California Professional Engineer.

Robert E. Roat, P.E.

California Professional Engineer (53593)

10/31/0 Z
Date



#### 1.0 INTRODUCTION

This Work Plan has been prepared by Brighton Environmental Consulting (Brighton, "the Consultant") in response to a request from Salisbury Avenue Associates LLC ("the Client") for environmental investigation of soil and groundwater at 2145 35<sup>th</sup> Avenue in Oakland, California ("the Site," Figure 1-1).

#### 1.1 BACKGROUND

The Client recently purchased the parcel, which was unoccupied at the time of purchase. As part of the purchase agreement, the previous owner, Maria Campos, prepared a Phase I Environmental Site Assessment (Brighton 2006) and subsequently a limited environmental investigation in the vicinity of the former gasoline underground storage tanks (Brighton 2007). The limited environmental investigation was submitted to the City of Oakland Fire Services Agency. After review by the Fire Services Agency, oversight of the project was transferred to the Alameda County Department of Environmental Health.



#### 2.0 PREVIOUS INVESTIGATIONS

#### 2.1 Phase I Site Assessment

Based on the Phase I Environmental Site Assessment (ESA, Brighton January 2006), an automobile repair and fueling station operated at the Site from the 1930s until the early 1970s. An iron fence and grating company used the facility between the late 1970s and approximately 1990. Interviews with a former owner of the iron fence company revealed that two 500-gallon gasoline underground storage tanks (USTs) were removed in approximately 1984; however no records of the removal remain at the City of Oakland or Alameda County. The ESA also identified that an attempt was made in 1999 to locate and remove a waste oil storage tank from the site; that tank was not located, although a closure permit and excavation were undertaken. Inspection of the site during the Phase 1 ESA revealed the presence of an auto maintenance pit in the rear garage and a hydraulic lift in the front garage (nearest 35<sup>th</sup> Avenue).

The ESA also revealed that the neighboring property along 35<sup>th</sup> Avenue to the southeast might have been used as a dry cleaner between the 1950s and 1970s.

#### 2.2 LIMITED ENVIRONMENTAL INVESTIGATION AT THE UST LOCATION

To facilitate sale of the property, a limited environmental investigation was conducted at the location of the former USTs (Brighton, March 2007). The UST location was identified by the iron grating company owner, and by observing patches on the concrete surface of the Site. Four borings were advanced near the edges of the former tank pit. Soil samples were collected from each boring at the bottom of the pit, as estimated by the boring logs. One boring was advanced to groundwater, and a groundwater sample was collected for analysis.



#### 2.2.1 Field Investigation Findings - Soil Lithology and PID Readings

Borings drilled in the area identified as the former tank location revealed the depth of the fill material at between approximately 6 to 7 feet. The fill was mottled, very dark gray (almost black) sandy clay with some traces of gravel. It did not appear to be impacted by volatile organic compounds (VOCs) and released no discernable odor. A PID reading of 0.0 parts per million by volume (ppm<sub>v</sub>) was recorded in this material for Boring B2. A brown to grayish-brown clay was logged beneath the fill, except in Boring B4 where the underlying clay was dark greenish-gray. Between 10.5 feet and 13 feet below ground surface (bgs) a wet, clayey to silty sand and gravel was encountered. In Borings B2 – B4 this course-grained material extended to the bottom of the borings. In Boring B1 a sharp contact was observed at approximately 13 feet with a yellowish-brown clay that extended to 20 feet bgs. No odor or noticeable staining associated with petroleum contamination was associated with this clay unit (a PID reading was not taken).

PID readings in the soil ranged from 0 to greater than 10,000 ppm<sub>v</sub>. PID readings above zero were not detected in borings B2 or B3. B1 had a maximum reading of 900 ppm<sub>v</sub> for a sample collected at 9 feet bgs. B2 had a PID reading of greater than 10,000 ppmv from the sample collected at 7 feet bgs. A strong petroleum odor was noted at the depths where these elevated PID readings were recorded. There was no free product observed although the soils did exhibit a greenish tint, which may have been due to exposure to petroleum product.

Groundwater was encountered between 10 and 12 feet bgs.

#### 2.2.2 Laboratory Analytical Results

The results of the limited investigation revealed that the depth of the fill material was between approximately 6 to 7 feet. Soil samples from 9 feet below ground surface (bgs) at Boring B1 (Figure 3-1) contained total petroleum hydrocarbons characterized as diesel (TPHd) at 360 milligrams per kilogram (mg/kg), TPH as Stoddard Solvent (TPHss) at 1,200 mg/kg and TPH as



gasoline (TPHg) at 2,100 mg/kg. Samples from 8 feet bgs to 8.5 feet bgs from Borings B-2 and B-3 contained no petroleum hydrocarbons above laboratory reporting limits, with the exception of TPHd at 1.3 mg/kg. Samples from Boring B-4 contained TPHd at 160 mg/kg and TPHg at 9.7 mg/kg.

