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STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY GRAY DAVIS, Governor

DEPARTMENT OF TRANSPORTATION
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December 21, 2001

JAN 0 2 2002

Mr. Don Hwang, Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Thomas A. Short Co., 3430 Wood St., Oakland, CA 94608

Dear Mr. Hwang:

Enclosed you will find the work plan and the health and safety plan for the continuation of groundwater monitoring at the former Thomas Short Company site. The site was last sampled on March 29, 2001, by environmental consultant Geocon. For continuation of the monitoring, Caltrans' Office of Environmental Engineering now has a task order with IT corporation. IT is also working with Caltrans at another West Oakland UST-related site for which the Department of Toxic Substances Control (DTSC) is providing the regulatory oversight. A work plan and a health and safety plan for this other site have been under a lengthy development process with the DTSC, hence there has been a delay in beginning the work at these two sites. As of December 20th the plans have been approved and we anticipate conducting sampling rounds at each site in early January.

If you have any questions or comments, I can be reached at (510) 286-5647.

Sincerely,

Christopher R. Wilson

Christopher R. Wilson, P.E.
Office of Environmental Engineering

Attachments

C: File

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WORK PLAN

GROUNDWATER MONITORING
FORMER THOMAS A. SHORT COMPANY PROPERTY
OAKLAND, ALAMEDA COUNTY, CALIFORNIA

December 19, 2001

Prepared for:

California Department of Transportation
Office of Environmental Engineering
Box 23660
Oakland, California 94623-0660

Prepared by:

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EA No.: 04-911052
Task Order No.: 04-0911052-WB
Contract No.: 43A0078

IT Project No.: 830714

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A Member of The IT Group

December 19, 2001
IT Project: 830714

Mr. Christopher Wilson
California Department of Transportation, District 4
Office of Environmental Engineering
Box 23660
Oakland, California 94623-0660

Subject: Workplan for Groundwater Monitoring, Former Thomas A. Short Company Property, Oakland, Alameda County, California

Dear Mr. Wilson:

IT Corporation (IT) is pleased to submit this work plan for environmental site investigation to be conducted at the former Thomas A. Short Company property, Oakland, Alameda County, California. This work plan is submitted in accordance with Contract No. 43A0078, Task Order No. 04-911052-WB.

If you have any questions, please feel free to contact either of us at your convenience.

Respectfully,
IT CORPORATION

Skye A. Hatten
Project Scientist

Donald P. Bransford, R.G.
Project Manager

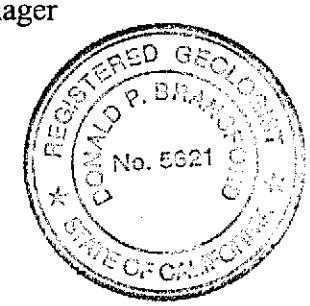


Table of Contents

List of Figures i
List of Appendices i

1.0 Introduction 1-1
2.0 Project History 2-1
3.0 Objective 3-1
4.0 Scope of Work 4-1
4.1 Permitting and Mobilization 4-1
4.2 Field Investigation 4-1
4.3 Laboratory Analyses 4-2
4.4 Investigation-Derived Waste Disposal 4-2
4.5 Quarterly Monitoring Reports 4-3
5.0 Schedule 5-1
6.0 References 6-1

List of Figures

Figure 1 Site Location Map
Figure 2 Well Location Map

List of Appendices

Appendix A Sampling Procedures

1.0 Introduction

This work plan has been prepared by IT Corporation (IT) to present the scope of work for quarterly groundwater investigations at the former Thomas A. Short Company (Thomas Short) property (site) in Alameda County, California. This site is located at 3430 Wood Street, Oakland, California (Figure 1). The work will be conducted on behalf of Caltrans and in general accordance with Caltrans Contract 43A0078, Task Order No. 04-911052-WB (Caltrans, 2001).

According to the task order (Caltrans, 2001), the gasoline and diesel underground storage tanks (USTs) at the Thomas Short facility were removed in 1993. Caltrans purchased this site in 1994. Three existing wells on the property will be monitored quarterly for a period of one year. The site is currently vacant, except for two footings for the Interstate 880 overhead freeway structure.

