ENVIRONMENTAL TECHNICAL SERVICES

AN ENVIRONMENTAL CONSULTING FIRM

(800) 200-4ETS

RO313

September 23, 2003

County of Alameda
Department of Environmental Health Services
Hazardous Materials Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
Attn: Mr. Amir K. Gholami, REHS

Dear Mr. Gholami,

As we discussed during our meeting this month regarding **2415 Mariner Square,** I am submitting a Work Plan for continued assessment at Alameda Gateway, 2900 Main Street, Alameda, Ca. also owned by Mr. John Beery.

I have delayed submitting the enclosed Work Plan as unlike Mariner Square there are no outstanding issues pressing this project. In a letter dated September 17, 2003, the State Fund requested invoices and documentation of current work be submitted to their office within 30 days or Fund commitment will be "deobligated".

ETS will perform the proposed investigation upon approval of the enclosed Work Plan. However, Mariner Square remains our priority. We are aware you have taken on over a hundred new cases, and many pose an immediate health threat. Please review the enclosed Work Plan when you are able.

Sincerely,

Helen Mawhinney
Cell: (510) 385-4308
HMawhinnetETS@aol.com

ENVIRONMENTAL TECHNICAL SERVICES

AN ENVIRONMENTAL CONSULTING FIRM

(800) 200-4ETS

A WORK PLAN FOR A LIMITED SITE ASSESSMENT IN THE AREA OF A FORMER 600-GALLON FUEL OIL UNDERGROUND STORAGE TANK TANK #133

At:

ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CALIFORNIA

SEPTEMBER/OCTOBER 2003

1548 JACOB AVENUE • SAN JOSE, CA 95118 • (408) 267-6427 • FAX (408) 267-9729

ENVIRONMENTAL TECHNICAL SERVICES

1548 Jacob Avenue, San Jose, CA 95188 Email: HMawhinneyETS@aol.com

A WORK PLAN
FOR A LIMITED SITE ASSESSMENT
IN THE AREA OF A FORMER
600-GALLON FUEL OIL UNDERGROUND STORAGE TANK
TANK #133

At:

ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CALIFORNIA

Prepared By:

Helen Mawhinney
Environmental Specialist

9-19-03
Date

John Cavanough
CA Registered Geologist License No. 6515

9-19-03
Date

REGISTERED GEOLOGIST
JOHN O. CAVANAUGH
No. 6515
STATE OF CALIFORNIA

TABLE OF CONTENTS

APPENDICES

APPENDIX A: FIGURES

1.0 INTRODUCTION

The following work plan describes the proposed method of soil boring advancement, sample collection, and analyses, in the area of one former 600-gallon fuel oil, underground storage tank (UST), beneath the site at Alameda Gateway, 2900 Main Street, Alameda, California.. The site location is shown in the map of Figure 1. (Appendix A).

A total of four underground storage tanks have been removed from the subject site. For convenience the environmental history of all four USTs have been included within this work plan. Information relating to the 600-gallon fuel oil UST area addressed within this work plan has been highlighted.

2.0 PREVIOUS ENVIRONMENTAL INVESTIGATIONS

2.1 Underground Storage Tank Removal

On April 11, 1990, four underground storage tanks (USTs) were removed from the above referenced site. These were one 600-gallon diesel, one 7,000-gallon gasoline, one 600-gallon fuel oil, and a 1,100-gallon fuel oil UST.

Hereafter they are referred to as: 1,100-gallon fuel oil (Tank #137); **600-gallon fuel oil (Tank #133)**; 7,000-gallon gasoline and 600-gallon diesel (Tank #85a and #85b, respectively, which shared a common tank pit). Each tank was named after the site building number they were located next to.

Groundwater was encountered within each of these tank pits at a depth of approximately 4' below ground surface. For analytical results, refer to Tables 1a and 1b. For tank locations refer to Appendix A Maps, Figure 2.

2.2 Excavation of Contaminated Soil

Tank #85

According to the Mittelhauser Underground Storage Tank Removal Report dated June 1990, soil along the southeast portion of the excavation, where the diesel tank (Tank #85) had been located, was over-excavated laterally ten feet to the north and east of the tank location, and approximately two-feet to the south. The southern extent of excavation was limited by the close proximity of a railroad spur. The limit of contamination was not found and the excavation was discontinued until a later time. Soil samples were not collected subsequent to excavation.

Tank #137
Underground utilities in the area of Tank #137 prevented excavation in this area.

Tank #133

A site diagram indicates over excavation of the tank pit occurred subsequent to tank removal. However, it appears confirmatory soil samples were not collected.

2.3 Groundwater Monitoring Wells

On August 26, 1992, three groundwater monitoring wells were installed in each former tank pit area. Each well was installed within ten-feet of and in the assumed downgradient flow of each tank pit.

These were monitoring well MW-1 located north of and adjacent to Tank #137, MW-2 located between Buildings #133 and 72, and MW-3 located north of and adjacent to Tank #85. Analytical results are presented in Table IIa and IIb.

July 2002, hydrocarbon absorbent material was placed within MW-2 and replaced on a quarterly basis.

TABLE 1a
Soil Analytical Results
Following the Removal of Underground Storage Tanks
Soil Samples were Collected Approximately 6" Above Groundwater
April 11, 1990

(The tank of concern is presented in bold format)
All results are reported in ppm.

Tank Sample#	TPHd	TPHg	B	T	E	X
1,100-GAL. AG-137-01	6.7	ND	ND	ND	ND	ND
1,100-GAL. AG-137-02	38,000.00	850.0	2.2	4.3	4.3	29.0
1,100-GAL. *AG-137-03	ND	2.8	0.1	ND	ND	ND
600-GAL		NONE COLLECTED				
7,000-GAL. AG-85-01	NA	4.8	ND	ND	ND	ND
7,000-GAL. AG-85-02	NA	1.1	ND	ND	ND	ND
7,000-GAL. AG-85-03	ND	4.8	ND	ND	ND	ND
600-GAL AG-133-01	**1,100.0**	**52.0**	**0.3**	**<0.1**	**0.4**	**0.7**
DETECTION LIMIT	5.0	1.0	0.1	0.1	0.1	0.1

NA = Not analyzed ND = Not detected
* Soil sample AG-137-03 was collected at the same depth as sample AG-137-02 (2.5 feet) but two feet east of the pit sidewall and outside of the tank pit cavity.

TABLE 1b
Groundwater Analytical Results
Following The Removal of Underground Storage Tanks
April 11, 1990

Analyzed for: TPHd, TPHg, B, T, E, X
All groundwater results are reported in ppb

Tank Sample#	TPHd	TPHg	B	T	E	X
7,000-GAL. AG-85-03	NA	43,300.0	37.0	ND	ND	300.0
DETECTION LIMIT	NA	50.0	0.5	0.5	0.5	0.5

NA = Not analyzed
ND = Not detected

Table IIa
Soil Analytical Results
Installation of Three Groundwater Monitoring Wells
On August 26, 1992
(The well of concern is presented in bold format)
Analyzed for: TOG, TEH, TVH, B, T, E, X, Lead
All soil results are reported in ppm

Tank Area Sample #/Depth	TOG	TEH	TVH	B	T	E	X	Lead
MW-1 #137 3.0'	140.0	4,900.0	NA	ND	ND	ND	ND	13.0
MW-2 #133 2.5'	**NA**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**ND**
3.5'	**65.0**	**NA**	**ND**	**ND**	**ND**	**ND**	**ND**	**46.0**
MW-3 #85A & B 3 @ 2.5'	1,600.0	12,000.0	ND	ND	ND	ND	ND	9.0

Table IIb
Soil Analytical Results
Installation of Three Groundwater Monitoring Wells
On August 26, 1992

(The monitoring well of concern is presented in bold format)
Analyses: Kerosene Range, Diesel Range
All soil results are reported in ppm.

