



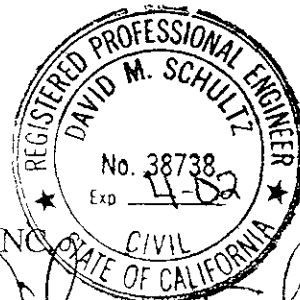
April 2, 2001

APR 06 2001

WORKPLAN  
for  
SOIL AND GROUNDWATER ASSESSMENT  
at  
Former Peerless Stages Bus property  
2021 Brush Street  
Oakland, California

- Do ~~another~~ Semi annual for mw. 2  
Do 8260 for MTRB + other oxygenate.
- Do annual (Feb) for remaining wells.

Submitted by:  
AQUA SCIENCE ENGINEERS, INC.  
208 West El Pintado  
Danville, CA 94526  
(925) 820-9391



*David M. Schultz*

## 1.0 INTRODUCTION

This submittal outlines Aqua Science Engineers, Inc. (ASE)'s workplan for a soil and groundwater assessment related to the former Peerless Stages Bus Company property located at 2021 Brush Street in Oakland, California (Figures 1 and 2 ). This site was formally the home of the maintenance and storage operations for Peerless. The site is currently being used in a similar manner by the Green Tortoise, Inc. bus company. The proposed site assessment activities were initiated by Mr. Gardner Kent of Green Tortoise, Inc., the current property owner, as required by the Alameda County Health Care Services Agency (ACHCSA) in their letter dated January 2, 2001 (Appendix A).

## 2.0 SITE HISTORY

### 2.1 October 1997 Soil and Groundwater Assessment

For decades, the site has been used as a maintenance yard and fueling site for the Peerless Stages bus company. In October 1997, Cambria Environmental Technology, Inc. of Oakland, California drilled five (5) soil borings at the site. These borings were drilled in the vicinity of the existing 2,000 gallon gasoline underground storage tank (UST), 8,000 gallon diesel-fuel UST and dispensers for the collection of soil and groundwater samples. Elevated concentrations of total petroleum hydrocarbons as gasoline (TPH-G) and diesel (TPH-D) were detected in the grab groundwater samples collected from two borings. Up to 120 parts per billion (ppb) TPH-G and 58,000 ppb TPH-D were detected in the groundwater samples. See Cambria's Subsurface Assessment Report dated October 20, 1997 for complete details regarding these activities.

### 2.2 May 1998 Gasoline UST Removal

In May 1998, ASE removed the 2,000 gallon gasoline UST from the site. Soil samples were collected from the bottom of the excavation and from the stockpiled soil generated during excavation activities. The soil samples were analyzed for TPH-G, TPH-D, benzene, toluene, ethyl benzene, total xylenes (collectively known as BTEX), methyl tertiary butyl ether (MTBE) and total lead. The only constituent identified in soil samples collected from the excavation was MTBE at concentrations up to 4.0 parts per million (ppm). The stockpiled soil contained 1.6 ppm TPH-G, 170 ppm TPH-D, trace concentrations of BTEX and MTBE, and 180 ppm total lead. The excavation was backfilled with import material on May 13,

1998. See ASE's UST Removal Report dated June 8, 1998 for complete details regarding these activities.

### 2.3 December 1998 Diesel UST Removal

In December 1998, ASE returned to the site to remove the 8,000 gallon diesel-fuel UST and the two dispensers. Soil samples were collected from the bottom of the excavation, from beneath the dispensers, and from the stockpiled soil generated during excavation activities. The soil samples were analyzed for TPH-G, TPH-D, BTEX, MTBE and total lead. The constituents detected in the soil samples collected from the excavation were 0.064 ppm MTBE and 30 ppm TPH-D in soil samples collected from the eastern end of the excavation, and 5.1 ppm TPH-D in soil samples collected from the western end of the excavation. The soil samples collected beneath the dispensers contained up to 3,800 ppm TPH-D and trace concentrations of BTEX and MTBE. No TPH-G was detected in these samples. Soil samples collected from the stockpiled soil contained 2,900 ppm TPH-D, 510 ppm TPH-G, trace concentrations of BTEX and MTBE, 130 ppm total lead, and 4.9 ppm soluble lead by the waste extraction test (WET). The excavation was backfilled with clean import material. See ASE's UST Removal Report dated January 8, 1999 for complete details regarding these activities. The stockpiled soil generated during the UST removal activities was transported to the Forward, Inc. Landfill in Manteca, California on May 25, 1999 for disposal. Also on May 25, 1999, the dispenser area was overexcavated to a depth of 11-feet below ground surface (bgs) in an effort to define and remove the vertical depth of TPH-D contamination beneath the dispensers previously identified in December 1998. Approximately 10 cubic yards of soil were removed and were transported along with the original stockpile to the Forward, Inc. landfill in Manteca, California. Two soil samples were collected from the northern and southern end of the excavation after overexcavation activities were completed. Analytical results indicated hydrocarbon concentrations up to 17 ppm TPH-G, 250 ppm TPH-D, and 4.6 ppm total lead.