2.0 Project History

The 1989 Loma Prieta earthquake damaged a portion of the Interstate Highway 880 Cypress freeway structure. The Cypress freeway structure was subsequently demolished and Interstate Highway 880 re-routed west of the former alignment. Additional right-of-way was acquired by Caltrans to construct the new alignment of Interstate 880. The Thomas Short property was purchased by Caltrans in 1994.

The former Thomas Short facility manufactured and repaired marine valves and associated parts for approximately 36 years. According to a previous report on this site (Geocon, 2001), one 4,000-gallon gasoline UST and one 1,000-gallon diesel UST at the site.

In June 1992 four borings were drilled in the vicinity of the USTs. Soil samples were reported to contain elevated concentrations of total petroleum hydrocarbons as gasoline (TPHg) and total petroleum hydrocarbons as diesel (TPHd). Groundwater was encountered at an approximate depth of 3.9 meters (12.7 feet) below the ground surface (BGS). One of the borings was converted to a monitoring well (W-1). A grab groundwater sample collected from one of the borings (H-1) and the groundwater sample collected from the monitoring well were reported to contain TPHg at concentrations of 16 milligrams per liter (mg/l) and 1.3 mg/l, respectively (Geocon, 2001).

The USTs were removed in January 1993. Soil samples collected after over-excavation of the tank pit were reported to contain TPHg at concentrations ranging from 1.8 to 19 milligrams per kilogram (mg/kg). Benzene was detected in five of the samples at concentrations ranging from 0.005 to 0.031 mg/kg (Caltrans, 2001). Groundwater samples collected from monitoring well W-1 in February and October 1993, following UST removal, were reported to contain 4.6 and 3.7 mg/l TPHg, respectively (Geocon, 2001).

Soil samples collected during the installation of three monitoring wells in November 1996 were reported to contain TPHg at concentrations of 6.0 and 43 mg/kg. Total recoverable petroleum hydrocarbons and TPHd were also reported in the soil samples at concentrations of up to 1,500 mg/kg (Geocon, 2001). Benzene, toluene, and xylenes were reported in the soil samples at concentrations of 0.314, 1.220, and 1.180 mg/kg, respectively. The monitoring wells were buried during construction activities before groundwater samples could be collected. The wells have subsequently not been located.

Three more monitoring wells were installed in May 2000. Groundwater was encountered at depths of approximately 3.1 to 4.7 meters (10 to 15.5 feet) BGS. Soil samples were reported to contain TPHg at concentrations ranging from 3 to 54 mg/kg, TPHd at concentrations of 1.2 to 8.0 mg/kg, and benzene at concentrations of 0.018 to 0.276 mg/kg. Other compounds detected in the soil samples included toluene, ethylbenzene, xylenes, n-propylbenzene, naphthalene, 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, n-butylbenzene, and iopropyl benzene (Geocon, 2001).

The wells were sampled over three quarters. Groundwater gradients varied from southeast, southwest, and west-southwest. The most recent monitoring results from March 2001 reported TPHg at concentrations that ranged from 0.26 to 8.1 milligrams per liter (mg/l) and TPHd at concentrations that ranged from 0.42 to 0.96 mg/l. Benzene, toluene, ethyl benzene, and xylenes (BTEX) were detected in each groundwater of the samples collected from the three wells. Benzene concentrations ranged from 0.035 to 0.052 mg/l. The groundwater samples were reported to contain various other volatile organic compounds common to gasoline. Methyl tertiary butyl ether was not reported in the groundwater samples collected during the last monitoring event, although it was reported in previous groundwater sampling events at concentrations up to 0.007 mg/l (Geocon, 2001).

3.0 Objective

The objective of this scope of work is to continue groundwater studies that have been previously initiated at the former Thomas Short property in order to further assess the presence and concentration of petroleum hydrocarbons and other potentially hazardous materials in groundwater in the vicinity of the former USTs.

4.0 Scope of Work

To achieve the project objective, the following scope of work will be conducted:

1. Permitting and Mobilization
2. Groundwater Monitoring
3. Laboratory Analyses
4. Investigation-Derived Waste Disposal
5. Quarterly Monitoring Report Preparation

4.1 Permitting and Mobilization

A standard Caltrans encroachment permit from District 4 is not required for this investigation

A site-specific health and safety plan will be prepared in accordance with 29 CFR 1910.120. The health and safety plan includes safety procedures for work to be performed at the site, chemical hazard information, site safety officers, and preferred medical emergency locations.