Tank Area Sample#/Depth	Kerosene Range	Diesel Range
MW-1 @ 3.0'	NA	4,900.0
MW-2 @ 3.5'	**NA**	**65.0**
MW-3 @ 2.5'	NA	12,000.0

NA = Not analyzed
ND = Not detected

TABLE III
Monitoring Wells
Groundwater Analytical Results

Date	TOG ppm	TPHd ppm	TPHg ppm	B ppb	T ppb	E ppb	X ppb	Lead ppb	PNA ppb	TPHmo ppb
MW-1 (Tank #137)										
08/17/92	< 5	4.8	NA	< 0.5	< 0.5	0.6	< 0.5	9.0	NA	NA
11/25/92	< 5	3.9	NA	ND	ND	ND	ND	< 3.0	NA	NA
02/19/93	< 5	1.9	NA	ND	ND	ND	ND	3.0	NA	NA
12/28/95	1.0	3.7	0.09	ND	ND	ND	< 2.0	NA	< 10.0	NA
03/29/96	0.7	1.5	< 0.05	ND	ND	ND	< 2.0	NA	< 10.0	NA
*06/14/01	NA	0.12	ND	ND	ND	ND	ND	NA	NA	ND
MW-2 (Tank #133)										
08/17/92	**<5.0**	**0.82**	**NA**	**<0.5**	**<1.0**	**<0.5**	**<0.5**	**10.0**	**NA**	**NA**
11/25/92	**12.0**	**5.6**	**NA**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**<3.0**	**NA**	**NA**
02/19/92	**10.0**	**9.0**	**NA**	**<o.5**	**<0.5**	**<0.5**	**<0.5**	**3.0**	**NA**	**NA**
12/28/95	**30.0**	**20.0**	**23.0**	**<0.5**	**<0.5**	**<0.5**	**<20.0**	**NA**	**24.0**	**NA**
03/29/96	**130.0**	**130.0**	**1.8**	**<0.5**	**<0.5**	**<0.5**	**<20.0**	**NA**	**ND**	**NA**
06/14/01	**1/4" of free product was noted on this well, therefore the well was not sampled.**									
MW-3 (Tank #85)										
8/17/92	< 5.0	4.0	0.073	< 1.0	< 1.0	< 1.0	< 1.0	360	NA	NA
11/25/92	< 5.0	14.0	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5	< 3.0	NA	NA
2/19/93	< 5.0	< 0.05	< 0.05	< 0.5	< 0.5	< 0.5	< 0.5	10.0	NA	NA
12/28/95	2.0	3.8	< 0.05	< 0.5	< 0.5	< 0.5	< 2.0	NA	< 10.0	5,000.0
3/29/96	< 0.5	0.39	< 0.05	< 0.5	< 0.5	< 0.5	< 2.0	NA	< 10.0	NA
06/14/01	This well could not be found									

NA = Not analyzed
ND = Not detected

*Results reported for 06/14/01 sampling event were reported in ppb, therefore TPHd was converted to ppm for consistency and comparison purposes.

3.4 Limited Site Assessment Performed In Area(s) Of Former 1,100-Gallon Fuel Oil 7,000-Gallon Gasoline And 600-Gallon Diesel UST

On May 18, 2001, a limited site assessment was performed by Greensfelder & Associates within the area(s) of three former underground storage tanks (USTs). Soil borings were advanced within and in the outer perimeter of the USTs. The purpose of the assessment was to attempt to determine the lateral and vertical migration of contamination in soil and groundwater. Former 1,100-gallon fuel oil (Tank #137), 7,000-gallon gasoline and 600-gallon diesel UST (Tank #85a and #85b, respectively, which shared a common tank pit). Each tank was named after the number of the building they were located next to. Tank #133 was not included in this investigation. However a site assessment will be performed as described within this work plan.

TABLE IVa
Limited Site Assessment
Area of Former 1,100-gallon Fuel Oil UST - Tank #137
Soil Sample Analytical Results
Performed on May 18, 2001

All results in ppm

Sample# Depth	TPHmo	TPHd	TPHg	B	T	E	X	MTBE	PAHs
137-1 3.5'-4.0'	1,000.0	340.0	ND	ND	ND	ND	ND	ND	NA
137-2 3.5'-4.0'	2,900.0	ND	ND	ND	ND	ND	ND	ND	NA
137-3 3.5'-4.0'	4,900.0	ND	ND	ND	ND	ND	ND	ND	NA
137-4 3.5'-4.0'	460.0	ND	ND	ND	ND	ND	ND	ND	NA
137-5 3.5'-4.0'	1,600.0	ND	ND	ND	ND	ND	ND	ND	NA
137-6 3.5'-4.0'	29.0	13.0	ND	ND	ND	ND	ND	ND	NA

ND – Non Detect
NA = Not Analyzed

TABLE IVb
Limited Site Assessment
Area of Former 1,100-gallon Fuel Oil UST - Tank #137
Groundwater Sample Analytical Results
Performed on May 18, 2001

Sample# Depth	TPHmo ug/L	TPHd ug/L	TPHg ug/L	B	T	E	X	MTBE	PNAs mg/K
				----------ug/L----------					
137-1	ND	ND	ND	ND	ND	ND	ND	ND	NA
137-2	ND	65.0	ND	ND	ND	ND	ND	ND	NA
137-3	**3,500.0**	**2,400.0**	ND	ND	ND	ND	ND	ND	NA
137-4	ND	610.0	120.0	ND	ND	ND	ND	ND	NA
137-5	280.0	230.0	120.0	ND	ND	2.0	12.0	ND	NA
137-6	510.0	390.0	56.0	ND	ND	ND	ND	ND	NA

TABLE Va
Limited Site Assessment
Area of Former 7,000-gallon Gasoline UST - Tank #85a
and
Former 600-gallon Diesel - Tank #85b
Soil Sample Analytical Results
Performed on May 18, 2001

Sample# Depth	TPHmo mg/K	TPHd mg/K	TPHg mg/K	B	T	E	X	MTBE	PNAs mg/K
				----------mg/K----------					
85-1 3*-3.5'	**5,900.0**	**5,200.0**	62.0	0.53	0.12	ND	0.99	ND	ND
85-2 3*-3.5'	**4,100.0**	**3,200.0**	71.0	0.25	0.29	0.69	1.8	ND	NA
85-3 2'-2.5'	48.0	ND	ND	ND	ND	ND	ND	ND	NA
85-4 2'-2.5'	3,500.0	ND	ND	ND	ND	ND	ND	ND	NA
85-5 2'-2.5'	320.0	ND	ND	ND	ND	ND	ND	ND	NA
85-6 2'-2.5'	140.0	ND	ND	ND	ND	ND	ND	ND	NA

