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1:22 pm, Jun 16, 2009

Alameda County  
Environmental Health

**ConocoPhillips**

76 Broadway  
Sacramento, California 95818

June 3, 2009

Barbara Jakub  
Alameda County Health Agency  
1131 Harbor Bay parkway, Suite250  
Alameda, California 94502-577

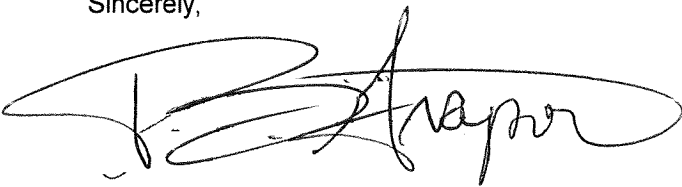
Re: **Work plan for Additional Assessment**  
**76 Service Station # 3538 RO # 0251**  
**411 W. MacArthur Blvd.**  
**Oakland, CA**

Dear Ms. Jakub:

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

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,



Terry L. Grayson  
Site Manager  
Risk Management & Remediation

May 27, 2009

Ms. Barbara Jakub  
Alameda County Health Care Services  
1131 Harbor Bay Parkway  
Alameda, California 94502-6577

**Subject: Work Plan for Additional Assessment  
76 Service Station No. 3538  
411 West Macarthur Boulevard  
Oakland, California  
Alameda County LOP Case No. R0251  
Delta Project No. C103538004**



Dear Ms. Jakub:

Delta Consultants (Delta) has prepared this *Work Plan for Additional Assessment* in order to further define the extent of total petroleum hydrocarbons as gasoline (TPH-G), methyl tert butyl ether (MTBE), and benzene affected soil and groundwater in the vicinity of ConocoPhillips Company (ConocoPhillips) 76 Service Station Number 3538, located at 411 West Macarthur Boulevard in Oakland, CA (the Site). A site location map is included as **Figure 1**. This additional assessment was initially recommended in Delta's *Site Conceptual Model* (SCM), dated November 21, 2008. Delta has not received a response from the Alameda County Health Agency regarding recommendations provided in the Site Conceptual Mode. Although Delta and ConocoPhillips have yet to receive final approval of the November 2008 SCM, Delta is now submitting details of the scope initially recommended in the November 2008 SCM, and requests approval to move forward. This work plan details the proposed advancement of additional offsite soil borings for the purpose of providing additional data south of the Site.

#### **SITE DESCRIPTION**

The subject site is a former Tosco (76) service station located on the southwest corner of Macarthur Boulevard and Webster Street in Oakland, California. The Site is currently a used car sales lot and is entirely fenced. All petroleum storage and dispensing equipment were removed in September of 1998, during station demolition activities. Six groundwater-monitoring wells are present, four on-site wells and two off-site wells. (**Figure 2**).

#### **PROPOSED SITE INVESTIGATION**

Historic groundwater flow direction measured from site wells has ranged between east, south, and southwest. During the two most recent groundwater sampling events, on 9/17/2008 and 3/27/2009, the groundwater flow direction was to the south. There has been difficulty conducting assessment directly south of the Site due to the presence of private residences in this area. In March, 2006, TRC advanced five soil borings (SB-1

a member of:





through SB-5) to depths of 20 to 24 feet below ground (fbg) as shown on (**Figure 2**). A grab-groundwater sample collected from boring SB-3 located in the northeast corner of the site contained TPH-G, benzene, MTBE, and tert-butyl alcohol (TBA) at respective concentrations of 13,000 µg/l, 5101 µg/l, 2,600 µg/l, and 57 µg/l. SB-5, located on the southern boundary of the site, contained detections of TPH-G, benzene, MTBE, and TBA at respective concentrations of 120 µg/l, 11 µg/l, 130 µg/l, and 28 µg/l. A table summarizing data collected from the soil borings is included in **Attachment A**.