### 2.4 August 1999 Monitoring Well Installation

During the month of August 1999, four groundwater monitoring wells were installed at the site by ASE. The groundwater sample collected from monitoring well MW-1 contained 81 ppb TPH-G, 3.5 ppb benzene, 7.9 ppb toluene, 3.2 ppb ethyl benzene, and 15.0 ppb total xylenes. The groundwater sample collected from monitoring well MW-2 contained 8,600 ppb TPH-G, 1,200 ppb TPH-D, and 14,000 ppb MTBE. The

groundwater sample collected from monitoring well MW-3 contained 2.5 ppb benzene, 3.0 ppb toluene, 0.87 ppb ethyl benzene, and 4.0 ppb total xylenes. The groundwater sample collected from monitoring well MW-4 contained 420 ppb TPH-D, 0.88 ethyl benzene, and 3.6 ppb total xylenes.

The benzene concentrations detected in groundwater samples collected from monitoring wells MW-1 and MW-3 exceeded the California Department of Health Services (DHS) maximum contamination level (MCL) for drinking water. The MTBE concentration detected in groundwater samples collected from monitoring well MW-2 exceeded the DHS MCL for drinking water. For complete details regarding the well installation activities, please refer to the ASE Soil and Groundwater Assessment report, dated October 14, 1999.

### 2.5 Quarterly Monitoring Events

The site has been monitored on a quarterly basis since the wells were installed. In general only monitoring well MW-2 maintains elevated concentrations of petroleum hydrocarbons and MTBE. The remaining wells have either no or very low concentrations of all compounds tested.

### **3.0 PROPOSED SCOPE OF WORK (SOW)**

ASE's proposed scope of work is to further delineate the extent of soil and groundwater contamination, mainly MTBE in groundwater, downgradient of monitoring well MW-2. To accomplish this task, ASE has prepared the following scope of work:

- 1) Prepare a workplan for approval from the Alameda County Health Care Services Agency.
- 2) Obtain a drilling permit from the Alameda County Public Works Agency.
- 3) Obtain an excavation permit from the City of Oakland to drill in the public right-of-way.
- 4) Drill two (2) soil borings downgradient of the site. These borings will be drilled to a depth of approximately 25-feet below ground surface (bgs) for the collection of soil and groundwater samples.

- 5) Analyze one (1) soil and one (1) groundwater sample from each boring for the following: total petroleum hydrocarbons as gasoline (TPH-G) by EPA Method 8260, total petroleum hydrocarbons as diesel (TPH-D) by modified EPA Method 8015, benzene, toluene, ethylbenzene and total xylenes (BTEX) by EPA Method 8260, and methyl tertiary butyl ether (MTBE) by EPA Method 8260.
- 6) Following collection of the groundwater samples, backfill each boring with neat cement to the ground surface.
- 7) Prepare a report presenting results from this sampling.

Details of the assessment are presented below.

*TASK 1 - PREPARE A HEALTH AND SAFETY PLAN*

A site-specific health and safety plan has been prepared for the site. A nearby hospital has been designated in the site safety plan as the emergency medical facility of first choice. A copy of the site specific Health and Safety Plan will be available on-site at all times.

*TASK 2 - OBTAIN DRILLING PERMIT*

A drilling permit will be obtained from the ACPWA prior to beginning field activities. Underground Service Alert (USA) will also be notified to have underground utility lines marked in the site vicinity at least 48 hours prior to beginning field activities.

*TASK 3 - OBTAIN AN EXCAVATION PERMIT FROM THE CITY OF OAKLAND TO ALLOW FOR DRILLING IN THE CITY STREET*

Obtain an excavation permit from the City of Oakland to allow for drilling in West Street.