4.2 Field Investigation

The scope of work for this project includes monitoring of three existing monitoring wells on a quarterly basis. As part of the monitoring, the water level within each well casing will be measured to the nearest 0.01-foot and the presence of free-phase petroleum product evaluated. The water level meter will be rinsed with deionized water between wells. The wells will initially be purged using dedicated, disposable, polyethylene bailers. Measurements of the temperature, pH, and specific conductance of the water removed from the wells will be recorded on groundwater sample collection logs. Purging will continue until measurements of the temperature, pH, and specific conductance have stabilized. A minimum of three well casing volumes of water will be removed. Wells that purge dry will be purged dry twice, if at least three casing volumes of water cannot be removed. All wells will be purged before the samples are collected. Groundwater sample collection will follow in the order that the wells were purged.

Groundwater samples will be collected following recovery of water levels within the wells to at least 90 percent (%) of the pre-purge levels. A water level measurement will be made prior to sample collection to confirm the recovery of water levels within the wells. Wells that require more than 10 minutes to reach 90% recovery may have groundwater samples collected as soon as sufficient water is available in the well casing. The groundwater samples will be collected

using dedicated, disposable, polyethylene bailers. The samples will be transferred from the bailers to laboratory-supplied containers in a manner that minimizes bubbling and agitation of the samples. Groundwater samples will be collected in order of decreasing analyte volatility. The groundwater samples will be placed in an insulated chest containing ice for storage and shipment to the laboratory. Sampling procedures are presented in Appendix A.

4.3 Laboratory Analyses

The groundwater samples will be submitted to Sparger Technology, Inc., of Sacramento, California, a California-certified analytical laboratory, for analysis. The analyses will be conducted on a normal turn-around basis in general accordance with U.S. Environmental Protection Agency (EPA) specified holding times. The analyses will be performed in general accordance with the following EPA methods listed.

Matrix	Analyses
Water	Total Petroleum Hydrocarbons as Gasoline EPA Method 8015 modified
Water	Total Petroleum Hydrocarbons as Diesel EPA Method 8015 modified
Water	Total Recoverable Petroleum Hydrocarbons EPA Method 1664
Water	Fuel Oxygenate Compounds EPA Method 8260B
Water	Volatile Organic Compounds EPA Method 8260B
Water	California Assessment Manual (CAM) 17 Metals EPA 6010/7470

Samples collected for CAM 17 Metals analysis will be transferred into unpreserved containers in the field. The samples will be filtered and preserved at the laboratory prior to analysis.

A trip blank will be carried in the insulated chest with the groundwater samples. The trip blank will consist of three volatile organic analysis (VOA) vials filled at the laboratory with water that has been purged of volatile organic compounds. The trip blank will be analyzed for TPHg, fuel oxygenate compounds, and volatile organic compounds in accordance with the methods listed above.

4.4 Investigation-Derived Waste Disposal

Wash water and purge water generated during the monitoring will be contained for disposal in 208-liter (55-gallon) drums, approved by the United Nations for transport of liquid wastes. The drums will be stored at the site. The drums will be removed from the site for disposal at the end of four quarters of monitoring. The wastewater is expected to be profiled and transported for recycling at the Demenno Kerdoon facility in Compton, California.

4.5 Quarterly Monitoring Reports

IT will prepare quarterly reports after each monitoring well sampling event for the site. Each of these reports will include the following:

- Monitoring summary;
- Introduction;
- Project description;
- Monitoring methods;
- Deviations from the work plan;
- Monitoring results and field observations;
- Data evaluation and discussion, including;
    - Tabulated summary of the analytical data;
    - Site location map and site plan;
- Figures summarizing the groundwater elevation and analytical data; and
- Appendices containing,
    - Field logs and observations, and
    - Laboratory analytical reports and chain-of-custody forms.