Delta proposes to advance two additional soil borings (SB-6 and SB-7) to the south of the Site for the purpose of defining the extent of dissolved phase petroleum hydrocarbons and constituents in groundwater in the site vicinity, and sorbed phase petroleum hydrocarbons and constituents in soils south of MW-2. Delta proposes to advance one additional soil boring (SB-6) on the privately-owned lot located south of MW-2 to a depth of approximately 20 to 25 feet. The second soil boring (SB-7) will be advanced on Webster Street approximately 30 feet to the south of soil boring SB-1.

To minimize the possibility of encountering subsurface utilities with drilling equipment, each boring location will first be cleared to a depth of at least five fbg using air-knife technology. The soil borings will be advanced into first encountered groundwater, to approximately 20 fbg, using direct push technology.

During soil boring advancement, soil samples will be collected continuously in transparent acetate liners, four feet in length. A temporary well screen will be placed into each boring and grab-groundwater samples will be collected using disposable plastic bailers. Groundwater samples will then be decanted into the appropriate sampling containers provided by a certified analytical laboratory for the proposed analyses.

Soil samples will be screened in the field for the presence of volatile organic compounds (VOCs) using a photoionization detector (PID). PID readings and a lithologic description of each soil sample will be recorded by a Delta geologist on a boring log form. From each boring, a minimum of two soil samples will be collected for laboratory analysis from the depths that exhibit the highest PID value or at depths exhibiting significant change in lithology. Should all collected samples indicate PID readings below the instruments detection limit, the deepest unsaturated soil sample will be selected for analysis.

Delta will request that the soil and groundwater samples collected for laboratory analysis be analyzed for TPH-G, benzene, toluene, ethylbenzene, xylenes (BTEX compounds), MTBE, and TBA by EPA Method 8260B. Soil and groundwater samples selected for laboratory analysis will be individually labeled, registered on a chain-of-custody form, and placed on ice pending delivery to a certified analytical laboratory. Strict chain-of-custody protocols will be followed during the transport of the samples.

Down-hole tools will be cleaned prior to and between each boring to prevent cross-contamination. Waste materials will be stored onsite in DOT approved 55-gallon drums pending analytical profiling and proper disposal by a ConocoPhillips-approved waste hauling firm.

### **SCHEDULE**

Delta will obtain all necessary access agreements and permits following submittal of this work plan and will commence field activities within 30 days of receipt of work plan approval by the Alameda County Health Care Services Agency (ACHCSA). If an executed access agreement is obtained, and a response is not received from the ACHCSA following 60 days of agency receipt of this work plan, Delta will conduct field activities as proposed.

### **REPORTING**

Upon completion of the fieldwork, Delta will prepare a report describing field activities, methods, and analytical results. Delta will include recommendations for additional assessment work at the Site, as appropriate.

It is further estimated that the final report will be ready for submittal approximately 45 days after receipt of the sample analytical results.

### **REMARKS**

The contents contained in this work plan represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. For any reports cited that were not generated by Delta, the data from those reports is used "as is" and is assumed to be accurate. Delta does not guarantee the accuracy of this data for the referenced work performed nor the inferences or conclusions stated in these reports. This work plan is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this Workplan will be conducted. This work plan is intended only for the use of Delta's Client and anyone else specifically listed on this work plan. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this work plan.

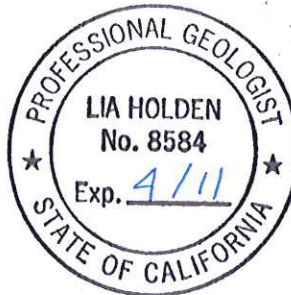
If you have any questions regarding this work plan or need and additional information about this Site, please do not hesitate to contact me at (408) 826-1863.

Sincerely,

### **DELTA CONSULTANTS**

Evan Chantikian  
Senior Staff Geologist

Lia Holden  
Geologist - Project Manager



### Attachments:

Figure 1      Site Location Map  
Figure 2      Site Map

Attachment A - Soil Boring Analytical Data, May 2006

Cc: Mr. Terry Grayson, ConocoPhillips, Sacramento, California (electronic copy)

**REFERENCES**

TRC, *Soil and Groundwater Investigation Report, 76 Station 3538, 411 MacArthur Blvd, Oakland, California*, April 28, 2006.