The grab groundwater sample from Boring B-1 contained TPHd at 69 milligrams per liter (mg/l), TPHg at 87.0 mg/l, TPHss at 71 mg/l, and benzene at 0.25 mg/l. No chlorinated VOCs were reported in the groundwater grab sample.

Based on these findings, a Phase II Investigation of the Site is warranted. The investigation will be conducted with the intent of first characterizing onsite contamination so that a remediation plan for the Site can be developed as needed and so that planned redevelopment of the site as market rate housing can continue. Off-site characterization will then be conducted if needed, and an offsite remediation and/or monitoring plan developed and implemented.



#### 3.0 CONDUIT STUDY

The ACDEH has requested a conduit study "that details the potential migration pathways and potential conduits (utilities, storm drains, etc.) that may be present in the vicinity of the site."

#### 3.1 HISTORICAL OWNERSHIP

The following sections are summarized from Phase 1 Environmental Site Assessment (Brighton 2006) and the Phase 1 ESA Addendum (Brighton 2007).

At the request of Tim Hussey, mortgage broker for the property, Placer Title Company performed an investigation into the Chain of Title for the property, and reported recorded deeds from 1955 through July 2005. Brighton subsequently reviewed block book records at the Oakland public library to identify owners prior to 1955. The following table summarizes the ownership. The property currently described as 2145 35<sup>th</sup> Avenue was originally two parcels, Fruit Vale Villa Tract A, Parcel 1 and 2.

Dates	Owner	Comments
1890	Unknown (1)	Deed originally recorded as part of Fruit Vale
		Villa (title search)
1892	James J Flaherty <sup>(2)</sup>	2151 35 <sup>th</sup> Ave Alameda County Block Book
		(first record in Block Books)
1892	JW Hodgkins <sup>(2)</sup>	2145 35 <sup>th</sup> Ave Alameda County Block Book
		(first record in Block Book)
1897	JW Hodgkins <sup>(2)</sup>	2145 35 <sup>th</sup> Ave
1902	State of California <sup>(2)</sup>	2151 35 <sup>th</sup> Ave
1902	Harriet Hodgkins <sup>(2)</sup>	2145 35 <sup>th</sup> Ave
1910	Harriet Hodgkins <sup>(2)</sup>	2145-2151 35 <sup>th</sup> Ave
1923	Rose and Matthew Collister (2)	2151 35 <sup>th</sup> Ave only
1923	J.C. Allegretti <sup>(2)</sup>	2135-1245 35 <sup>th</sup> Avenue
1955	John Madler (1)	Purchased 2135 through 2151 35 <sup>th</sup> Ave
1978	Elizabeth and James Carver (1)	Purchased 2135 through 2151 35 <sup>th</sup> Ave
1990	Coventry Financial Corp. (1)	Trustee
1998	Lerman and Plez Middleton (1)	2145 and 2151 35 <sup>th</sup> Avenue purchased
2000	Maria Campos (1)	2145 and 2151 35 <sup>th</sup> Avenue purchased



#### Notes:

- (1) Source is Title Search
- <sup>(2)</sup> Source is Oakland History Room, Block Books for Alameda County, Brooklyn Twnshp.

#### 3.1.1 Former Owner Interviews

Interviews were conducted with Maria Campos, previous owner, Tim Hussey, mortgage broker for the property sale in 1990 and 1998 and 2000, and Mr. Dana Thurman, environmental manager for Chevron Corporation. Attempts to locate Mr. Carver and Mr. Madler were unsuccessful.

#### 3.1.1.1 MARIA CAMPOS

Ms. Campos indicated that she had lived across the street from the property during the 1980s and 1990s, and had witnessed its use by a manufacturer of iron bars for windows. She did not recall any gasoline dispensing operations at the property.

#### 3.1.1.2 TIM HUSSEY

Mr. Hussey reported that prior to the sale in 2000, an environmental investigation was conducted to locate and remove a reported fuel oil or waste oil underground storage tank. He indicated that the site suspected location of the UST was identified by an access pipe in the concrete, and that a tank removal contractor was employed to excavate, locate and remove the tank. He further indicated that the contractor excavated the suspected tank location, but was unable to locate a tank. Mr. Hussey recalled that the access pipe was no longer connected to a tank at the time of excavation. He also recalled that a sample was collected from the bottom of the excavation. Further investigations at the City of Oakland Fire Services Agency indicated that a permit for tank removal was obtained on February 19, 1999, and an inspector witnessed the excavation on March 3, 1999, but that a closure report was never received by the Agency.