*TASK 4 - DRILL TWO SOIL BORINGS IN WEST STREET AND COLLECT SOIL AND GROUNDWATER SAMPLES FROM THE BORINGS*

Two soil borings will be drilled in West Street in the locations shown on Figure 3. The borings will be drilled using a Geoprobe or similar type drill rig. The drilling will be directed by a qualified geologist.

Undisturbed soil samples will be collected continuously for subsurface hydrogeologic description and possible chemical analysis. The samples

will be described by the geologist according to the Unified Soil Classification System. The samples will be collected in acetate tubes using a drive sampler advanced ahead of the boring as the boring progresses. Samples to be retained for analysis will be immediately removed from the sampler, trimmed, sealed with Teflon tape and plastic caps, secured with duct tape, 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 ice chest containing wet ice for delivery under chain of custody to a CAL-EPA certified analytical laboratory.

Soil from the remaining tubes not sealed for analysis will be removed for hydrogeologic description and will be screened for volatile compounds with an organic vapor meter (OVM). 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 OVM will measure the vapor through a small hole, punched in the bag. These OVM readings will be used as a screening tool only since these procedures are not as rigorous as those used in an analytical laboratory.

A groundwater sample will be collected from each boring. Drilling will be halted at the water table and a Powerpunch or similar type device will be utilized to collect groundwater samples from the borings. The groundwater samples will be contained in 40-ml volatile organic analysis (VOA) vials, preserved with hydrochloric acid, sealed without headspace, labeled with the site location, sample designation, date and time the samples were collected, and the initials of the person collecting the samples, sealed in plastic bags, and cooled in an ice chest with wet ice for transport to a state-certified analytical laboratory under chain-of-custody.

All sampling equipment will be cleaned in buckets with brushes and a TSP or Alconox solution, then rinsed twice with tap water. Rinsates will be contained on-site in 55-gallon steel drums and stored on-site until off-site disposal can be arranged.

#### *TASK 5 - ANALYZE THE SOIL AND GROUNDWATER SAMPLES*

At least one soil sample from each boring, as well as each groundwater sample, will be analyzed at a CAL-EPA certified analytical laboratory for TPH-G by EPA Method 8260, TPH-D by modified EPA Method 8015, BTEX by EPA Method 8260, and MTBE by EPA Method 8260. The soil samples analyzed will be chosen based on field observations such as odors,

staining and OVM readings. If no field indications of contamination are present, the unsaturated sample closest to the water table (capillary zone) will be analyzed.

*TASK 6 - BACKFILL THE BORINGS WITH NEAT CEMENT*

Following collection of the soil and groundwater samples, the boreholes will be backfilled with neat cement placed by tremie pipe.

*TASK 7 - PREPARE A SUBSURFACE ASSESSMENT REPORT*

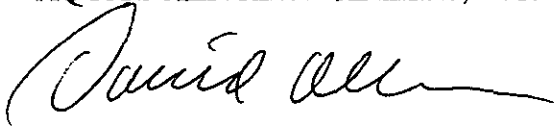
A report will be prepared outlining the methods and findings of this assessment. The report will be submitted under the seal of state registered civil engineer or geologist. This report will include a summary of all work completed during this assessment including tabulated soil and groundwater analytical results, conclusions and recommendations. Copies of the analytical reports and chain of custody documents will be included as appendices.

#### 4.0 SCHEDULE

ASE plans on scheduling the drilling for this project immediately upon approval of this workplan by the ACHCSA and subsequent pre-approval of the costs by the Underground Storage tank Cleanup Fund. Should you have any questions or comments, please call us at (925) 820-9391.

Respectfully submitted,

AQUA SCIENCE ENGINEERS, INC.