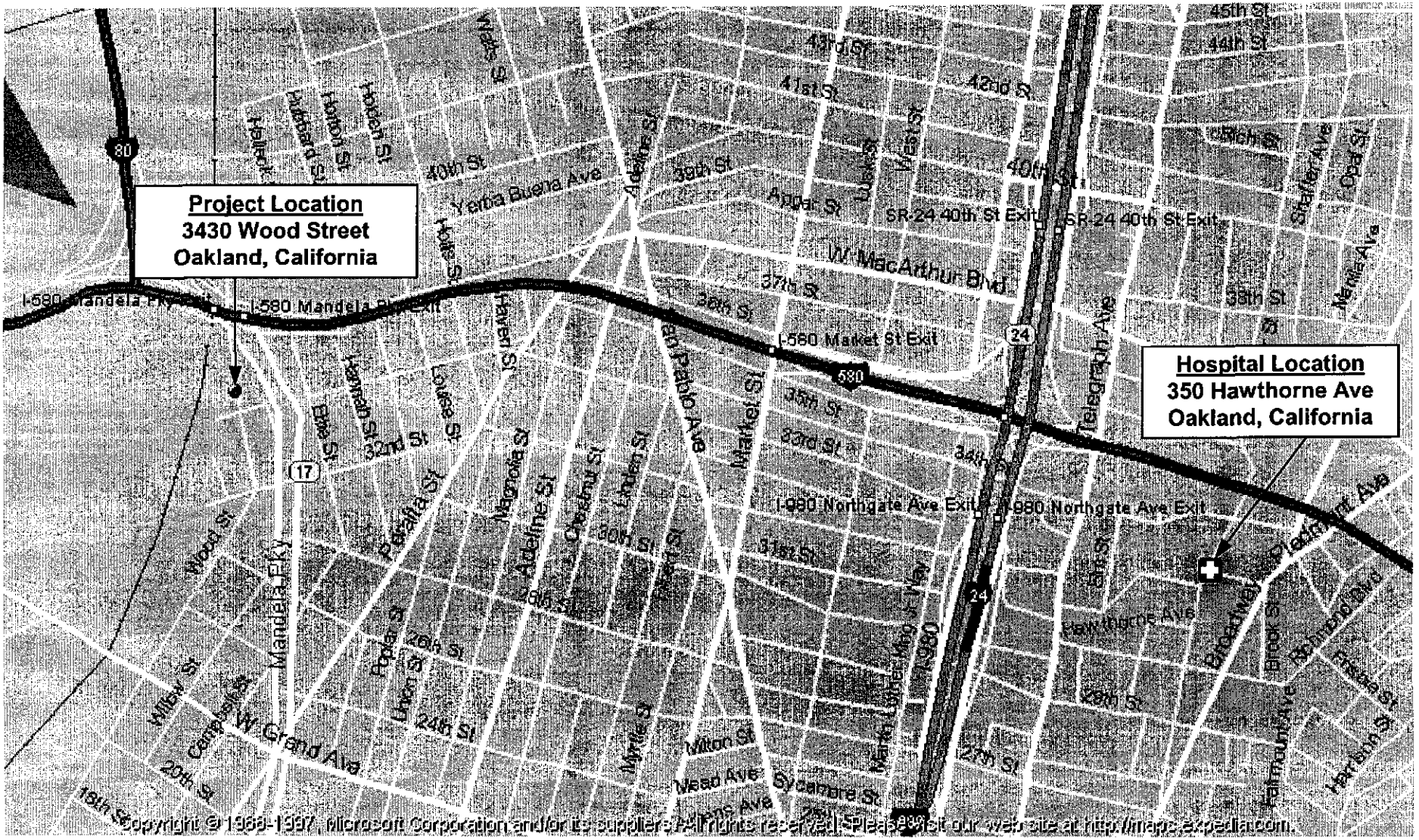
5.0 Schedule

Field work will take approximately one day to complete at the end of each quarter. Samples will be submitted to the laboratory within 24 hours of collection of the last sample. The laboratory analyses will be conducted on a normal turn around basis. A draft report documenting the findings of the investigation will be submitted 15 days after receipt of the laboratory data.

6.0 References

Caltrans (California Department of Transportation), 2001, District 4, Office of Environmental Engineering, Task Order No. 04-911052-WB: dated August 2001.