TABLE Vb
Limited Site Assessment
Area of Former 7,000-gallon Gasoline UST - Tank #85a
and
Former 600-gallon Diesel - Tank #85b
Groundwater Sample Analytical Results
Performed on May 18, 2001

Sample# Depth	TPHmo ug/L	TPHd ug/L	TPHg ug/L	B	T	E	X	MTBE
				----------ug/L----------				
85-1	5,900.0	4,800.0	660.0	6.4	3.4	1.1	12.0	ND
85-2	ND	100.0	ND	ND	ND	ND	ND	ND
85-3	ND	ND	ND	ND	ND	ND	1.8	ND
85-4	ND	150.0	130.0	ND	0.81	6.6	34.0	ND
85-5	ND	160.0	75.0	0.76	0.60	ND	ND	ND
85-6	ND	240.0	ND	ND	ND	ND	ND	ND

3.0 SCOPE OF SERVICES

This work plan describes a limited site assessment to be performed in the area of one former underground storage tank (UST). The purpose of the assessment is to attempt to determine the lateral and vertical migration of contamination in soil and groundwater. The former tank was a 600-gallon fuel oil UST (Tank #133).

The site assessment will be performed by advancing a minimum of four (4) exploratory borings to a total depth of seven feet (7') below ground surface (bgs). Soil and groundwater samples will be collected and analyzed.

3.1 Soil Boring Installation

All soil borings, with the exception of the boring inside Building #133, will be advanced using two-inch diameter soil probes advanced with truck-mounted hydraulic equipment to push and/or hammer the GEOPROBE Æ, sampler into undisturbed soil. Continuous soil samples will be retrieved in clear plastic liners, so as to allow continuous profiling of the lithologic column.

Building #133 is constructed on soil and piling over the Alameda-Oakland Estuary. The soil boring within Building #133 will be advanced within 5.0'of the Oakland/Alameda Estuary. Due to limited access this boring will be hand augured to the desired sample depth. A soil sample will then be collected using a hand driven sampler with a clean brass sleeve insert.

Four soil borings will be placed approximately 30' from the former Tank #133. Should indications of contamination not be present within any of these these four borings, additional borings will be advanced within 15.0' of the former tank. For proposed soil boring locations refer to Maps, Figure 9.

3.2 Unified Soil Classification

The probes will be logged by a California State Licensed Registered Geologist, using the Unified Soil Classification System, and soil boring logs included in the final report.

3.3 Soil Sample Collection

Soil samples will be collected within a continuous core, clear, plastic liner. The liner will be cut and prepared for transport to an analytical laboratory, based upon field monitoring results. The liner will be cut to a six-inch length, using a clean cutting tool designed specifically for this purpose. Each end of the tube will be covered with a clean Teflon sheet, tightly fitting plastic caps, and labeled with the site project number, date, and time of collection, depth interval, company and sampler ID. Pertinent data will be entered on the chain of custody (COC) document. The sample will then be placed in a clean cooler, with ice in a plastic container, pending transport to an analytical laboratory.

As groundwater is shallow soil samples will be collected within the vadose/capillary zone at approximately four feet (4') below ground surface (bgs). Should any contamination encountered at a shallower depth appear to be more significant than the vadose/capillary zone sample, the shallower sample will also be analyzed.

Should indications of contamination be present, such as odor or discoloration, the analyzed sample depths will represent the worst case shallow and deeper concentration. A grab groundwater sample will also be collected within each boring.

3.4 Groundwater Sample Collection

Groundwater is anticipated at a depth of four-feet below ground surface. One groundwater sample will be collected within each boring. Water samples will be collected by lowering a clean stainless steel bailer into the boring. After allowing the bailer to fill, the water will then be poured into two 40-ml volatile organics analysis vials (VOAs) and two one-liter amber bottles to a positive meniscus eliminating. The bottles will be labeled with a project number, name of the sampler, and time of sampling, then placed on ice for transport to a certified hazardous waste analytical laboratory, under chain of custody, for analysis.

3.5 Analyses

Soil and groundwater samples will be analyzed for Total Petroleum Hydrocarbon as diesel (TPHd, extractable using silica gel cleanup, EPA Method 8015 Modified) Total Petroleum Hydrocarbon as gasoline (TPHg, using EPA Method 8015 Modified), benzene, toluene, ethylbenzene, total xylenes and MTBE (using EPA Method 8020/602). Grab groundwater samples will be filtered prior to analyses.

3.6 Decontamination

Prior to arriving on site the drill rig and all parts that may approach the borings will decontaminated using a hot pressure wash. All sampling equipment will be decontaminated between samples using an Alconox wash, and two tap water rinses.

3.7 Grouting of Soil Borings

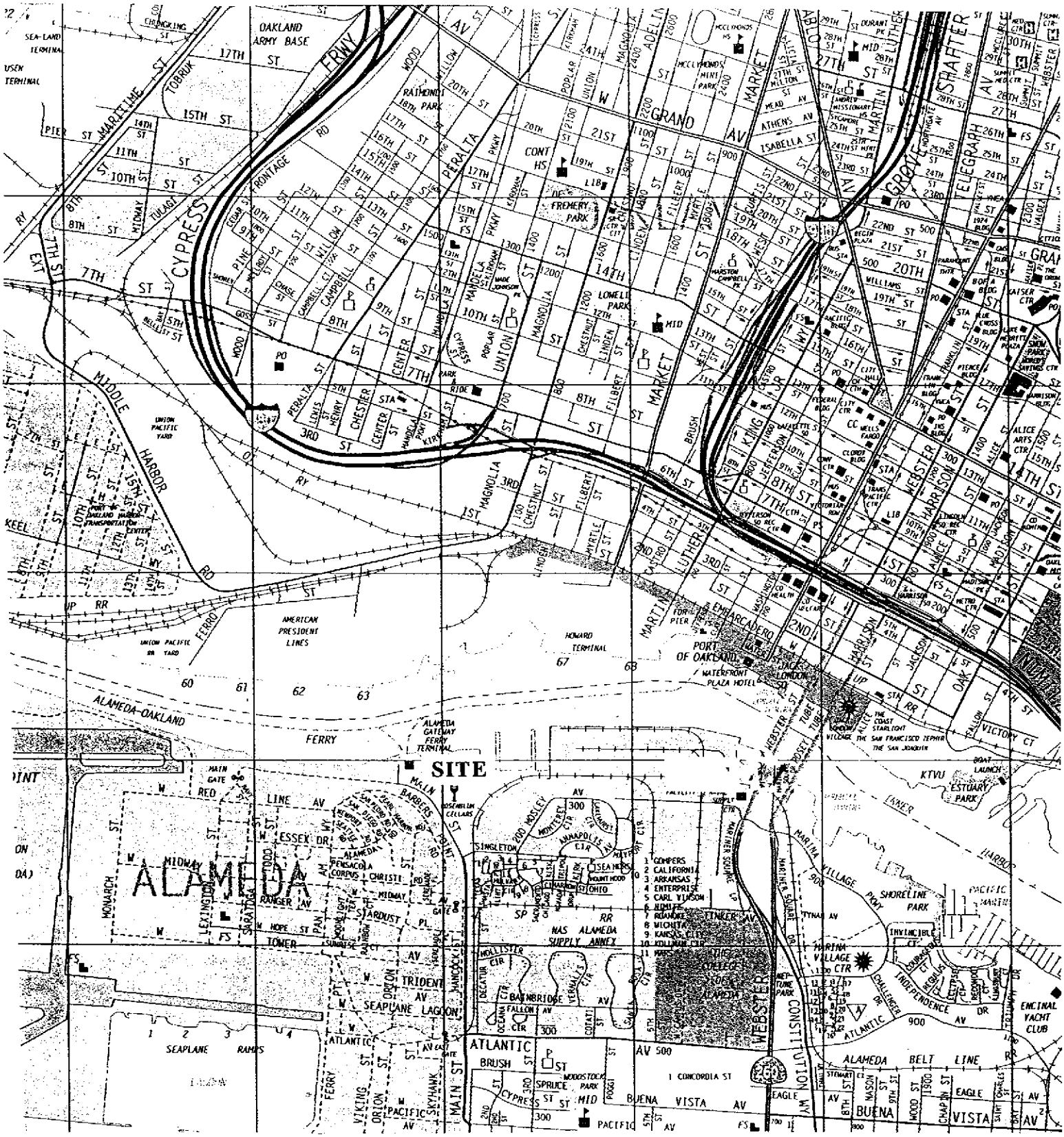
Soil boring will be grouted to grade using a concrete mix with 3% bentonite slurry.