#### 3.1.1.3 DANA THURMAN

Mr. Dana Thurman of Chevron Corporation was interviewed after business directories indicated that the site was referred to as "Madler Chevron Station" between the late 1950s and the early 1970s. Mr. Thurman indicated that Chevron delivered gasoline to the station between 1958 and 1972. The Chevron station identification number was 8861. He requested an internal search of records at Chevron to determine if Chevron had any records of tank removal. Mr. Thurman indicated in a subsequent telephone interview that no operation records or tank closures were available for the station. He indicated that this usually meant that the station was an independent operation to which Chevron only supplied petroleum.

#### 3.1.1.4 James Carver

At the beginning of February 2007, Mr. Hussey was able to locate Mr. Carver in Reno, Nevada. Brighton staff interviewed Mr. Carver by telephone and determined the following information. According to Mr. Carver:

- 1. Two tanks were removed from the property in approximately 1984 or 1985.
- 2. He recalls that that the tanks were approximately 500-gallon capacity.
- 3. At the time of removal, the tanks contained only residual amounts of gasoline.
- 4. He did not recall whether the tanks had holes when they were removed.
- 5. The tanks were removed with oversight by the City of Oakland Fire Department.
- 6. The tank pit was left open for approximately two months, after which it was filled at the direction of the City.
- 7. The pit was backfilled with the type of fill required by the City.
- 8. He did not recall which direction the tanks were oriented.
- 9. He was the excavation contractor.
- 10. The excavated area was paved with concrete in April 1986 (as shown by the hand prints and dates 4/11/1986)
- 11. He did not recall whether the fuel pipes from the tanks to the dispenser island was removed
- 12. At the time of tank removal, a hydraulic service lift still existed in the building (and still exists today).



#### 3.1.1.5 HERNAN GOMEZ - INSPECTOR, OAKLAND FIRE SERVICES AGENCY

Brighton staff spoke with Inspector Gomez after confirming the tank removal with Mr. Carver. Inspector Gomez recalled the House of Iron site from fire inspections during the 1990s, and rechecked the City of Oakland Fire Department files for tank removal information. He corroborated previous record check results by Brighton, stating that there is an open permit for removal of a waste oil tank in 1999, but no records of tank removals in the 1980s. During the 1980s, UST oversight and records were transferred from the Oakland Fire Department to the Alameda County Department of Environmental Health. During the 1990s, UST oversight and records were transferred back to the Oakland Fire Services Agency.

#### 3.2 HISTORICAL LAND USE

The area is part of the original 1820 Rancho San Antonio land grant to Luis Maria Peralta. The Peralta Hacienda is located approximately xx feet to the northeast. An adobe house was built on that location in approximately 1821, and the current park office was built in 1870 and moved in 1897, when the road grid in the area was established by the City of Oakland. The 2145-2151 35<sup>th</sup> Avenue site was part of the Fruitvale Annex development in the late 1890s. Sanborn maps from 1912 for the area show water lines in the street. Reverse telephone directories reviewed during the Phase I ESA revealed that neighboring properties to the west along 35<sup>th</sup> Avenue were dry cleaners, contractors and residences beginning in the early 1900s.

#### 3.3 WELL SURVEY

Review of documentation provided during an EDR record search for the property revealed no public drinking water wells or environmental monitoring wells within ¼ mile of the site. The search revealed no active environmental investigation sites where groundwater monitoring wells might be anticipated within ¼ mile of the site. These data were attached as appendices to the Phase I ESA. A field survey of the neighborhood within 1200 feet of the site revealed no evidence of dewatering wells or cathodic protection wells.



Telephone interviews with staff at the Peralta Hacienda Historical Park indicate that a water well was located on that property between approximately 1821 and the 1890s. The well is no longer evident, although bricks from the well have been identified during archeological exploration at the park. Based on the age of the well, it was likely installed by hand and was not, to the knowledge of park staff, officially closed. The approximate location of the well is shown in Figure 1-1. The surface elevation at the former well location is approximately 30 feet above the surface elevation at the Site.

An application for a Well Completion Report review by the County of Alameda Public Works Agency, (ACPWA), Water Resources Division has been filed, and the review is currently underway by the ACPWA. Resulta are expected within two weeks, and will be reviewed before proceeding with the onsite investigation, however it is not expected that the well survey results will change the proposed investigation plan. The Release Agreement for the review is attached as Appendix A.

#### 3.4 SANITARY SEWER AND STORM DRAINAGE

Sanitary sewer and storm drainage locations and depths are shown in Appendix A and Appendix B. Sanitary sewer locations are shown on the City-provided sewer map. Sanitary sewer manhole inverts and rims are shown on the survey provided by Salisbury Avenue Associates LLC. The invert of the manhole located in the center of 35<sup>th</sup> Avenue at Salisbury is approximately 14 feet below ground surface. The existing onsite sanitary lateral is believed to flow to 35<sup>th</sup> Avenue along the south side of the existing building based on configuration of bathrooms, but the exact location and depth of the sanitary sewer will be identified as part of the field work contemplated in this workplan.