Geocon (Geotechnical & Environmental Consultants), 2001, Monitoring Well Installation and Groundwater Sampling Report: Former Thomas A. Short Co. Oakland, Alameda County, California, Task Order No. 04-190270-RM, Geocon Project No. S8225-06-103: dated June 2001.



Reference:
Microsoft Expedia, Streets 98

Scale

0 0.5km 1km

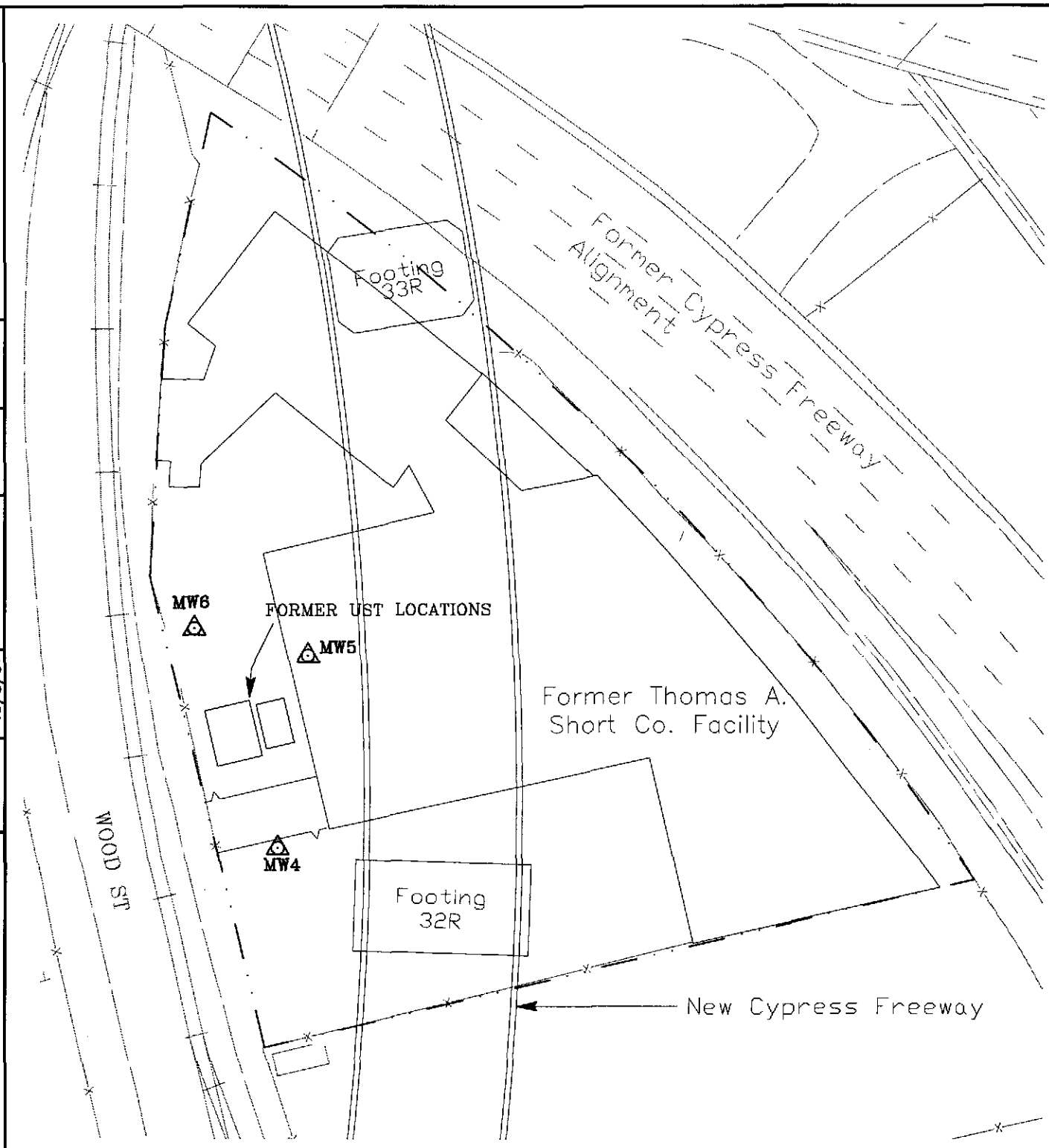
Figure 2

HOSPITAL LOCATION MAP

Caltrans-Cypress GW (Thomas Short Co.)
Quarterly GW Monitoring
Task Order No.04-911052-WB

the group

PROJECT NUMBER	823340
CHECKED BY	
APPROVED BY	
DRAWN BY	DPB
	10/8/01



LEGEND

WELL LOCATION

Notes:
1. Base map compliled from maps provided by Caltrans.
2. All locations and dimensions are approximate.