4.0 RELEASE REPORTING

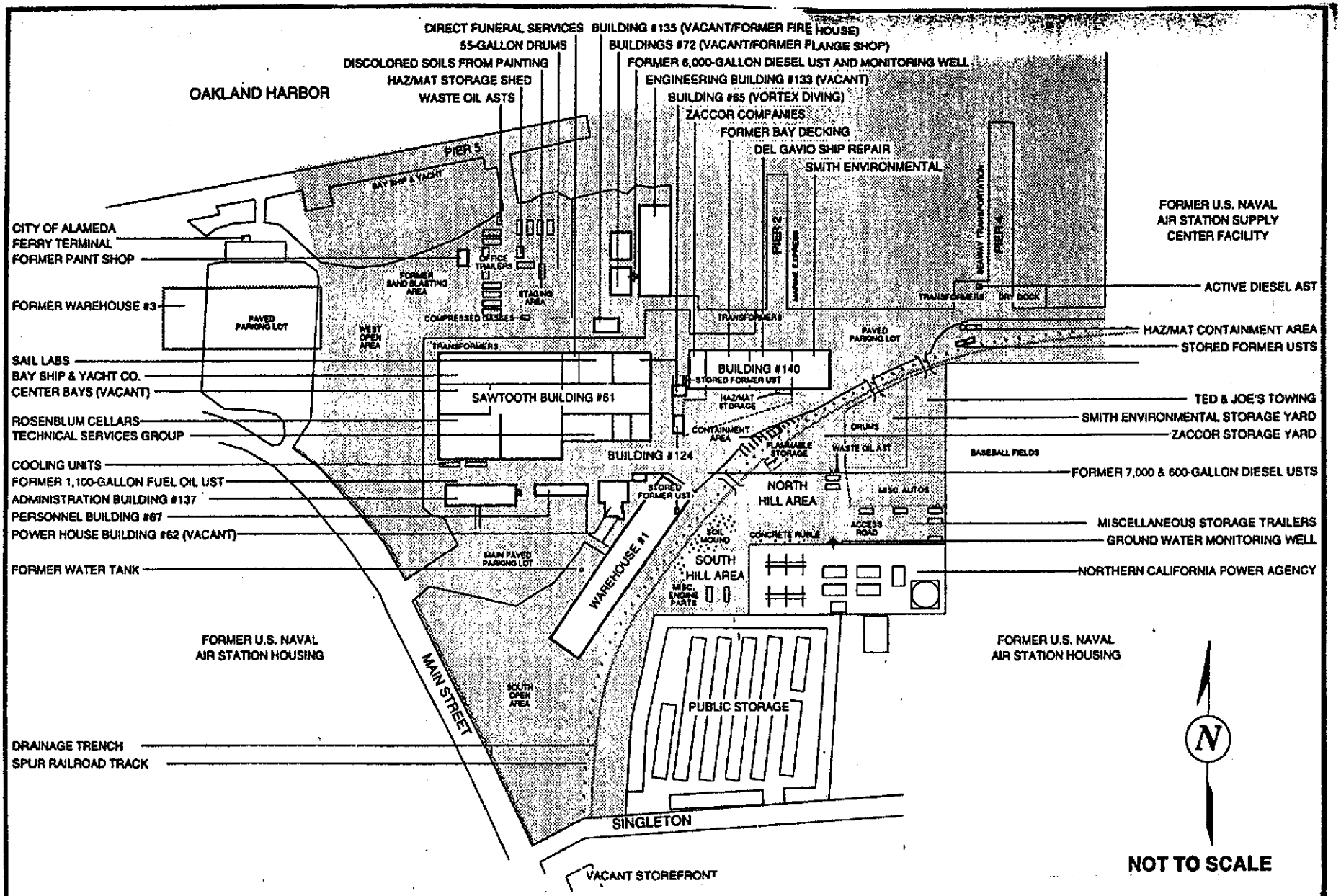
Subsequent to completion of the tasks described within this work plan a report will be prepared including but not limited to a description of soil boring advancement, sample collection, analyses and EPA methods, soil boring logs, laboratory analytical report, to scale diagrams of tank and boring locations, and chain of custody.

A copy of this work plan must be forwarded to the Alameda County Department of Environmental Health Services, Hazardous Materials Division. This address is provided for your records.

County of Alameda
Department of Environmental Health Services
Hazardous Materials Division
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
Attn: Mr. Amir Gholami
Hazardous Materials Specialist