Storm drainage is shown on the City-provided aerial photograph/topographic maps. Storm water flows on the surface in gutters west on Salisbury to curb inlets near Peralta Creek, and south on 35<sup>th</sup> Avenue past the school.



#### 4.0 SITE CONCEPTUAL MODEL

A Site Conceptual Model presents a summary of the current understanding of geologic and hydrogeologic conditions, suspected contaminant sources, potential migration pathways, receptors and sampling constraints. This understanding forms the basis for the development and rationale for the proposed investigation activities.

Findings of previous investigations include the following:

Findings from records and surface inspections:

- Former service station with gasoline USTs removed (early 1980s) and fill in place.
- Former waste oil UST removal attempted (1999), but no tank found.
- Maintenance pit, hydraulic lift and gasoline dispenser island still in place.
- Dry cleaner may have occupied building next door to the south during the 1950s and 1960s.
- Peralta Creek is located approximately 600 feet to the west. Groundwater flow direction is believed to follow contours to the southwest toward the San Francisco Bay.

Findings from Field Work and Laboratory Analyses:

- PID readings and laboratory results for soil samples from north side of tank pit (Borings B-2 and B-3) show little impact from petroleum hydrocarbons.
- Laboratory analytical results from Boring B-1 and B-4 show the presence of TEPH and TPH, but no detectable BTEX.
- Laboratory analyses of the grab groundwater sample from Boring B-1 reveals the presence of TEPH which may be characterized as Stoddard Solvent, TPHg and benzene. No chlorinated VOCs were reported in the grab groundwater sample.
- A green clay was reported beneath the tank pit at Boring B-1 between 13 feet bgs and 20 feet bgs (where the boring was terminated).



#### Conceptual Model

- Horizontal extent of petroleum hydrocarbons in soil is bounded to the north by Borings B2 and B3. Horizontal extent of petroleum hydrocarbons in soil is not bounded to the south, due to the concentrations observed in B1 and B4.
- Groundwater in the first permeable zone is impacted by gasoline and heavier petroleum hydrocarbons. Benzene is present in groundwater, but toluene, ethyl benzene and xylenes were not reported above laboratory analytical detection limits.
- Vertical extent of petroleum hydrocarbons in soil and groundwater is likely bounded due to the clay beneath the first permeable zone at the site.
- No other tanks are believed present at the site; however, a search for a waste oil tank in 1999 was inconclusive.
- The impact from the former neighboring dry cleaner is unknown, although no chlorinated hydrocarbons were reported in the grab groundwater sample.

The goals of the work outlined in this work plan are as follows:

- 1. Establish groundwater flow direction and gradient in the shallow permeable zone.
- 2. Identify whether water in the next deeper permeable zone is impacted by petroleum hydrocarbons.
- 3. Establish the horizontal limits of petroleum-impacted soil and shallow groundwater on the site.
- 4. Identify whether additional off-site characterization is required.



#### 5.0 SCOPE OF WORK

Brighton has developed the following scope of work for an onsite Phase II site investigation. A description of each task is included below.

Task 1: Demolition Inspection, Monitoring and Sampling

Task 2: Onsite Subsurface Investigation

Task 2a: Submit drilling application to County Public Works; Prepare H&S plan

Task 2b: Utility Location and Magnetometer Survey

Task 3: Installation of Soil Borings and Piezometers and Sampling

Task 4: Laboratory Analyses

Task 5: Develop Interim Remedial Action Plan for Onsite Petroleum Hydrocarbons

Task 6: Report Preparation

#### 5.1 Task 1: Demolition Inspection, Monitoring and Sampling

Prior to the start of the subsurface investigation the existing buildings, foundations, pavement and belowground structures will be demolished and removed from the site by the owner's demolition contractor. Known belowground structures include a former hydraulic lift and maintenance pit which allowed work beneath cars (Figure 3-1).

Brighton will observe the removal of floors, foundations, pavement and belowground structures to identify belowground pipes and conduits, staining or evidence of chemical spills. Brighton will monitor for volatile organic compounds with a photoionization detector. Soil samples will be collected from beneath the hydraulic lift and beneath the maintenance pit. The samples will be submitted to a California-certified environmental laboratory using chain of custody protocols. Samples will be analyzed for TPHg, TEPHd, TEPHss, TEPH motor oil, benzene, toluene, ethyl benzene and total xylenes (BTEX) and metals.



#### 5.2 Task 2: Preparation for Onsite Subsurface Investigation

After completion of demolition, subsurface investigation will commence. Tasks involved in the subsurface investigation will include permitting, utility location and magnetometer scan, installation of borings and piezometers, sample collection, and water level monitoring.

