DRAFT WORK PLAN
PRELIMINARY SITE CHARACTERIZATION

757 Santa Clara Avenue
Alameda, California 94501
ACHCSA RO#XXXXX

Prepared For:

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Prepared By:

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GGE Project No. 2006
December 7, 2007

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INTRODUCTION

Purpose

On behalf of the Alvin L. Selk & Aracely Selk Trust, Golden Gate Environmental, Inc. (GGE) is pleased to submit this draft copy of our Work Plan for Preliminary Site Characterization for the subject property located at 757 Santa Clara Avenue in Alameda, California (the Site). Based on the analytical results of soil sampling activities conducted during removal of one 1,500-gallon underground heating oil storage tank (UST) at the Site in October 2007, the Alameda County Health Care Services Agency (ACHCSA) requested that a preliminary site investigation be conducted to evaluate the horizontal and vertical extent of hydrocarbon-impacted soil and its potential impact to groundwater in the vicinity of the former UST.

The purpose of this work plan is to describe the procedures and methods to advance four (4) subsurface soil borings in the direct vicinity of the former UST using percussion drill techniques, perform soil and grab groundwater sampling activities, and establish a representative groundwater gradient across the Site. Figures 1 and 2 depict the Site Location and Site Map, respectively.

Environmental Background

On October 16, 2007, Golden Gate Tank Removal, Inc. (GGTR) removed one 1,500-gallon heating oil UST from under the sidewalk in front of the Site (Figure 2). A confirmation soil sample collected from the center of the excavation at 11 feet below grade (fbg) and a four point composite soil sample collected from the excavation overburden stockpile contained concentrations of total petroleum hydrocarbons as diesel (TPH-D) at 170 milligrams per kilograms (mg/kg) and 160 mg/kg, respectively. However, the laboratory indicated that these results were an atypical diesel pattern and that the compound detected was in the carbon range C10-C34. The compounds benzene, toluene, ethylbenzene, and total xylenes (BTEX) and methyl tertiary butyl ether (MTBE) were not detected in the confirmation soil sample or the composite soil sample. Groundwater was not encountered during the UST removal and sampling activities. Figure 2 depicts the approximate confirmation soil sample location.

During removal and sampling activities, GGTR cut the associated subsurface product piping at a location approximately 16 feet north of the UST excavation (south edge of building). GGTR subsequently drained the piping of residual product and removed the 16-foot section from the Site (Figure 2). The subsurface product piping remaining in place and extending further north beneath the parking garage was capped. No fuel dispenser was located onsite. With the approval of Mr. Robert Westin of the ACHCSA, GGTR backfilled the excavation with the UST excavation overburden soil (3-9 fbg) and clean imported Class II baserock

(0.5-3 fbg), and the overlying sidewalk was replaced with concrete according to City of Alameda Department of Public Works (CADPW) requirements. UST removal and sampling activities were conducted under the direct supervision of Mr. Robert Westin of the ACHCSA. Additional details including sample analytical results are included in the document entitled *Tank Closure Report. GGTR, November 6, 2007.*

Based on a review of the confirmation soil sample and composite soil sample analytical results, the ACHCSA requested a work plan to assess the extent of the hydrocarbon-impacted soil in the vicinity of the former UST. The ACHCSA also requested to assess whether hydrocarbons have impacted the groundwater beneath the Site.

On November 26, 2007, Mr. Frederick Selk contracted GGE to prepare the requested work plan and implement the proposed work plan activities, upon approval by the ACHCSA. In order to expedite the preliminary Site characterization, Mr. Selk contacted the ACHCSA requesting authorization to submit a draft work plan for regulatory review.

On November 13, 2007, GGE conducted a Site reconnaissance to determine appropriate locations for the proposed soil borings and re-measured Site dimensions for drawing a "to scale" Site Map (Figure 2). The work plan is presented in the following sections.

