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3:10 pm, Mar 21, 2011

Alameda County  
Environmental Health

March 14, 2011



Paresh C. Khatri  
Alameda County Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, California 94502

**Re: Revised Site Figure for 6501 Shattuck Avenue, Oakland, CA**

Dear Mr. Khatri:

SOMA Environmental Engineering, Inc. (SOMA) submits this letter and the attached figure as an addendum to its report dated December 14, 2010 for a proposed soil and groundwater investigation at 6501 Shattuck Avenue in Oakland. The attached figure was prepared at the request of Alameda County Environmental Health Department (ACEH), documented in its letter dated February 10, 2011.

In accordance with the workplan in our above-referenced report, SOMA planned to install three groundwater monitoring wells (MW-1 through MW-3) to assess groundwater conditions at the site. In its correspondence referenced above, ACEH requested that prior to installation of permanent groundwater monitoring points, a series of borings be installed so that monitoring well locations would be based on data obtained. As such, the proposed four borings (B-4 through B-7) will be advanced to approximately 20 feet below ground surface (bgs) and positioned to determine the extent of soil and groundwater contamination and groundwater flow direction and gradient to address data gaps at the site. Surface elevation at each boring location can be surveyed in order to evaluate groundwater elevation and gradient. Attached Figure 1 shows locations of the proposed direct push and hand auger borings. (Hand auger will be employed where limited access prohibits implementation of Geoprobe drilling.) Also attached to this letter are general field procedures that will be utilized during drilling.

Prior to drilling, SOMA will obtain required permits and submit required notifications. To minimize costs, SOMA proposes collection of one soil and one groundwater sample for laboratory analysis per soil boring, unless significant contamination not previously documented is observed that necessitates more sampling. Soil samples will be analyzed, utilizing a silica gel clean-up method where appropriate, for the following:

- TPH-g, TPH-d, and TPH-mo using EPA Method 8015
- VOCs using EPA Method 8260B

Soil samples for analysis will be collected at depths where historical contamination is anticipated to occur, or where photoionization detector (PID) readings or visual observations indicate presence of significant soil contamination. Boring logs detailing observed field conditions, PID readings, and laboratory analytical results will be made part of SOMA's soil and groundwater investigation report. Data generated by these borings will be reviewed; proposed well locations may be adjusted accordingly. SOMA will notify ACEH if significant changes to well locations proposed in the December 14, 2011 workplan are required.

If you have any questions or comments concerning the above, please do not hesitate to call me at (925) 734-6400.

Sincerely,



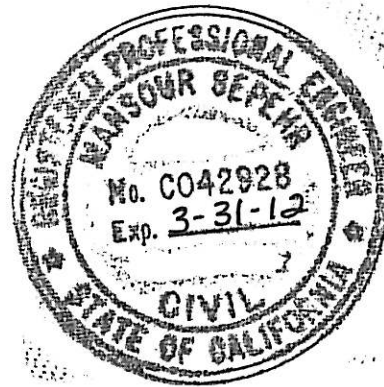
Mansour Sepehr, PhD, PE  
Principal

cc: Mr. Athan Magganas

Attachments:

*General Field Procedures for Soil Borings*

*Figure 1: Contour map showing TPH-g concentrations in groundwater and location of proposed monitoring wells and soil borings.*



PERJURY STATEMENT

Site Location: 6501 Shattuck Ave, Oakland, California

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

 MANAGER, BRUDER LLC

Athan Magganas  
Manager of Bruder LLC  
Responsible Party  
2550 Appian Way, Suite 201  
Pinole, CA 94564