#### 5.2.1 Task 2a: Submit drilling application to County Public Works; Prepare H&S plan

Permits and plans required for drilling will be prepared. Work will include:

- Preparation and submittal of a drilling permit application to Alameda County Public Works Agency, to include:
  - Site Map showing boring locations
  - o Cover letter describing nature and purposes of work
  - Site Hazard Form
  - o Permit application form
- Preparation of a site-specific Health and Safety Plan for field team

#### 5.2.2 Task 2b: Utility Location and Magnetometer Survey

At the conclusion of demolition, Brighton will mark proposed locations for borings and piezometers. Underground Services Alert (USA) will be notified as required before the start of drilling. A utility locator will check the proposed boring locations for utility conflicts. In addition, the utility locator will conduct a magnetometer survey of the entire site to verify the absence of additional underground storage tanks.

#### 5.3 TASK 3: INSTALLATION OF SOIL BORINGS AND SAMPLING

The purpose of advancing soil borings and installing piezometers will be to evaluate the vertical and horizontal extent of petroleum hydrocarbon impact to soil and groundwater on the site, and to identify the gradient and direction of groundwater flow. In particular, the data will be



gathered to allow preparation and implementation of a Corrective Action Plan aimed at clearing the site for redevelopment.

Borings will be advanced at up to four locations at the Site. Proposed boring locations are shown on Figure 3-1. The boring locations were selected based on former uses in the areas. Boring B-5 is adjacent to the former tank pit. Boring B-6 is adjacent to the hydraulic lift, and Boring B-7 is adjacent to the former gasoline dispenser island. Boring B-8 is near the excavation for the waste oil tank.

Review of logs from previous borings in the vicinity of the former tank pit (Borings B1 through B4 on Figure 3-1) indicates that first groundwater will be encountered at approximately 10 to 12 feet below ground surface (bgs), and that a low permeability zone is located below the first groundwater at approximately 13 to 15 feet bgs. The four borings will be advanced until first groundwater is encountered or 15 feet bgs, whichever comes first, and soil and groundwater samples will be collected for analyses.

#### **5.3.1** Soil Borings and Sampling

Brighton's investigation of soil and groundwater on the Site will include the following work:

- Up to seven soil borings (four for soil sampling and three for groundwater sampling) will be advanced to groundwater by direct push methodology using a licensed drilling contractor.
- One soil boring will be advanced to the next deeper permeable zone.
- Borings will be advanced with continuous soil sampling.
- A PID will be used to screen soil samples and to monitor breathing zone for health and safety purposes. The field geologist will log the soil borings.
- Two soil samples per soil boring will be collected from native soil in the four soil borings
  not completed as piezometers. The samples will be retained for laboratory analysis. Soil
  samples will be colleted from the piezometers only if PID readings indicate the presence



of VOCs. The elevation of the collected samples will be determined based on visual observations by the geologist and on the results of PID screening. One sample in each boring will be collected at the highest PID reading in the same lateral zone as found in B1 and B4. A second sample will be collected five feet deeper and analyzed only if the upper sample shows concentrations of hydrocarbons above cleanup goals.

- Borings will be advanced to groundwater depth to allow collection of a grab groundwater sample from each boring. (in just three borings or each boring?)
- Soil cuttings and decontamination fluids will be contained onsite in drums provided by drilling subcontractor. Disposal characterization will be undertaken after receipt of laboratory analytical results. Soil cuttings and decontamination fluids will be disposed after profiling at an appropriate landfill.
- Four of the borings will be backfilled immediately with cement grout.

#### **5.3.2** Piezometers

The fifth boring will be advanced to the second water-bearing zone or a maximum of 35 feet bgs, and a grab sample of groundwater will be collected. The groundwater sample from the second water-bearing zone will be collected using a hydropunch or isolated zone-type sampling device. The boring will then be grouted to the elevation of the first water-bearing zone. The fifth boring, as well as the sixth and seventh borings, will be completed as temporary piezometers, to allow measurement of groundwater elevation, gradient and flow direction.

Temporary piezometers will be installed at three of the boring locations to allow measurement of groundwater elevations. Piezometers will be constructed in the three borings by installing temporary well casing. Each piezometer location will be surveyed for elevation and location of the top of the well casings, and water elevation monitoring will occur at least twice over a week to determine groundwater flow direction and gradient. After completion of the piezometer tests, the casings will be removed and the borings will be backfilled with cement grout.



#### 5.4 TASK 4: LABORATORY ANALYSIS

#### **5.4.1** Soil Sample Analyses

Samples will be transported under chain of custody protocols and submitted for analysis to Curtis & Tompkins Laboratories Ltd. of Berkeley, California. Based on the findings of the earlier investigation, soil samples from Borings B-5, B-7, and B-8 will be analyzed on standard turnaround times for the following constituents:

- Total Extractable Petroleum Hydrocarbons (TEPH) by EPA Method 8015M, with results compared to diesel, motor and Stoddard solvent standards
- Total Petroleum Hydrocarbons as gasoline (TPHg)
- Benzene, toluene, ethyl benzene and total xylenes, tert butyl alcohol (TBA) and methyl tert butyl ether –MTBE (at least one location) by EPA Method 8260
- EDB(at least one location).