Delta Consultants, *Site Conceptual Model, Former 76 Service Station No. 3538, 411 W. Macarthur Boulevard, Oakland, California*, November 21, 2008

TRC, *Semi-Annual Monitoring Report October 2008 Through March 2009, 76 Service Station 3538, 411 MacArthur Blvd,, Oakland, California*, April 15, 2009.



## FIGURES

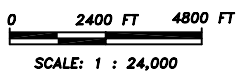
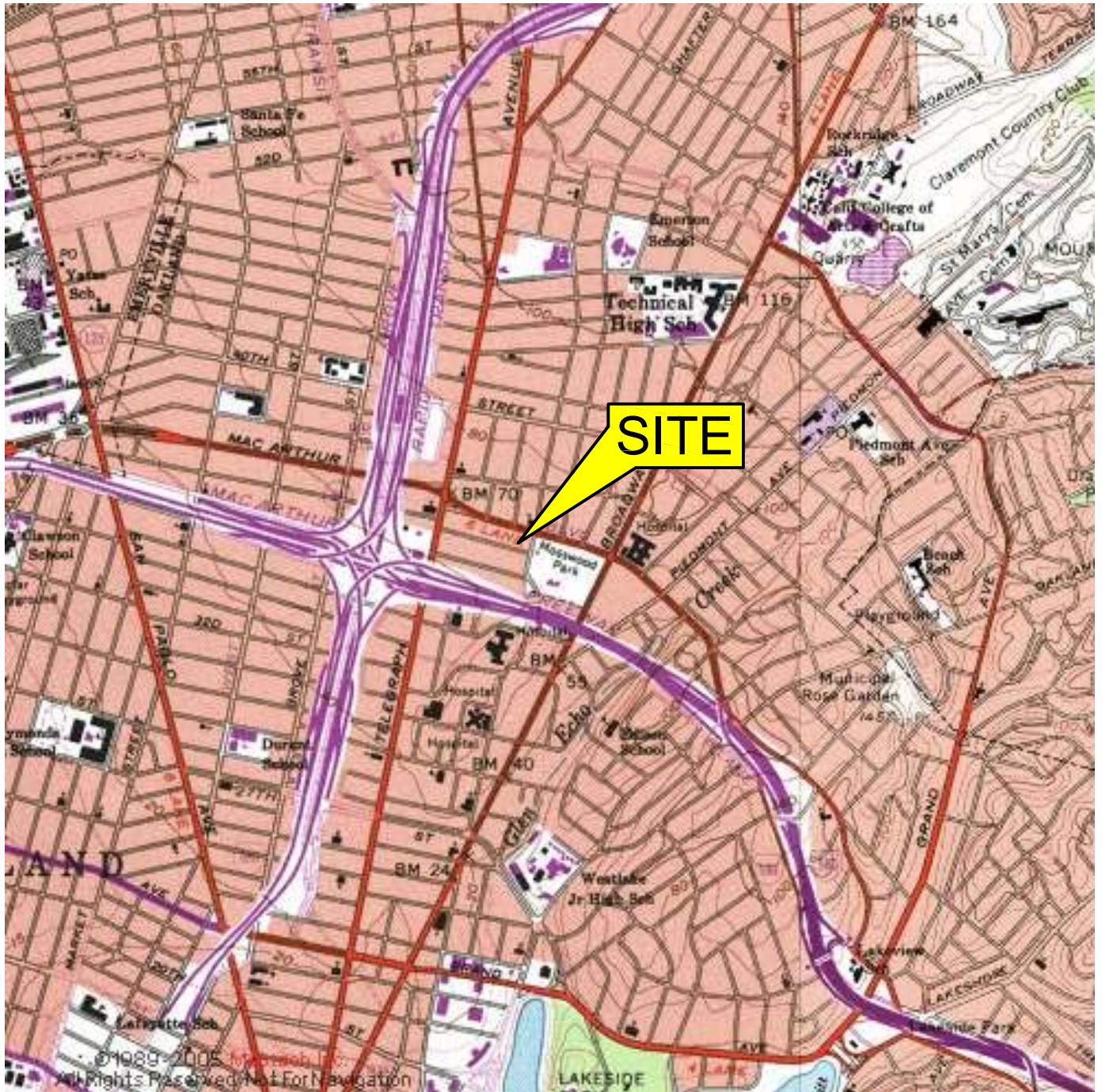