Proposed Work Scope

The general scope of work described and recommended in this work plan is:

- Install four (4) 1 to 2-inch-diameter soil borings (B-1 through B-4) up to approximately 20 fbg in the vicinity of the former UST excavation. Install temporary piezometer casing in each borehole location. Figure 2 depicts the proposed soil boring locations.

- Collect soil and grab groundwater samples from each borehole. Soil samples will be logged under the supervision of a professional geologist or engineer.

- Survey the top of casing and associated grade elevations of temporary piezometers for determining the groundwater gradient and flow direction across Site.

- Submit all soil and grab groundwater samples to a State-certified environmental laboratory for chemical analysis.

- Interpret all data and prepare a report summarizing the activities, findings, and conclusions of the investigation. Concentrations of hydrocarbons in the groundwater and soil samples will be tabulated and compared with the California Regional Water Quality Control Board – Environmental Screening Levels (CRWQCB-ESL) February 2005 Tier 1 Risk Based screening Levels.

Site Location and Description

The Site is located at the north side of Santa Clara Avenue, approximately 350 feet west of Eighth Street and approximately 270 feet east of Page Street, in the City and County of Alameda. The Site lies approximately 0.8 mile south and up gradient from the Oakland Inner Harbor (Figure 1). Based on Figure 1, the elevation of the Site is estimated to be approximately 18 feet above Mean Sea Level. The Site consists of a rectangular multi-unit apartment building with a front landscaped area and an additional parking area in the rear. The Site occupies approximately 5,617 square feet (0.13 acre) in lot area and has been owned by Mr. Fred Selk since September 1980 (Alameda County Assessor Parcel 73-420-10). The Site and abutting properties are zoned as General Residential District (R-5; City of Alameda Planning & Zoning).

The Site is relatively flat lying with the topographic relief generally directed towards the north-northwest (Figure 1), in the general direction of the Oakland Inner Harbor. A multi-story, apartment building, approximately 2,610 square feet in area, is situated on the majority of the Site, with one garage entrance on the west side of the building and an open parking access drive on the east side of the building providing access to tenant vehicular parking. The surface area leading to the rear garage and rear parking area are completely paved with concrete. The rear parking area dips sharply to the north before the garage entrance. The front entryway of the building is paved throughout with concrete, with small landscaped areas on each side of the garage driveway ramps (Figure 2). The City right of way sidewalk borders the south property line.

One UST was located beneath the sidewalk in front of the southwest corner of the Site, and as discussed previously, was removed by GGTR in October 2007. Figure 2 shows Site features and the approximate location of the former UST.

Site Geology and Hydrogeology

According to a Geologic Map of the San Francisco-San Jose Quadrangle (California Department of Conservation, 1990), the Site lies on dune sand and artificial fill and underlain by up to 500 feet of Quaternary alluvial deposits (unconsolidated and dissected stream and basin deposits) and possibly marine sandstone, shale, cherts, and conglomerates of the Mesozoic Franciscan Complex (thickness not established). Soil beneath the Site was described during the tank removal activities as sandy clay / clayey sand. The geologic map also indicates that the Site is situated approximately 5 miles southwest and 16 miles northeast of the Hayward and San Andreas Fault Zones, respectively.

The Site is in the East Bay Plain groundwater basin according to the San Francisco Bay Basin Water Quality Control Plan prepared by the CRWQCB – Region 2, 1995. Groundwater in this basin is designated beneficial for municipal and domestic water supply and industrial process, service water, and agricultural water supply.

The regional groundwater flow direction in the vicinity of the Site is estimated to be toward the north-northwest, in the general direction of the Oakland Inner Harbor and decreasing topographic relief. The depth to groundwater at the Site as well as the Site specific

groundwater flow direction and gradient is unknown at this time. Based on information provided by the State Water Resources Control Board GeoTracker Database system the depth to groundwater measured in an active tank cavity monitoring well located at the northwest corner of Lincoln Avenue and Webster Street (Shell Service Station #13-5032; RO0002745) ranged between 4.45 and 6.59 fbg. The nearest surface water body is the Robert Crown Memorial State Beach Inlet of the San Francisco Bay, located approximately 0.4 mile southwest of the Site (Figure 1).