SCALE
0 25 50 Meters

N

FIGURE 2

MONITORING WELL LOCATIONS

Caltrans – Former Thomas A. Short Co. Property
Oakland, California

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Cypress GW wkp (Thomas Short).dwg; XREF Base Thomas Short

Appendix A
Sampling Procedures

The procedures that will be used for collecting the groundwater samples are presented below.

- General safety procedures will be reviewed with the field investigation staff and subcontractors prior to commencement of field activities.

Groundwater Sampling Procedures

- Field activities and equipment utilization will be recorded on field report forms.
- Water levels within each well casing will be measured to the nearest 0.01-foot and the presence of free-phase petroleum product evaluated. The water level meter will be rinsed with deionized water between wells.
- Purging will be conducted using dedicated, disposable, polyethylene bailers. A minimum of three well casing volumes of water will be removed from each well during purging. Wells that purge dry will be purged dry twice, if at least three casing volumes of water cannot be removed. Well purging activities will be recorded on groundwater sample collection forms.
- The temperature, conductivity, and pH of the groundwater removed during purging of the wells will be monitored. Purging will continue until the measured groundwater parameters have stabilized.
- Water removed from the wells will be contained in 208-liter (55-gallon) drums. Labels will be placed on the drums with the contents, date, well number, and job number recorded on the label. The drums will be stored at the site pending disposal/recycling.
- All wells will be purged before any of the samples are collected. Groundwater sample collection will follow in the order that the wells were purged.
- Groundwater samples will be collected following recovery of water levels within the wells to at least 90 percent (%) of the pre-purge levels. A water level measurement will be made prior to sample collection to confirm the recovery of water levels within the wells. Wells that require more than 10 minutes to reach 90% recovery may have groundwater samples collected as soon as sufficient water is available in the well casing.
- A dedicated, disposable, polyethylene bottom valve bailer will be used for collection of each groundwater sample. Polyethylene bailers will be discarded after each sample is collected. New nylon rope will be used to lower the bailers into the wells. The nylon rope will be discarded after each well.
- Groundwater samples will be placed into laboratory-supplied containers containing preservatives.

- Groundwater will be discharged from the bailer via a bottom-emptying device. Discharge to the containers will be conducted in a manner to minimize bubbling and agitation of the liquid. The containers will be filled to the top forming a meniscus to minimize the headspace.
- Groundwater samples will be collected in the following order for the indicated analyses: volatile organic compounds and fuel oxygenate compounds, total petroleum hydrocarbons as gasoline, total petroleum hydrocarbons as diesel, total recoverable petroleum hydrocarbons, and heavy metals. Groundwater grab samples collected for heavy metals analyses will not be filtered in the field, but will be filtered at the laboratory prior to analysis.

Sample Retention and Analysis Procedures

- Chain of custody procedures, including the use of chain of custody forms, will be used to document sample handling and transport from collection to delivery to the laboratory for analysis.
- The samples will be placed on ice in an insulated chests overnight in the custody of an IT employee. The samples will be picked up within approximately 24 hours of collection of the last sample by a courier supplied by the laboratory, or will be delivered to the laboratory by IT personnel within approximately 24 hours of collection of the last sample. The samples will be transported to the laboratory in a motor vehicle.
- Upon receipt of the samples by the laboratory, the laboratory will record the internal temperature of the chests on the chain-of-custody forms.
- Groundwater samples will be labeled with the well number followed by the date.
- Laboratory quality assurance/quality control procedures are summarized below:
  - Method Blank Frequency = one per 20 samples
  - Matrix Spike/Matrix Spike Duplicate = one per 20 samples
  - Laboratory Control Sample/Laboratory Control Sample Duplicate = one per 20 samples
- Information regarding sample containers, preservation, and holding times is presented in Table A-1.