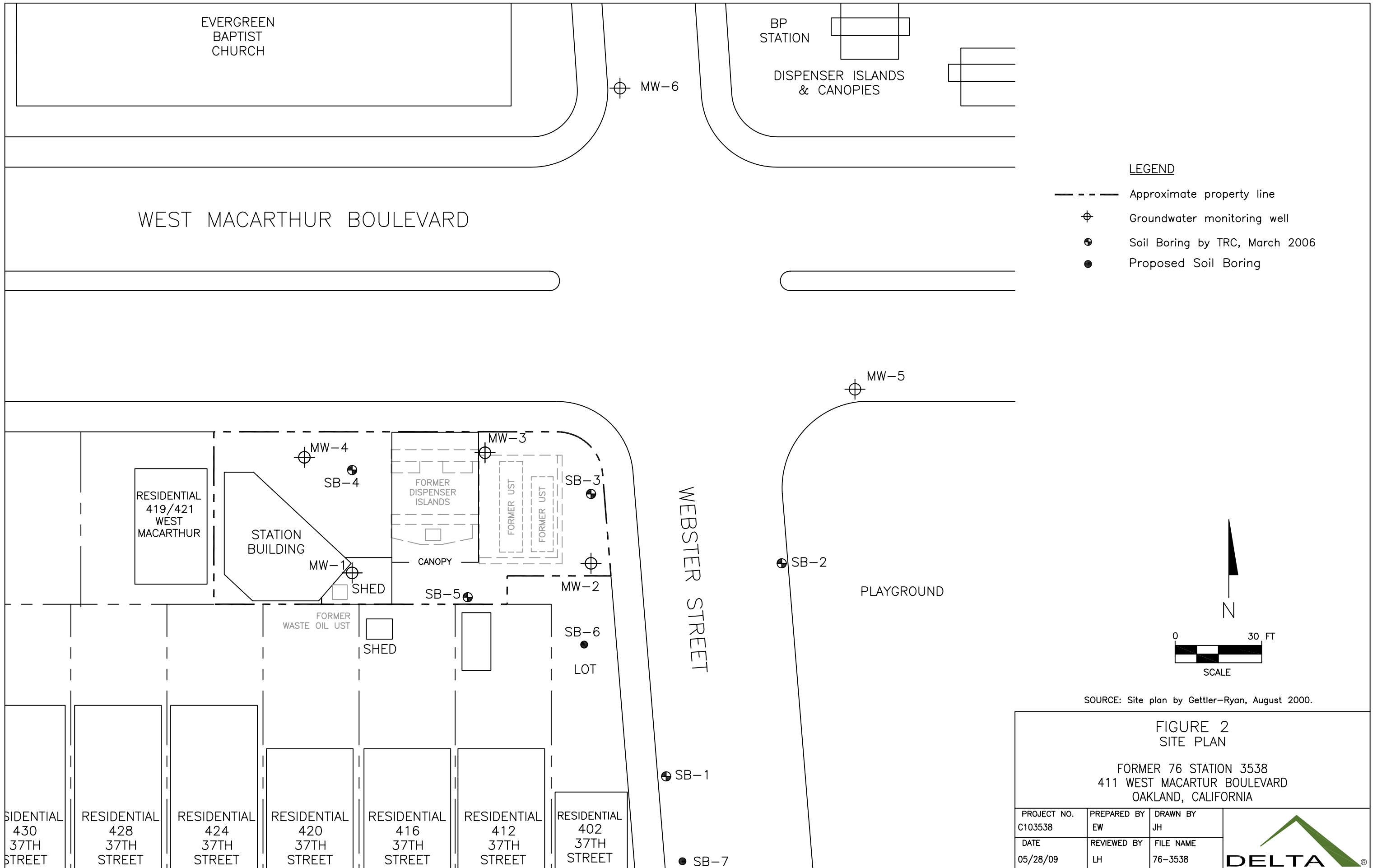
FIGURE 1  
SITE LOCATION MAP

FORMER 76 STATION NO. 3538  
411 WEST MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