PLANNED WORK

Sequence

The following is the planned sequence of activities at the Site:

- Obtain a soil boring permit from the Alameda County Public Works Agency (ACPWA) and an encroachment permit from the CADPW Engineering Division for work conducted in the public right of way.

- If warranted, prepare a Traffic Control Plan for pedestrian and/or vehicle diversion during work activities conducted in the public right-of-way.

- Prepare a Site specific Health & Safety Plan.

- Outline the proposed work area and boring locations in white surface paint and notify Underground Service Alert (USA) to clear for subsurface utilities.

- Using percussion technique, advance four subsurface soil borings (B-1 to B-4) to approximately 20 fbg in the vicinity of the former UST. A licensed C-57 well driller certified in the State of California will conduct drilling activities.

- If warranted, collect continuous soil samples from each boring, beginning at 4 fbg and continuing to the first encountered groundwater.

- Temporarily install 0.75-inch-diameter piezometer casing to the approximate total depth of each borehole and collect grab groundwater samples.

- Submit selected soil samples and groundwater samples to a State-certified environmental laboratory for analysis.

- After completion of drilling activities, survey the top of casing and associated grade elevations including water level of each secured piezometer well casing; subsequently extract all piezometer casings and tremie grout the boreholes with Portland cement and surface concrete.

- Profile, transport, and dispose of generated soil and liquid wastes to a State-licensed disposal/recycling facility.

- Prepare a report summarizing the activities, findings, and conclusions of the investigation.

Pre-Field Activities

GGE will complete a Soil Boring Permit Application and Encroachment Permit Application (if required) and submit each application and associated permit fees to the ACPWA and the CADPW Engineering Division, respectively. If required, GGE will prepare a traffic control plan for temporary sidewalk/parking lane closure along Santa Clara Avenue and submit the plan with the encroachment permit to the City of Alameda for review and approval. GGE will then notify the Site owners, tenants, and regulatory agency representatives of all scheduled field work activities. GGE will arrange and schedule all drilling and laboratory subcontractor services. At least 72 hours prior to drilling, GGE will outline the proposed work area and boring locations in white surface paint and subsequently notify USA to clear for any subsurface utilities that extend through the general work area. GGE will prepare a Health & Safety Plan and conduct an associated safety meeting with all pertinent Site personnel prior to initiating drilling activities.

Drilling and Soil Sampling Activities

GGE proposes advancing four vertical soil borings in the direct vicinity of the former UST excavation to evaluate the lateral and horizontal extent of heating oil-range hydrocarbons in soil and groundwater beneath the Site. Figure 2 depicts the proposed soil boring locations.

GGE will advance soil borings B-1 and B-4 in the sidewalk in front of the south boundary of the Site, B-2 within the south property line boundary, and B-3 in the parking lane along the Santa Clara Avenue frontage of the Site. GGE will advance soil borings B-1 and B-2 to assess the extent of potential hydrocarbon-impacted soil and groundwater in the presumed downgradient direction from the former UST location. GGE will advance soil borings B-3 and B-4 to evaluate the extent of hydrocarbon impacted soil and groundwater in the presumed upgradient and crossgradient directions from the former UST location, respectively. GGE proposes to advance all soil borings within 10 feet of the former UST excavation and will advance all borings at locations clear of any overhead or marked subsurface utilities.

GGE will direct the subcontracted driller to initially hand auger each proposed soil boring location up to approximately 4 fbg to confirm clearance of any unmarked subsurface utilities. GGE will advanced each boring using a trailer-mounted, Geoprobe® direct push technology rig equipped with 1 and 2-inch-diameter, flush-threaded, dual-cased drill rods and split spoon sampler. A dual-cased rod assembly will be utilized to minimize potential sidewall soil from cross contaminating deeper zone soil and/or groundwater in each borehole.