Samples from Boring B-8 will also be analyzed for LUFT 5 metals (including cadmium, chromium, lead, nickel and zinc) by EPA 6000 series methods, due to the potential proximity to a former waste oil storage tank. Soil from Boring B-6 will not be analyzed unless chemicals of concern are detected in the sample collected from beneath the maintenance pit. Soil samples from piezometer borings will not be collected and analyzed unless PID readings indicate potential chemicals of concern.

#### **5.4.2** Groundwater Sample Analyses

Groundwater will be collected from the each of the soil borings and piezometers. In addition, a grab groundwater sample will be collected from the deeper permeable zone if it is encountered during the installation of Piezometer P-3. Groundwater from all locations will be analyzed for TPHg, TEPH, BTEX and TBA. Groundwater samples from Boring B-5, B-8 and the three piezometers will also be analyzed for LUFT 5 metals. In addition, groundwater samples from piezometer P-3 will be analyzed for VOCs by EPA Method 8260B and MTBE..



# 5.5 DEVELOPMENT OF A CORRECTIVE ACTION PLAN FOR ONSITE PETROLEUM HYDROCARBONS

Based on the findings of the Site Investigation, Brighton will develop a Corrective Action Plan for the Site. Proposed interim remedial measures will address on-site petroleum-impacted soil and shallow groundwater. If the results of the Site Investigation indicate that the horizontal and vertical extent of soil and groundwater are adequately characterized, then a Corrective Action Plan will be prepared in lieu of an Interim Remedial Action Plan.

Aspects of the Corrective Action Plan will include:

- Assessment of the impacts, including hydrogeologic characteristics of the site and contaminant characteristics
- Determination of applicable cleanup levels
- Feasibility Study and Workplan, and
- Monitoring and Reporting of CAP Effectiveness

Depending on the findings of the Site Investigation, the CAP may also include a Workplan for additional offsite investigation.

#### 5.6 REPORT PREPARATION

Brighton will summarize the field work, prepare boring logs, and prepare a Phase II Site Investigation Report combined with a Corrective Action Plan for submittal to the Alameda County Department of Environmental Health (ACDEH).