David Allen  
Senior Project Manager

cc: Mr. Alex Gaeta, Responsible Party, 2943 Southwood Drive, Alameda, CA 94501

Mr. Gardner Kent, Green Tortoise, Inc., 494 Broadway, San Francisco, CA 94133

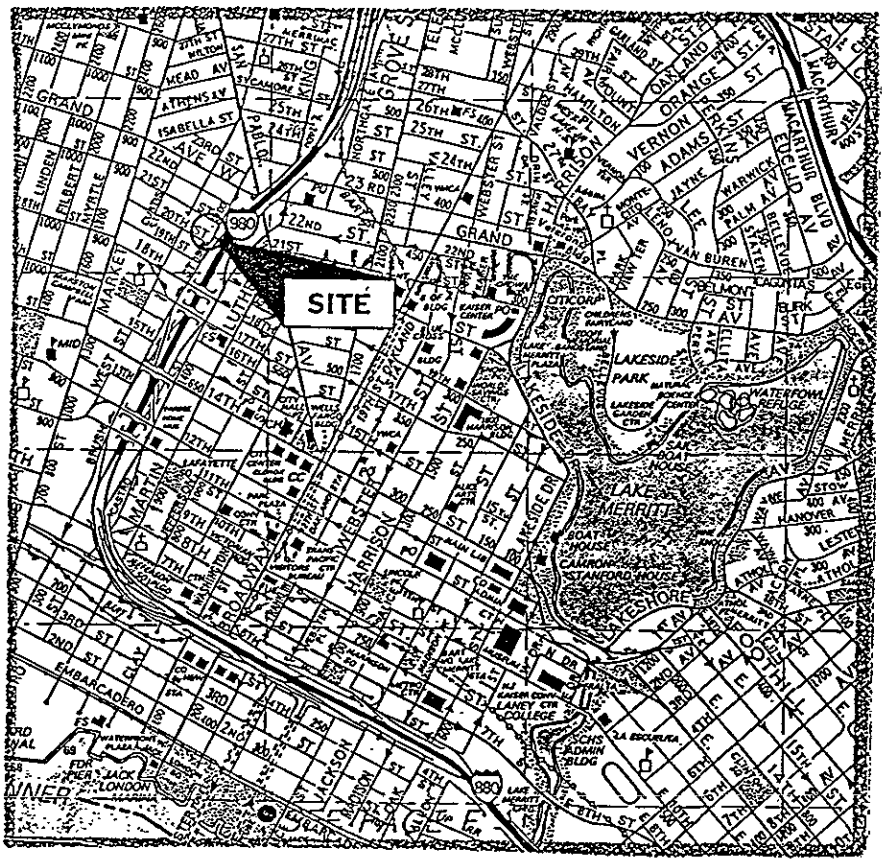
Ms. Julie Rose, McNichols, Randick, O'Dea & Tooliatos, 5000 Hopyard Road, Suite 400, Pleasanton, CA 94588

Ms. Eva Chu, Alameda County Health Care Services Agency, 1131 Harbor Bay Parkway, Suite 250, Alameda, CA 94502