Each boring will be advanced to approximately 20 fbg, or 2 to 3 feet past the first encountered groundwater. Soil samples will be collected in each boring using a butyrate

plastic tube-lined remote split spoon sampler (2 feet in length) beginning at approximately 4 fbg and continuing to approximately 3 feet below the first encountered groundwater. Soil samples will be collected continuously, specifically at changes of lithology, at the soil/groundwater interface, and at areas showing obvious contamination. Soil boring samples will also be screened for volatile organic compounds using a Photoionization Detector (PID) and described using the Unified Soil Classification System and Munsell Rock Color Chart.

At the anticipated soil sampling depth, the inner drill rods will be extracted and the inner rod/split spoon sampler assembly will be re-advanced through the cased borehole to the upper sampling depth interval and subsequently pushed approximately 24 inches into relatively undisturbed soil to obtain a representative sample. All soil samples retained for laboratory analysis will be sealed with Teflon and plastic end caps, appropriately labeled, and transferred to cooler chilled to approximately 4° Centigrade. GGE will submit the soil samples under chain of custody protocol to Entech Analytical Labs, Inc. (CA ELAP#2346) in Santa Clara, California for chemical analysis.

A California-licensed Water Well Drilling Contractor (C57) will perform all drilling activities. Boreholes will be logged under the supervision of a Professional Civil Engineer/Geologist. Hand auger soil cuttings and excess sample soil not utilized for chemical analysis will be transferred to a 55-gallon, D.O.T.-approved steel drum. GGE will collect a four-point composite soil sample from the drummed soil cuttings for analysis and waste disposal characterization. All down hole drilling and sampling equipment will be decontaminated prior and between each boring location using an Alconox® solution and double rinsed with potable water. Equipment wash and rinse water will be transferred directly to 55-gallon D.O.T.-approved steel drum. All drilling and sampling activities will be conducted under the direct supervision of a representative from the ACHCSA.

Soil Sample Analysis

Analytical soil samples collected from each soil boring will be analyzed for the following compounds using approved Environmental Protection Agency (EPA) methods:

- TPH as Heating Oil (HO, includes Diesel and Motor Oil) by EPA Method 3445A/8015B(M)
- BTEX by EPA Method 5030B/8260B
- MTBE by EPA Method 5030B/8260B

The composite soil sample collected from the drummed soil cuttings will be additionally analyzed for Total Lead by EPA Method 6010B.

Groundwater Sampling Activities

Immediately following soil sampling activities from soil borings B-1 through B-4**,** GGE will periodically monitor and record the depth to groundwater in the cased borehole and allow sufficient time for stabilization. Based upon observed subsurface lithology and if the borehole appears to have adequate groundwater recharge capability, GGE will either installed a 0.75-inch-diameter, factory-sealed, screened PVC casing (temporary piezometer)

directly through the cased borehole to the approximate total depth of each borehole (slow recharge), or re-advance the inner drill rod assembly retrofitted with a discrete interval groundwater sampler to a designated sample depth (fast recharge).

If PVC casing is utilized, the casing will be screened between the soil/groundwater interface depth and the maximum borehole depth. The outer drill rod assembly will then be extracted an equivalent length to the top of the temporary piezometer screen, exposing the screened portion of the temporary piezometer to the surrounding soil strata, and a grab groundwater sample will be collected using a clean, stainless steel bailer. If use of the discrete interval sampler is warranted, clean polyethylene sample tubing will be advanced through the center of the inner drill rod assembly and threaded to the superior portion of screened sample point. GGE will then extract the tubes approximately 8 to 12 inches, exposing the screened section of the sample point to the surrounding strata and groundwater. Using a low-flow purge pump, GGE will then collect a grab groundwater sample directly from the effluent end of the polyethylene tubing. In either case, if a sufficient volume of groundwater is present, GGE will initially purge approximately 0.25 gallon prior to sampling.