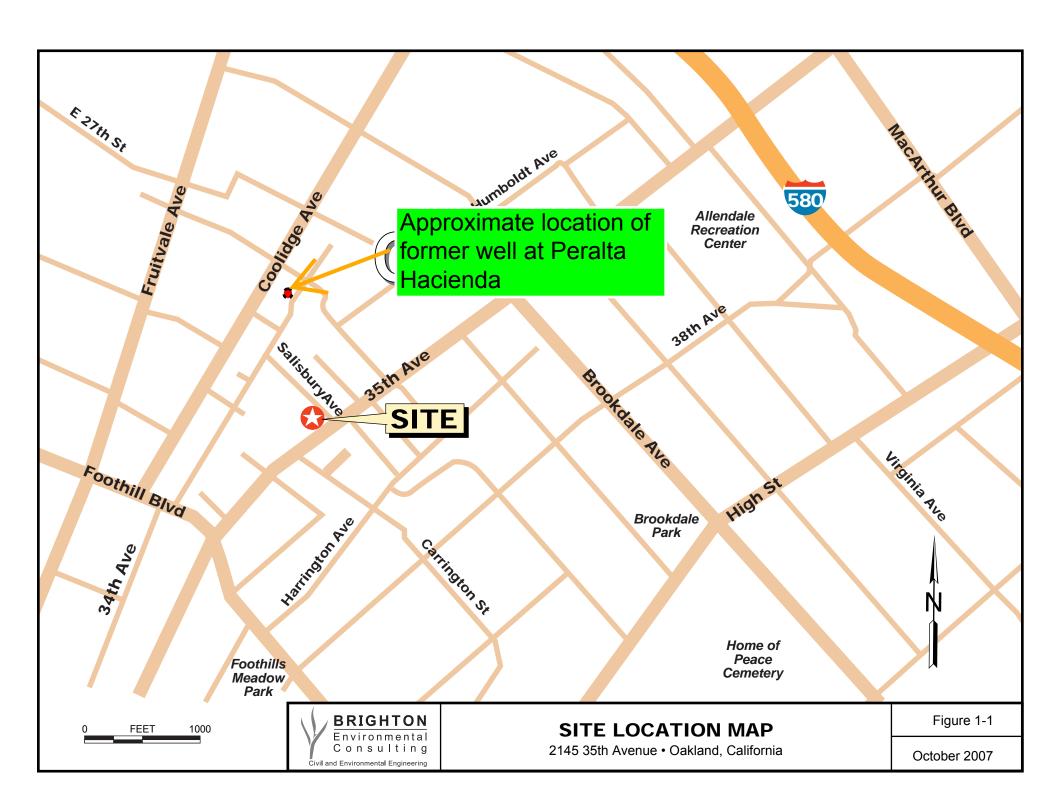
# 6.0 REFERENCES

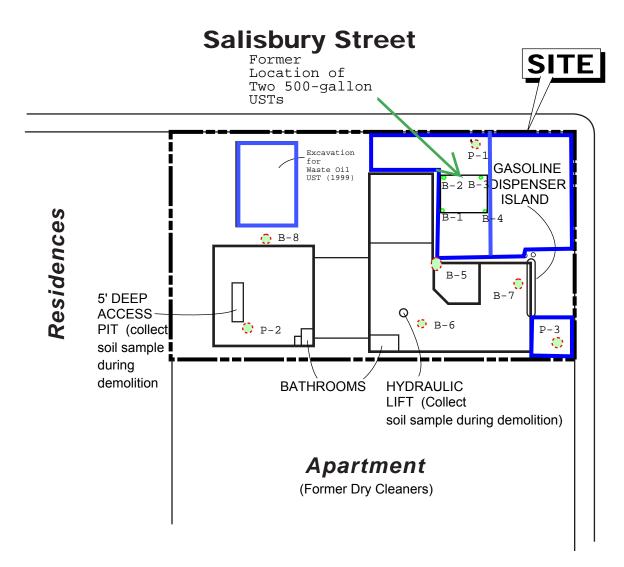
- Brighton 2006. *Phase 1 Environmental Site Assessment, 2145 35th Avenue, Oakland, California, December 2006.*
- Brighton 2007a. *Phase 1 Environmental Site Assessment Addendum, 2145 35th Avenue, Oakland, California,* February 2007.
- Brighton 2007b. *Underground Storage Tank Removal Confirmation Report 2145 35th Avenue, Oakland, California*, March 2007.

PHASE II INVESTIGATION WORKPLAN 2145 35TH AVE OAKLAND, CALIFORNIA



# **FIGURES**









**Concrete Patch Locations** 

- Proposed Soil Boring Locations
- Tank Investigation Boring Locations





**Site Plan with Proposed Borings** 

2145 35th Avenue • Oakland, California

Figure 3-1

August 2007

PHASE II INVESTIGATION WORKPLAN 2145 35TH AVE OAKLAND, CALIFORNIA



# **APPENDIX A**

# Well Completion Report Release Agreement



COUNTY OF ALAMEDA
PUBLIC WORKS AGENCY
WATER RESOURCES SECTION
399 Elmhurst Street, Hayward, CA 94544-1395
James Yoo PH: (510) 670-6633 FAX: (510) 782-1939
FOR GENERAL DRILLING PERMIT INFO:
www.acgov.org/pwa/wells

# WELL COMPLETION REPORT RELEASE AGREEMENT—AGENCY

(Government and Regulatory Agencies and their Authorized Agents)

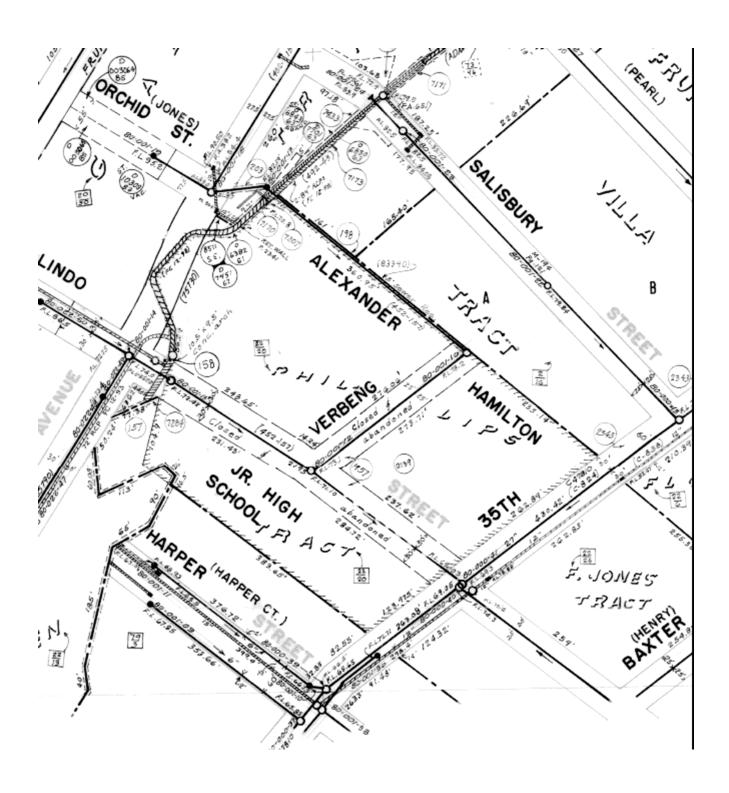
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Make a study, or,										
Perform an environme miles.										
In accordance with Section disseminated, published, or well(s). The information s CONFIDENTIAL and shall Brighton Environments	made ava: :hall be u l be kept i	ilabic i sed on narosi	ly for ricted	spection o r the puη l file acces	y ale pase sible	of conducting of conducting only to agency Alam	the study. staff or the sector Co.	Copies obtains authorized agent inty Envi	d shall bo - ronment	stampod
Authorized Agent	-		_			Govern	ment or Reg	ulatory Agency		
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Address					_	Address	\$	ı	- 1	
Oakland, CA 9	4602					Alan		CA	9450	<u>2-</u>
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E-mail						E-mail				-