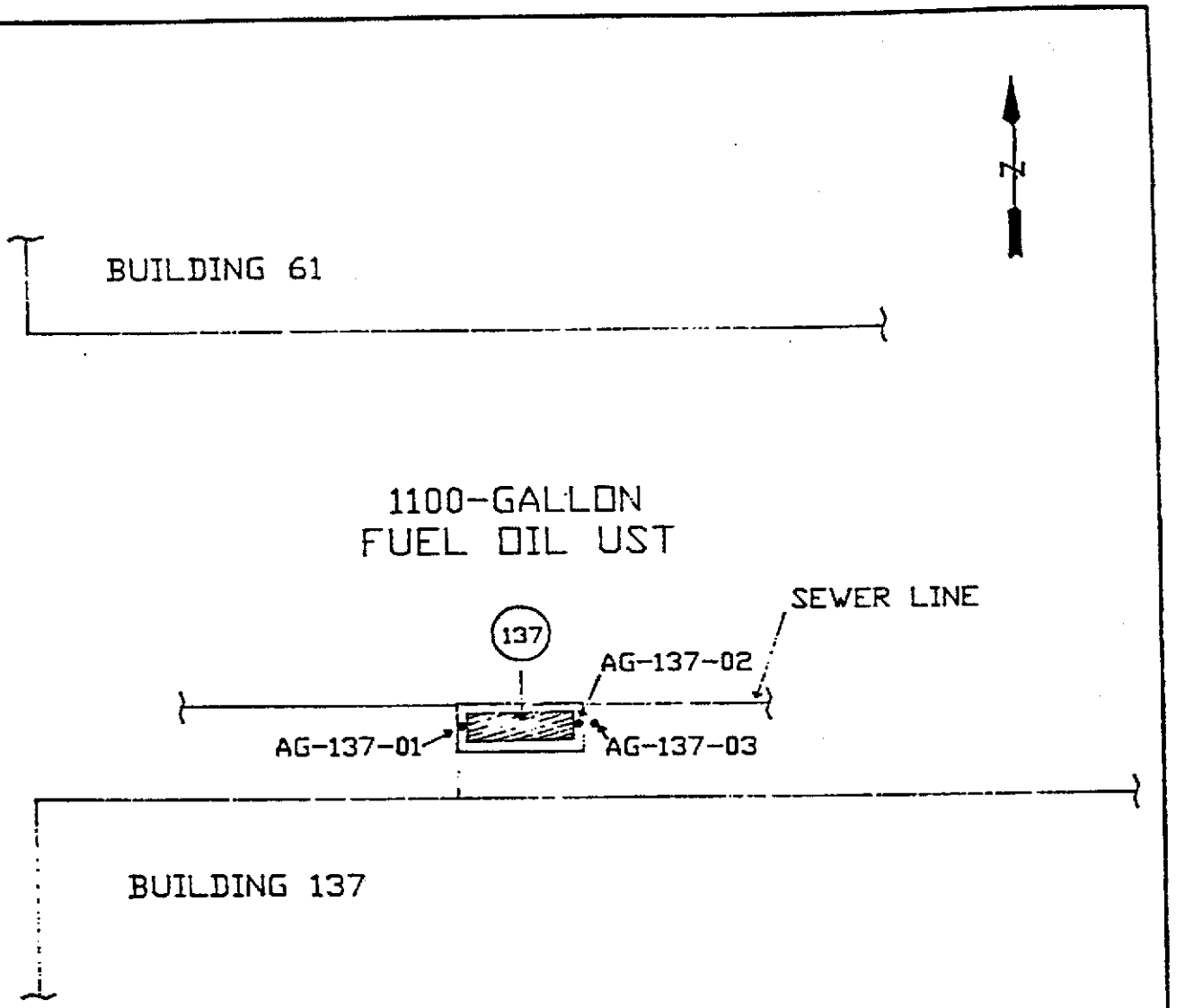


Site:		Figure 1.
Environmental	**ALAMEDA GATEWAY**	
Technical	**2900 MAIN STREET**	Site
Services	**ALAMEDA, CALIFORNIA**	Location Map



ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CA 94501

Figure 2. Site Plan



40 0 40

SCALE IN FEET

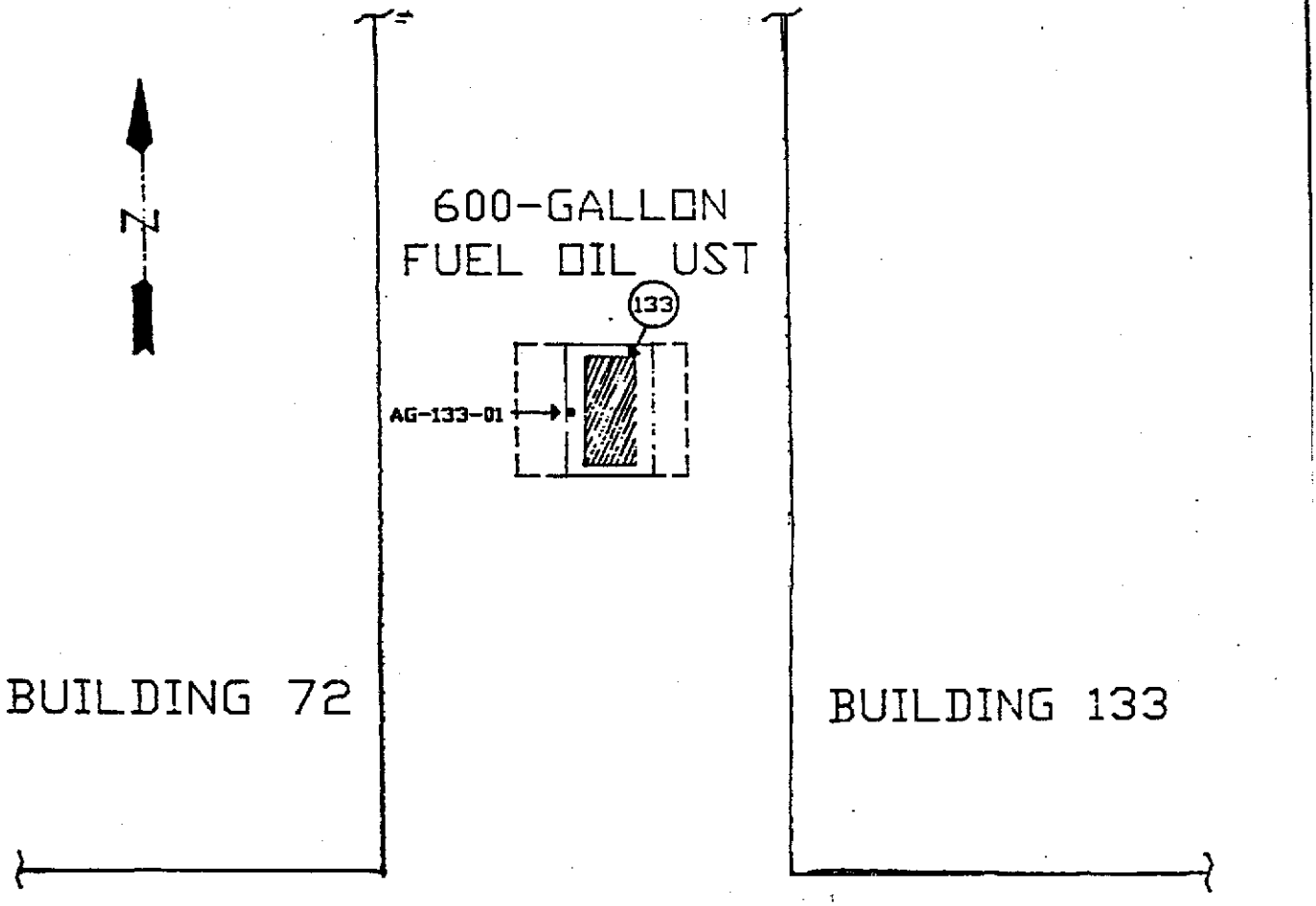
LEGEND

- ● SOIL SAMPLE LOCATION
- O TANK NUMBER
- ▨ TANK

TANK 137 PILOT PLAN
ALAMEDA GATEWAY LTD.
2900 MAIN STREET
ALAMEDA, CA 94501

MICHAEL HARDER CORPORATION

Figure 3.