PROJECT NO. C103538	DRAWN BY JH 11/14/08
FILE NO. 3538-Site Locator	PREPARED BY NP
REVISION NO.	REVIEWED BY DB

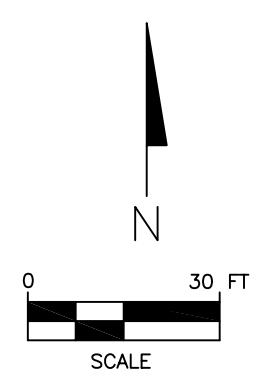


SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, OAKLAND WEST QUADRANGLE (1993)



**LEGEND**

- Approximate property line
- ⊕ Groundwater monitoring well
- ⊕ Soil Boring by TRC, March 2006
- Proposed Soil Boring



SOURCE: Site plan by Gettler-Ryan, August 2000.

**FIGURE 2  
SITE PLAN**

FORMER 76 STATION 3538  
411 WEST MACARTHUR BOULEVARD  
OAKLAND, CALIFORNIA

PROJECT NO. C103538	PREPARED BY EW	DRAWN BY JH	
DATE 05/28/09	REVIEWED BY LH	FILE NAME 76-3538	



ATTACHMENT A  
**Soil Boring Analytical Data, May 2006**

Table 1

**RESULTS OF LABORATORY ANALYSIS OF SOIL SAMPLES**  
 Former 76 Service Station 3538  
 411 West MacArthur  
 Oakland, California

Sample Number	Sample Date	Depth (fbg)	TPH-g (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TBA (mg/kg)	TAME (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	EDB (mg/kg)	1,2 DCA (mg/kg)	Ethanol (mg/kg)	Lead (mg/kg)
EPA Method 8260B																
SB - 1 @ 5'	3/27/2006	5.0	<0.97	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.49	—
SB - 1 @ 9'	3/27/2006	9.0	2.8	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.48	—
SB - 2 @ 5'	3/27/2006	5.0	<0.97	<0.0049	<0.0049	<0.0049	<0.0097	<0.0049	<0.0097	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.49	—
SB - 2 @ 9'	3/27/2006	9.0	<0.93	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	—
SB - 3 @ 14'	3/27/2006	14.0	1.3	0.11	<0.0046	0.061	0.055	0.64	0.19	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.49	—
SB - 3 @ 18'	3/27/2006	16.0	6,100	<9.7	53	86	420	<9.7	<19	<9.7	<9.7	<9.7	<9.7	<9.7	<190	—
SB - 4 @ 5'	3/28/2006	5.0	<0.93	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	—
SB - 4 @ 15'	3/28/2006	15.0	<0.92	<0.0046	<0.0046	<0.0046	<0.0092	<0.0046	<0.0092	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.46	—
SB - 5 @ 9'	3/28/2006	9.0	<0.93	<0.0046	<0.0046	<0.0046	<0.0093	<0.0046	<0.0093	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.46	—
SB - 5 @ 13'	3/28/2006	13.0	<0.93	<0.0047	<0.0047	<0.0047	<0.0093	<0.0047	<0.0093	<0.0046	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	—
Composite	3/28/2006	na	<0.95	<0.0047	0.013	0.0051	0.023	0.037	0.073	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.47	15
<b>Notes:</b>																
			TPPH = total purgeable petroleum hydrocarbons					TAME = tertiary amyl methyl ether								
			TBA = tertiary butyl alcohol					1,2-DCA = 1,2-dichloroethane								
			MTBE = methyl tertiary butyl ether					EDB = ethylene diamide								
			DIPE = di-isopropyl ether					fbg = feet below grade								
			ETBE = ethyl tertiary butyl ether					mg/kg = milligrams per kilogram								
			na = not applicable					— = not analyzed								