GGE will carefully drain the groundwater sample directly into laboratory-cleaned, 40-milliliter volatile organic analysis (VOA) vials. A specialized drainage tip will be used to prevent loss of any volatile constituents during sample transfer. GGE will seal each sample container with a threaded cap and invert the VOA vials to insure no headspace or entrapped air bubbles are present. Groundwater samples analyzed for non-volatile analysis, i.e., TPH-D & PAH analyses, will be transferred to laboratory-supplied amber glass or polyethylene bottles.

All temporary piezometers will be covered and sealed at grade surface with hydrated bentonite to prevent surface water infiltration into each borehole. Each temporary well location will be secured with a reflective barricade and caution tape. All non-disposable groundwater sampling equipment will be cleaned using a non-phosphate Alconox® solution and double rinsed using clean, potable water. Equipment wash and rinse water will be transferred to a 55-gallon D.O.T. approved storage drum. Each drum will be sealed with a steel lid and appropriately labeled as non-hazardous waste.

Groundwater Sample Analysis

All grab groundwater samples will be analyzed for the following compounds using approved EPA methods.

- TPH-HO by EPA Method 3445A/8015B(M)
- BTEX by EPA Methods 5030B/8260B
- MTBE by EPA Methods 5030/8020

One sample will be analyzed for total dissolved solids by EPA Method 160.1 to assess groundwater quality.

Wellhead Survey & Backfilling Activities

Approximately 48 hours after drilling activities are completed; GGE will return to the site and perform temporary piezometer head elevation survey and borehole backfill activities. GGE will initially monitor and record the depth to groundwater and presence of free product using an electronic water level indicator and oil/water phase indicator, respectively. GGE will then survey the top of casing and associated grade elevation of each temporary piezometer to the nearest 0.01 foot. Elevations will be measured relative to a local benchmark with known elevation (Mean Sea Level) or arbitrary datum point using an assumed elevation. GGE will then calculate the approximate groundwater gradient and flow direction across the Site.

Immediately following survey activities, GGE or the licensed C-57 subcontracted driller will extract each temporary piezometer casing and backfill each borehole with neat Portland cement up to approximately 1 fbg. The balance of each borehole will be backfilled with concrete and/or asphalt patch to restore original Site conditions.

Waste Management

Separately containerized soil and equipment wash and rinse water generated during drilling and sampling activities will be transported to GGE storage yard in San Francisco. Following receipt of the soil and grab groundwater sample analyses, GGE will subsequently profile and transport the solid (if warranted) and liquid waste to an appropriate licensed disposal facility under uniform hazardous waste manifest protocol.

Data Interpretation / Report Preparation

Following completion of the exploratory boring and sampling activities, GGE will review all field and analytical data and prepare a technical report summarizing the activities, findings, and conclusions of the Preliminary Site Characterization. The report will be written in general accordance with TRI-Regional Board Staff Recommendation for Preliminary Evaluation and Investigation of Underground Tank Sites (August 1990). Concentration of hydrocarbons in soil and groundwater samples will be tabulated and compared with the CRWQCB-ESL February 2005 Tier 1 Risk Based Screening Levels.

GeoTracker Upload

All soil/groundwater samples analytical data collected during the preliminary site characterization activities will be uploaded in Electronic Deliverable Format to the State Water Resources Control Board's GeoTracker Database System. Also, geologic boring logs, a scaled site map, and any reports prepared during current and future phases of this site investigation will be uploaded in PDF format to the State GeoTracker Database.

Schedule and Approval

GGE anticipates beginning the pre-field activities within two to three weeks of receiving written approval to proceed from the ACHCSA and the responsible party. Drilling should occur during late December 2007 or early January 2008, depending on work plan approval, permitting, and driller availability. The report described in the preceding section should be

available within four to five weeks of receipt of all soil and groundwater analytical results and waste disposal documentation.