20 0 20

SCALE IN FEET

LEGEND

- TANK
- TANK NUMBER
- SOIL SAMPLE LOCATION
- AREA OF OVEREXCAVATION

TANK 133 PLOT PLAN
ALAMEDA GATEWAY LTD.
2900 MAIN STREET
ALAMEDA, CA 94501

Figure 4.

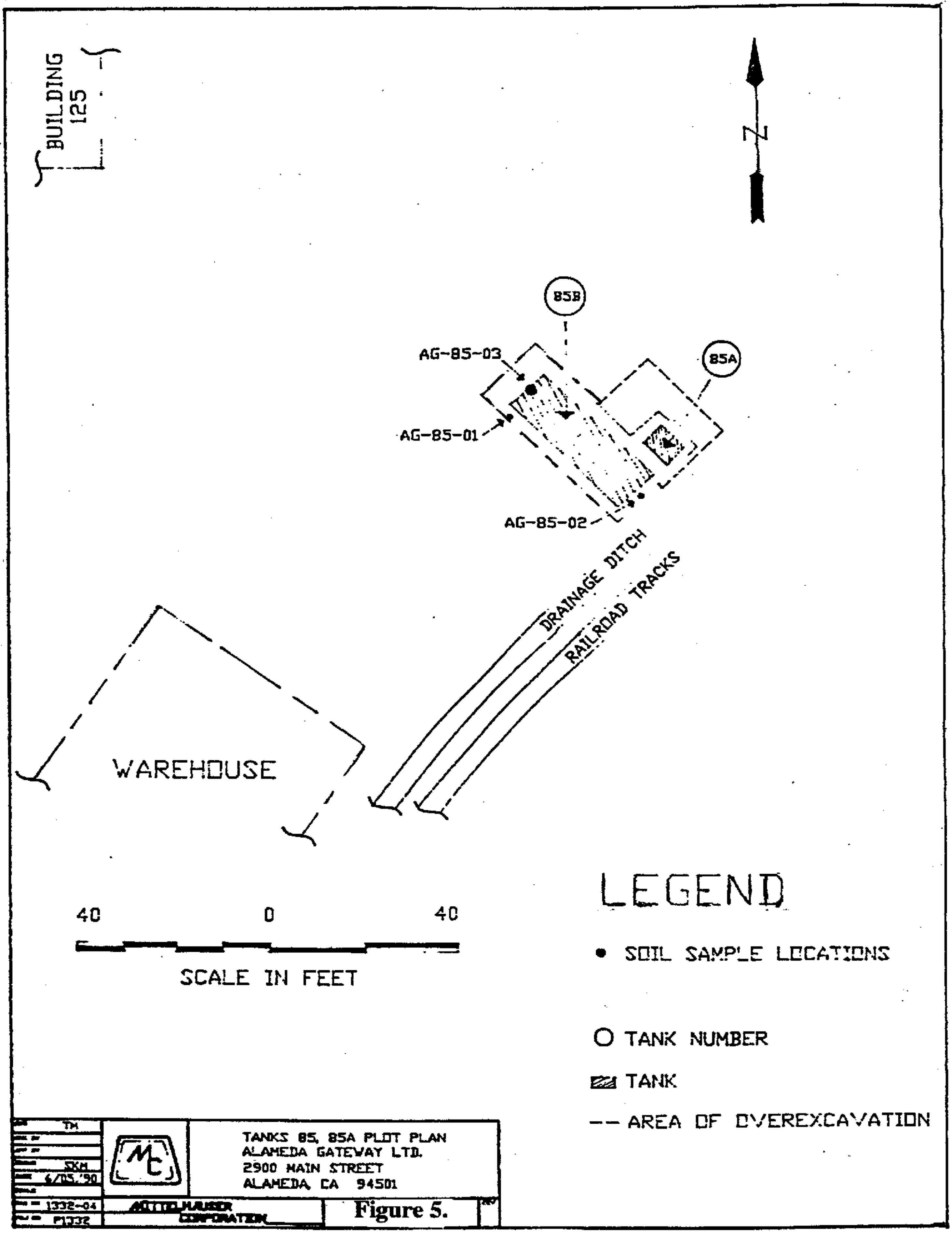
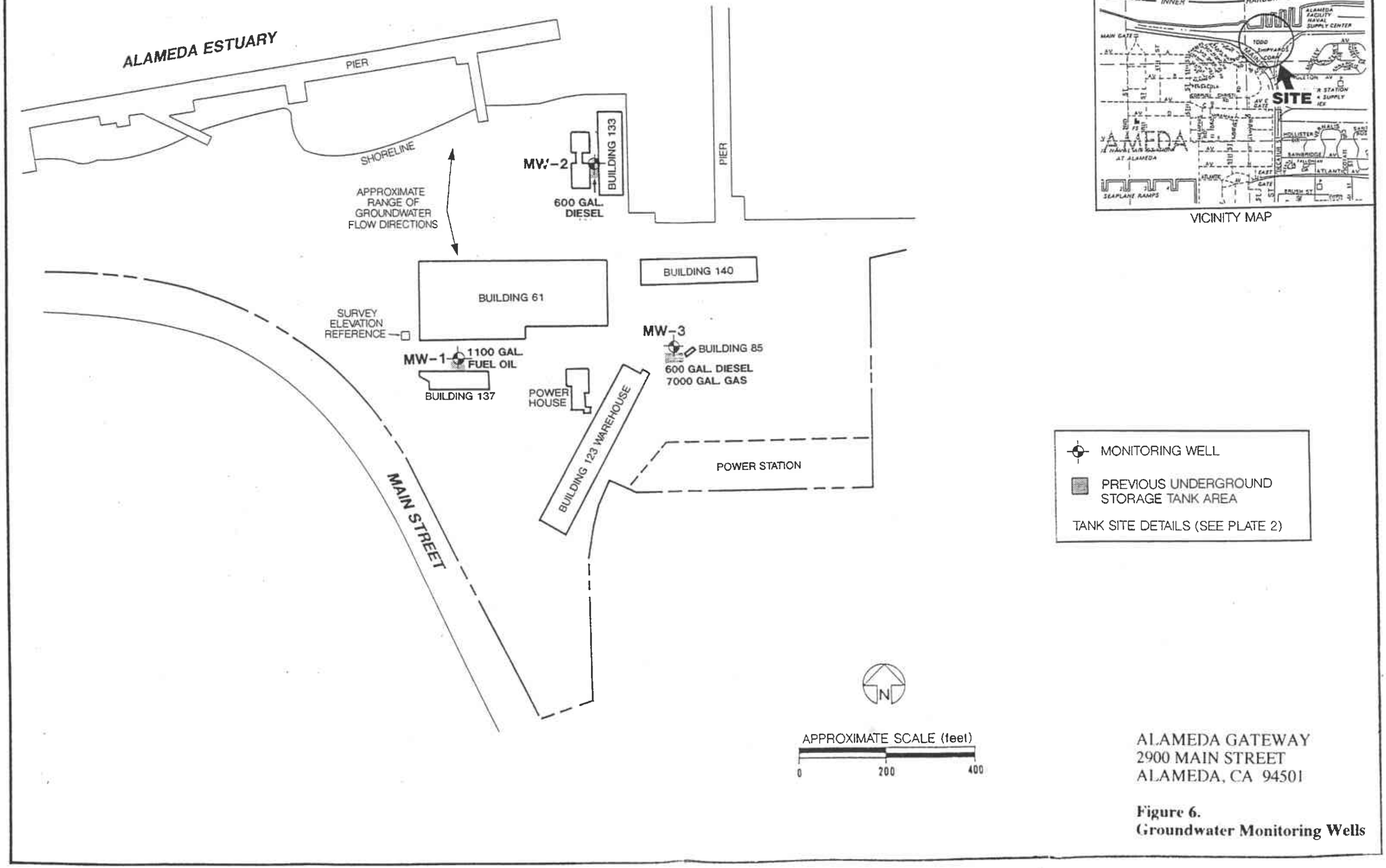
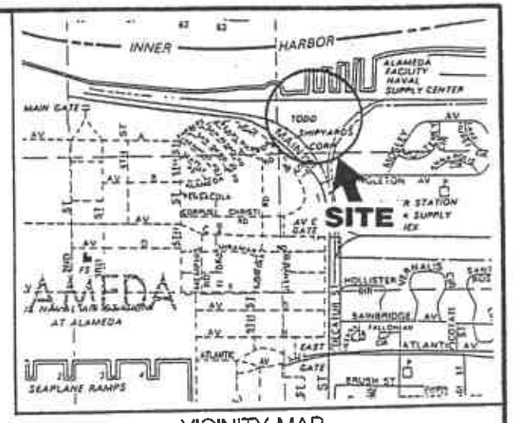