PHASE II INVESTIGATION WORKPLAN 2145 35TH AVE OAKLAND, CALIFORNIA



# **APPENDIX B**

City of Oakland Sewer and Storm Water Figures







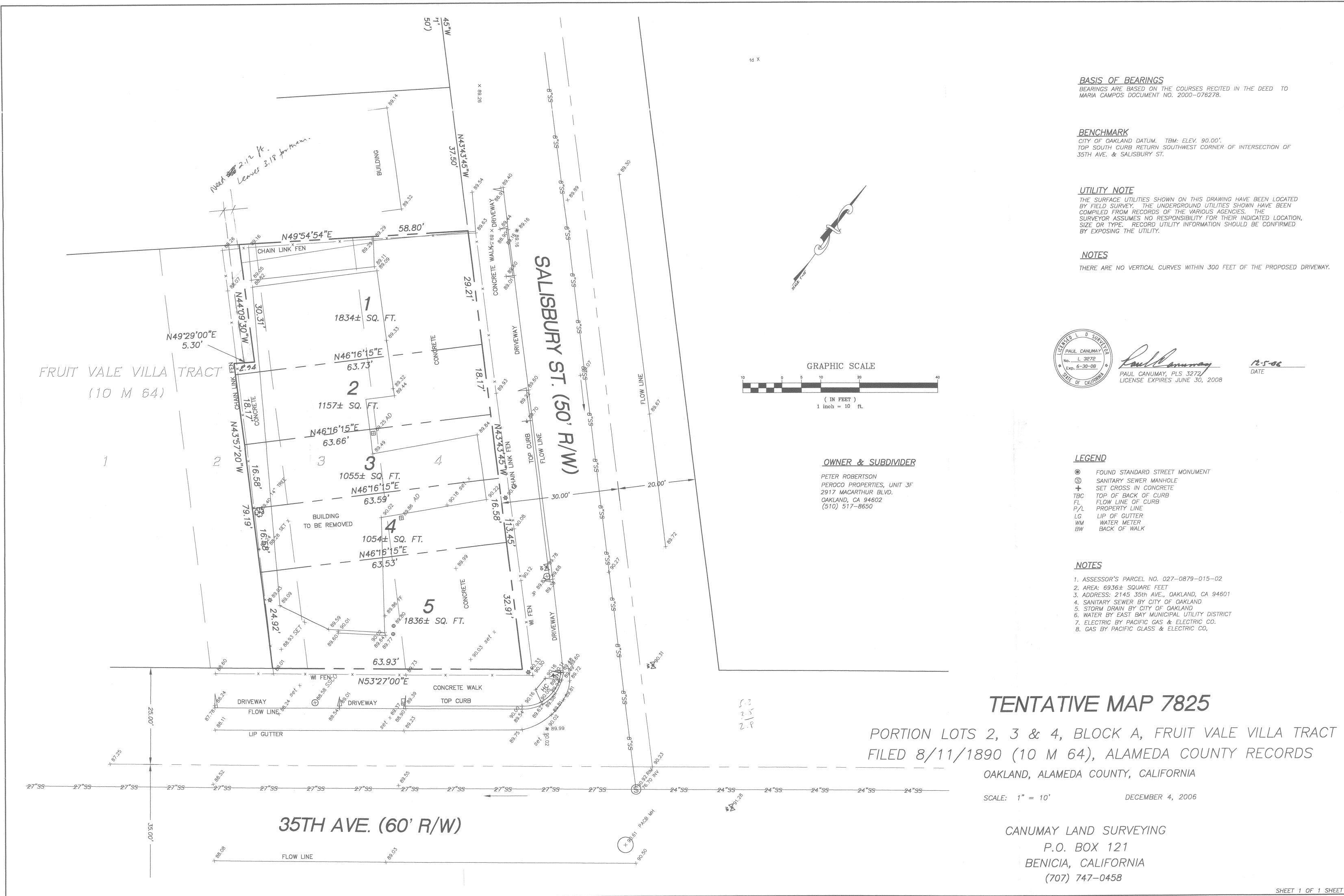


PHASE II INVESTIGATION WORKPLAN 2145 35TH AVE OAKLAND, CALIFORNIA



Appendix B

**Site Survey** 



SHEET 1 OF 1 SHEET