Work Plan & Report Distribution

This document and all subsequent reports that are prepared during the continuing work on this project will be sent to:

Alameda County Health Care Services Agency *(1 Copy, copied to FTP Site)*
Environmental Health Services (1 Electronic Copy via GeoTracker)
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577
Attn: Mr. Steven Plunkett

Mr. Fred Selk *(2 Copies, Bound)*
44 Basinside Way
Alameda, California 94502

Limitations

This work plan has been prepared in accordance with generally accepted environmental practices exercised by professional geologists, scientists, and engineers. No warranty, either expressed or implied, is made as to the professional advice presented herein. The proposed activities contained in this work plan are based upon information contained in previous reports of corrective action activities performed at the subject property and based upon site conditions, as they existed at the time of the investigation, and are subject to change.

The professional opinions presented herein are based solely upon visual observations of the subject property and vicinity, and interpretation of available information as described in this report. The scope of services conducted in execution of this investigation may not be appropriate to satisfy the needs of other users and any use or reuse of this document and any of its information presented herein is at sole risk of said user.

References

GGTR. Tank Closure Report, November 6, 2007. Project No. 8938.

California Regional Water Quality Control Board, San Francisco Bay Region. Application of Risk-Based Screening Levels and Decision Making to Sites With Impacted Soil and Groundwater; Volume 1, Interim Final – February 2005.

California Regional Water Quality Control Board, San Francisco Bay Region, 1995. Water Quality Control Plan, San Francisco Bay Region.

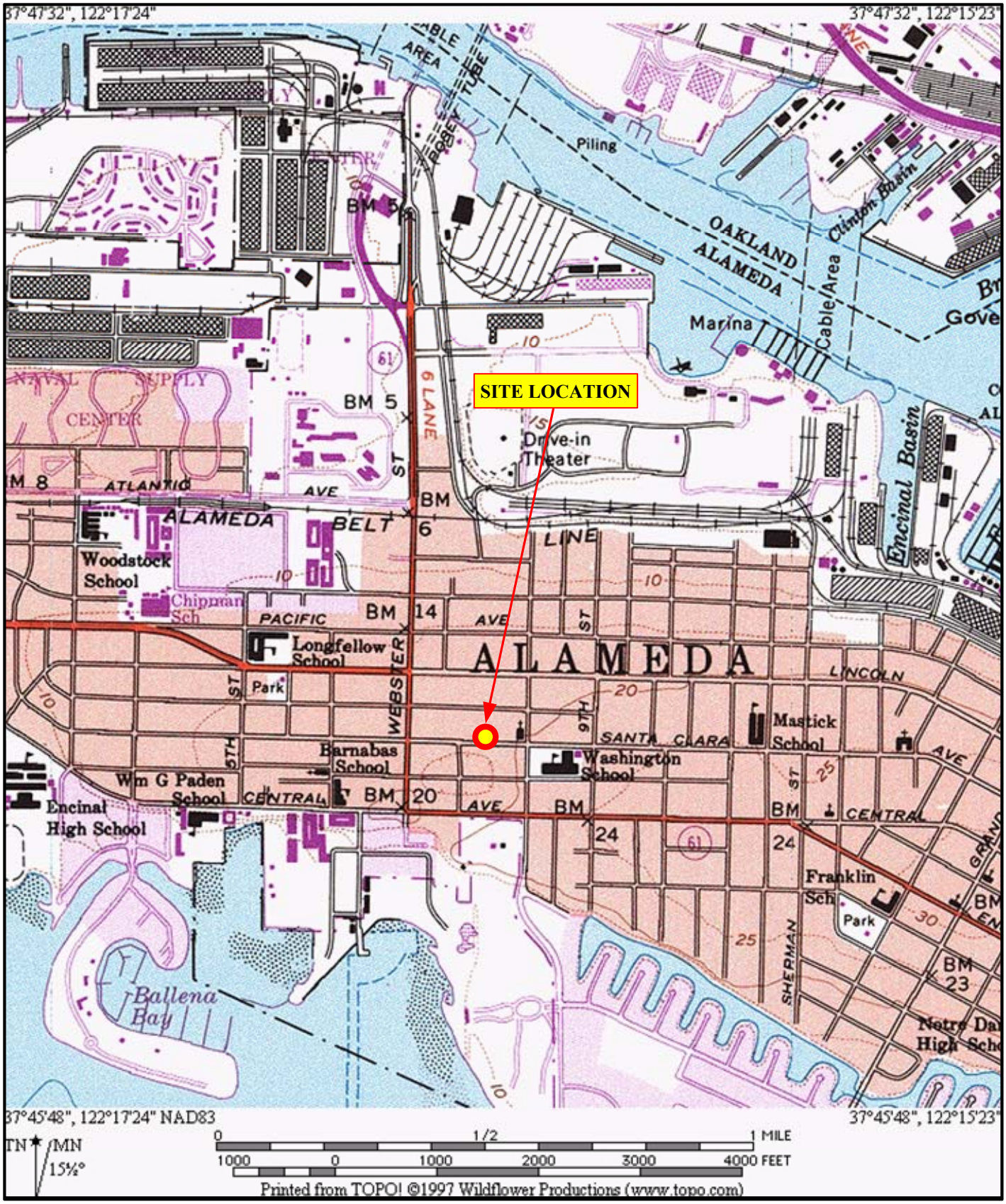
Geological Society of America, 1991. Munsell Rock Color Chart.