BUILDING 125
N
85B
85A
AG-85-03
AG-85-01
AG-85-02
DRAINAGE DITCH
RAILROAD TRACKS
WAREHOUSE
40
0
40
SCALE IN FEET
LEGEND
• SOIL SAMPLE LOCATIONS
O TANK NUMBER
TANK
-- AREA OF OVEREXCAVATION
TM
SKM
6/05/90
1332-04
P1332
TANKS 85, 85A PLOT PLAN
ALAMEDA GATEWAY LTD.
2900 MAIN STREET
ALAMEDA, CA 94501
MITTELHAUSER CORPORATION

Figure 5.

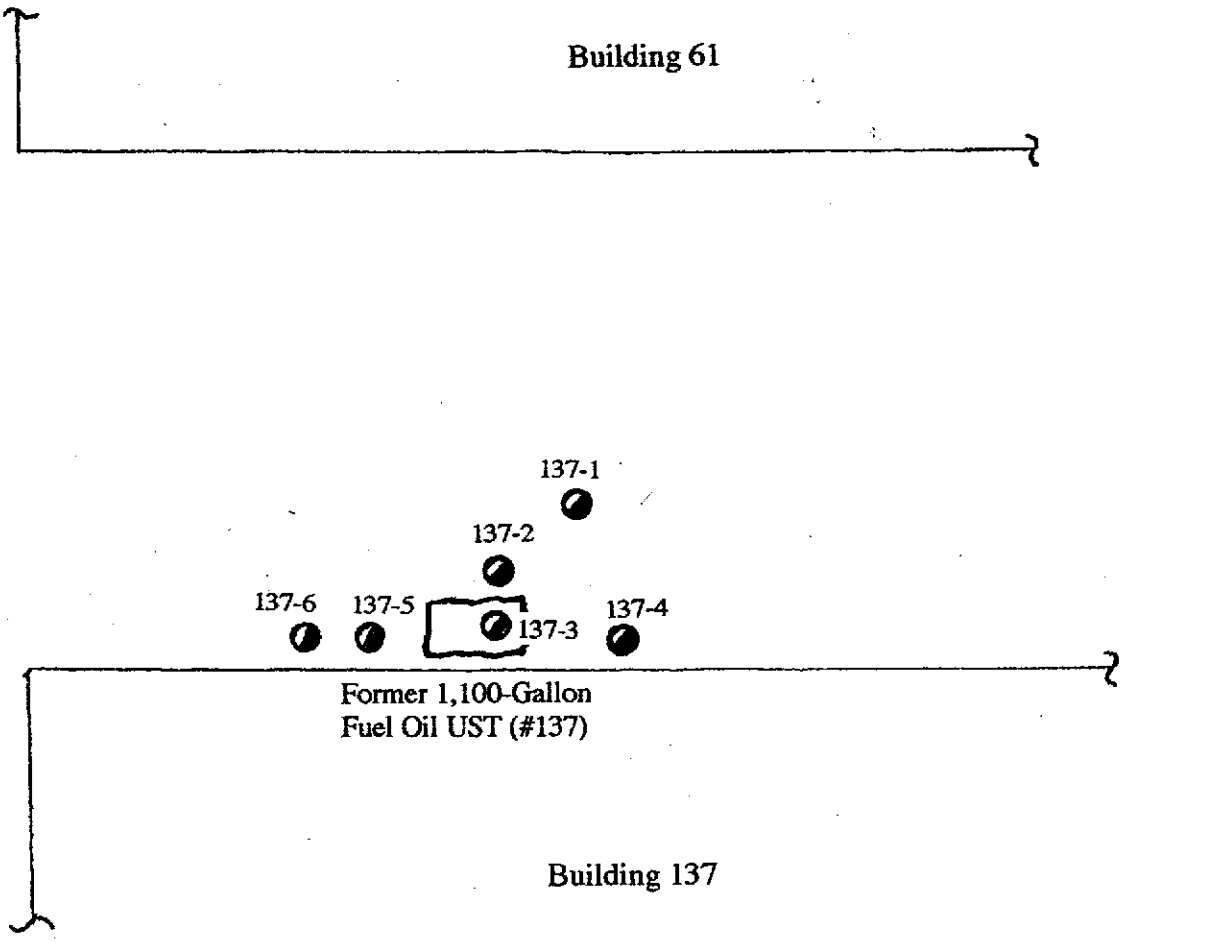




VICINITY MAP

ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CA 94501

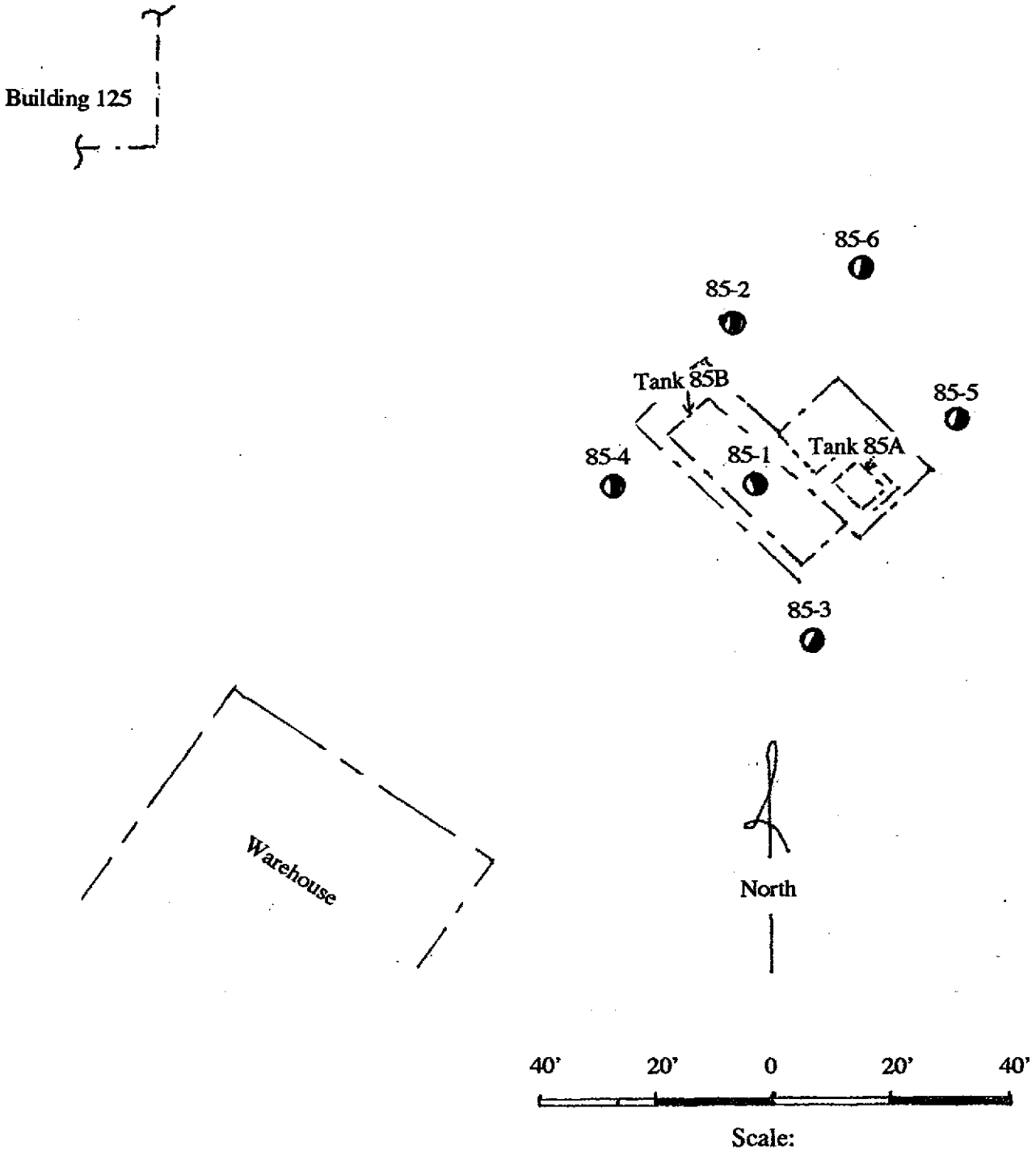
Figure 6.
Groundwater Monitoring Wells