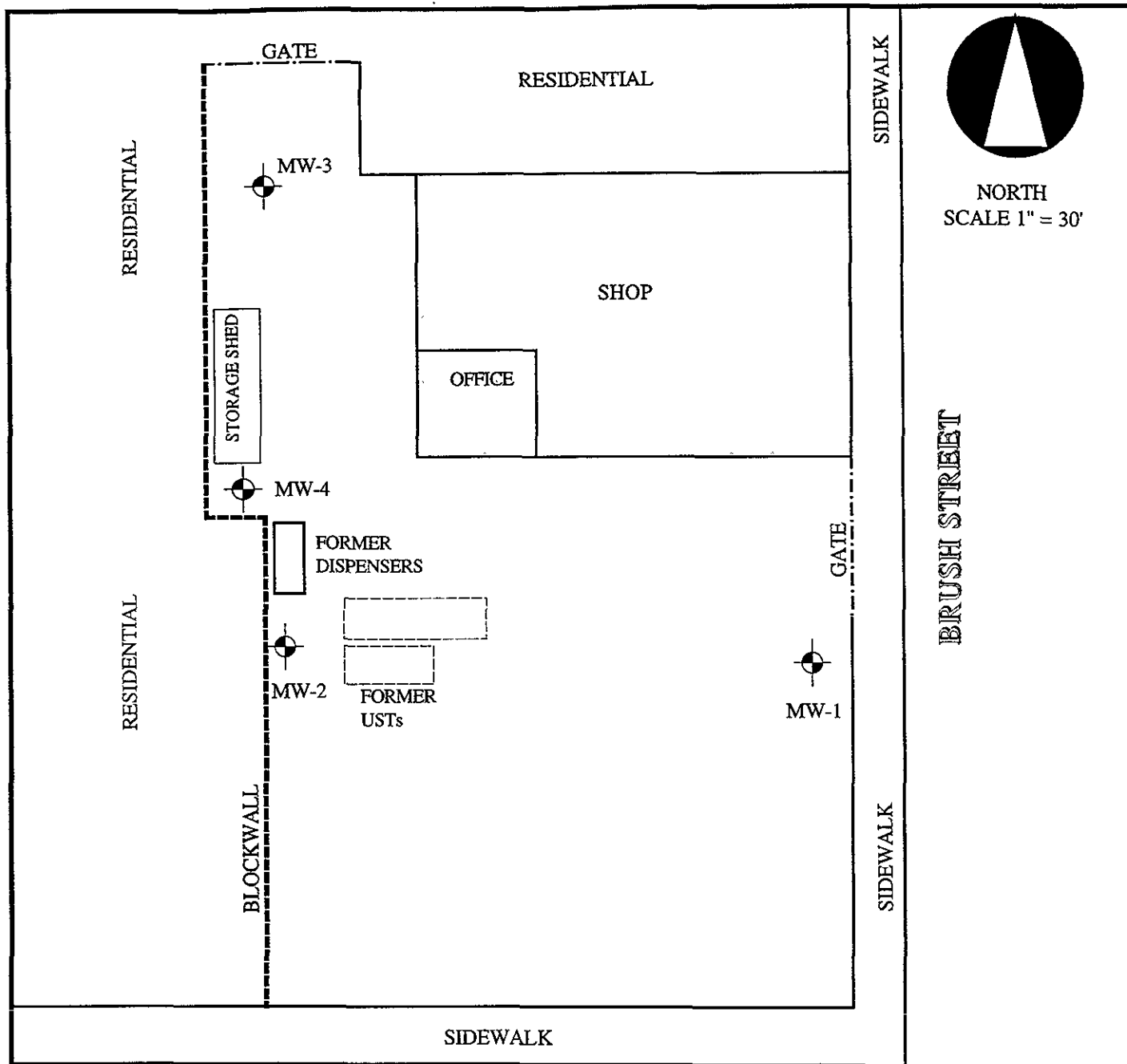
Mr. Chuck Headlee, California Regional Water Quality Control Board, San Francisco Bay Region, 1515 Clay Street, Suite 1400, Oakland, CA 94612