California Regional Water Quality Control Board, San Francisco Bay Region. Tri-Regional Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites, August 1990.

California Division of Mines & Geology, 1990. Geologic Map of the San Francisco-San Jose Quadrangle, Wagner, D.L., Bortugno, E.J., and McJunkin, R.D.

ATTACHMENTS

Figure 1 – Site Location Map
Figure 2 – Site Map



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SITE LOCATION MAP
757 Santa Clara Avenue
Alameda, California 94501

GGE Project No. 2006	Fn: 2006.psa.F1_SLM	Figure By: baw/11.07	***Figure 1***

LEGEND

- B-1 ⊗ — Proposed Soil Boring
- Former Location 1500-gals. Heating Oil UST. Removed 10/16/07
- Approximate UST Excavation
- x — UST Confirmation Soil Sample 8938-C-11 (from 11fbg. on 10/16/07)
- UST — Underground Storage Tank
- fbg — Feet Bellow Grade
- Estimated Regional Groundwater Flow Direction
- Underground Product Lines. Removed 10/16/07
- Residual Underground Product Lines.
- Underground Gas Meter
- Landscaped Areas
- Light Pole
- PL — Property Line Boundary

N

Scale in Feet
(1" = 20')

0 20

PL

Parking Garage

Parking Area

Parking Area
Slopping North

759 C Santa Clara Ave.
(Residential)

759 B Santa Clara Ave.
(Residential)

753 Santa Clara Ave.
(Residential)

755 Santa Clara Ave.
(Residential)

757 Santa Clara Ave.
(Multi-Unit Residential)

759 A Santa Clara Ave.
(Residential)

765 Santa Clara Ave.
(Residential)

?

Garage Door

Building Entrance

Parking Entrance 7' High

B-2

B-1

B-4

x

B-3

Sidewalk

Driveway

Driveway

Driveway

Parking Lane

Bicycle Lane

Sewer Manhole

Santa Clara Avenue

Bicycle Lane

Parking Lane

Sidewalk

Residential

GOLDEN GATE ENVIRONMENTAL, INC. 3730 Mission Street, San Francisco, CA 94110 Phone: (415) 970-9088 Fax: (415) 970-9089	**DRAFT SITE MAP** 757 Santa Clara Avenue Alameda, California 94501

GGE Project No. 2006	*Fn: 2006.psa.F2_Site Map*	*Figure By: ed.11/07*	***Figure 2***