Greensfelder & Associates

Site:
ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CA

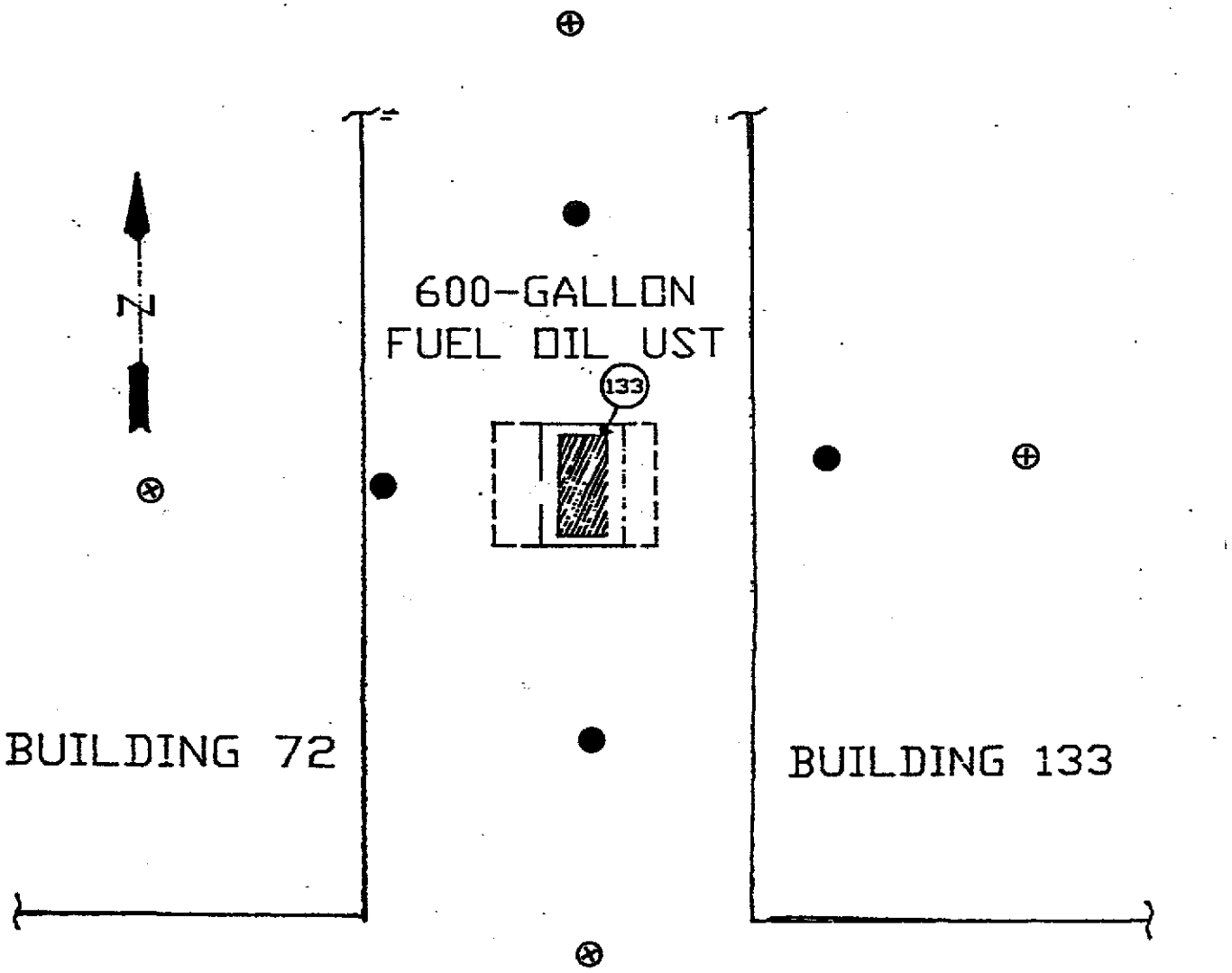
Figure 7.
UST 137
Soil Boring
Location



Greensfelder & Associates

Site:
ALAMEDA GATEWAY
2900 MAIN STREET
ALAMEDA, CA

Figure 8.
UST 85A & 85B
Location
Map



LEGEND

- Tank
- Tank Number
- ... Area of Over Excavation
- ⊕ Proposed Initial Soil Borings
- ● Second Boring If Initial Boring Has No Indications of Contamination

Figure 9.

Tank 133
Proposed Soil Borings
2900 Main Street
Alameda, California