## **FIGURES**



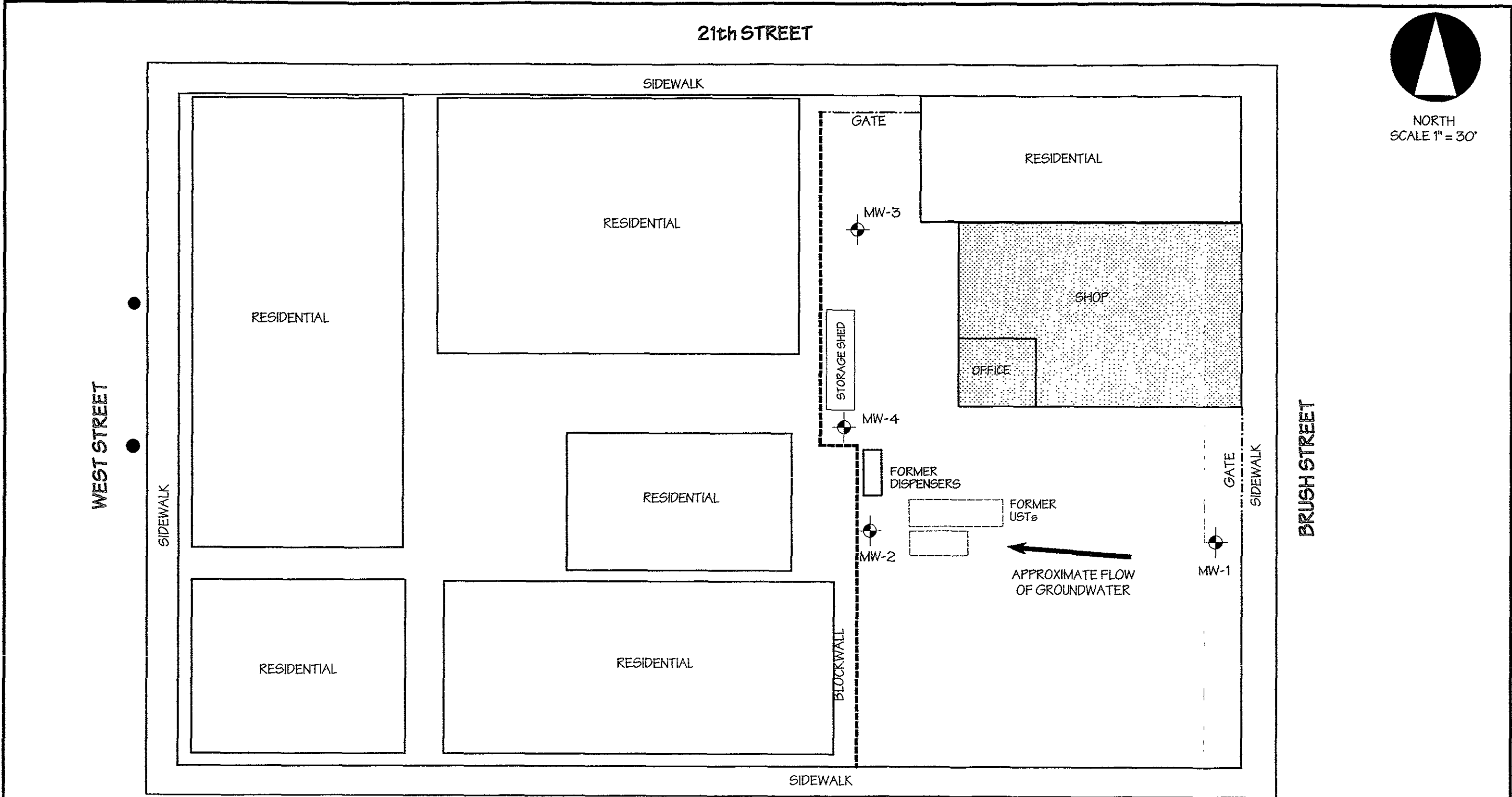
SITE LOCATION MAP	
Former Peerless Stages, Inc. Property 2021 Brush Street Oakland, California	
Aqua Science Engineers	Figure 1



20th STREET

LEGEND	
MW-4	MONITORING WELL
	FORMER UST LOCATION

SITE PLAN	
Former Peerless Stages, Inc. Property 2021 Brush Street Oakland, California	
AQUA SCIENCE ENGINEERS	Figure 2



NORTH  
SCALE 1" = 30'

LEGEND	
MW-4	MONITORING WELL
	FORMER UST LOCATION
	PROPOSED GEOPROBE LOCATION

**PROPOSED GEOPROBE LOCATION MAP**

Former Peerless Stages, Inc. Property  
2021 Brush Street  
Oakland, California

AQUA SCIENCE ENGINEERS      Figure 3

## **APPENDIX A**

January 2, 1001 Letter  
From The ACHCSA

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



ENVIRONMENTAL HEALTH SERVICES  
ENVIRONMENTAL PROTECTION  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577  
(510) 567-6700  
FAX (510) 337-9335

Std 495

January 2, 2001

Mr. Alex Gaeta  
2040 Castro Street  
Oakland, CA 94612

RE: Work Plan for Offsite Investigation at 2021 Brush Street, Oakland, CA

Dear Mr. Gaeta:

I have completed review of Aqua Science Inc.'s December 2000 *Quarterly Groundwater Monitoring Report-November 2000 Groundwater Sampling* prepared for the above referenced site. Groundwater from Well MW-2 continues to contain elevated concentrations of MTBE. Aqua Science recommended that two additional borings be drilled downgradient of Well MW-2, along the parking lane of West Street, to delineate the extent of the MTBE plume.

This Agency concurs with Aqua Science's recommendation. A workplan for the installation of additional borings downgradient of Well MW-2 is due within 60 days of the date of this letter, or by **March 5, 2001**.

In May 2000, this Agency requested that a well and conduit study be conducted for the site. As of the date of this letter, we have not received the requested water/conduit survey. The survey is also due by March 5, 2001. If you have any questions, I can be reached at (510) 567-6762.

eva chu  
Hazardous Materials Specialist

c: ✓ Gardner Kent, Greet Tortoise, 494 Broadway, San Francisco, CA 94133  
✓ Robert Kitay, ASE, 208 West El Pintado Rd, Danville, CA 94526