2996 SHATTUCK AVENUE-  
groundwater flow predominantly  
westerly, DTW 2.3-8.5' bgs

6407 TELEGRAPH-  
groundwater flow southwest,  
DTW 5-8' bgs

← estimated groundwater  
flow direction

**CURRENT  
SITE  
STRUCTURES**

**PROPOSED  
SITE  
DEVELOPMENT**

**CURRENT  
EXCAVATION  
EXTENT**

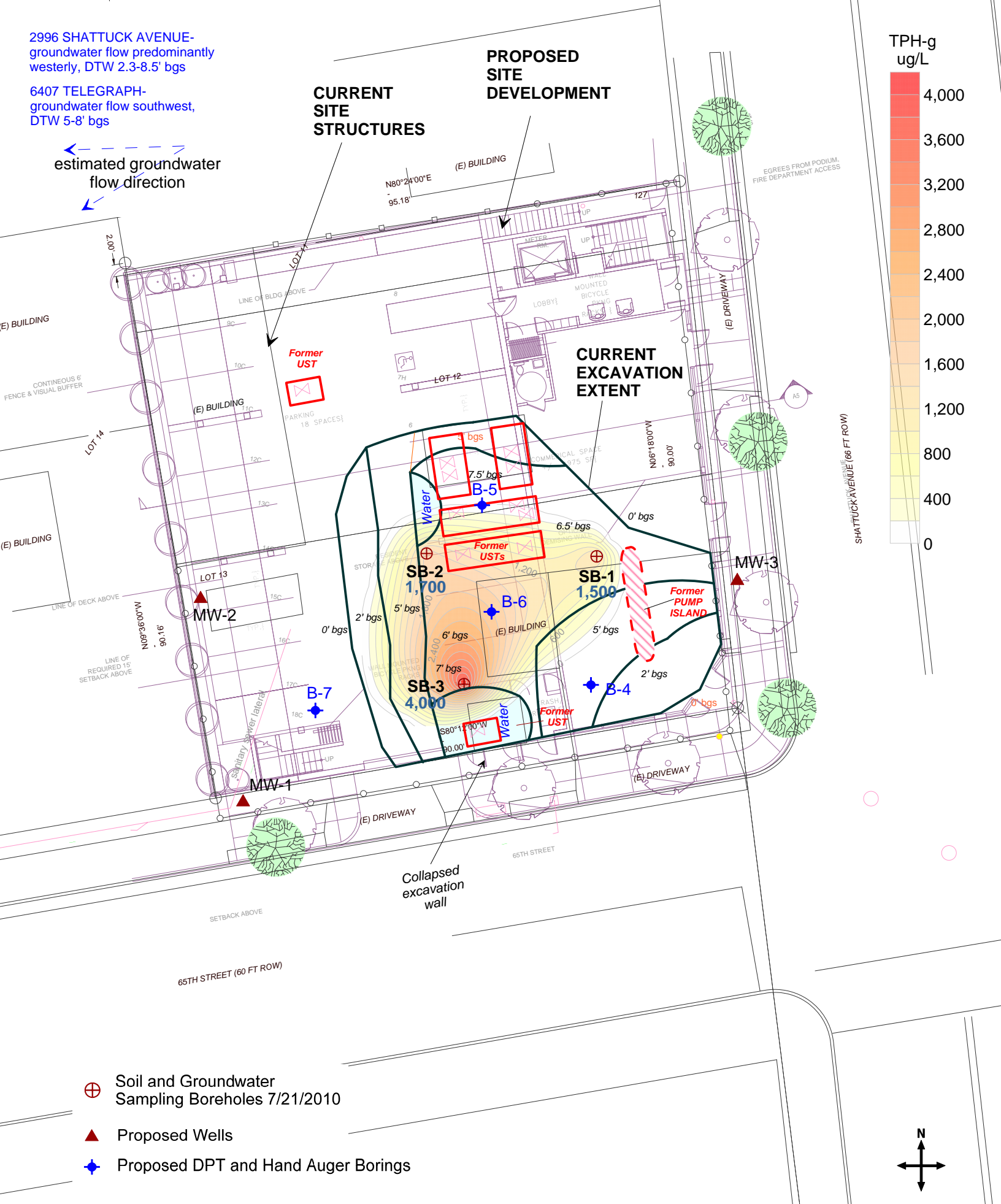
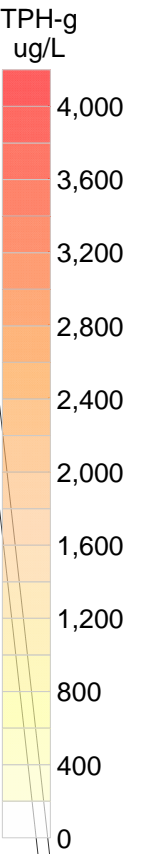


Figure 1: Contour map showing TPH-g concentrations in groundwater and location of proposed monitoring wells and soil borings

# GENERAL FIELD PROCEDURES

## Hydraulic Push (GEOPROBE) Drilling

### *Utility Locating*

Prior to drilling, boring locations are marked with white paint or other discernible marking and cleared for underground utilities through Underground Service Alert (USA). In addition, the first five feet of each borehole are air-knifed, or carefully advanced with a hand auger if shallow soil samples are necessary, to help evaluate the borehole location for underground structures or utilities.

### *Borehole Advancement*

Pre-cleaned push rods (typically one to two inches in diameter) are advanced using a hydraulic push type rig for the purpose of collecting samples and evaluating subsurface conditions. The drill rod serves as a soil sampler, and an acetate liner is inserted into the annulus of the drill rod prior to advancement. Once the sample is collected, the rods and sampler are retracted and the sample tubes are removed from the sampler head. The sampler head is then cleaned, filled with clean sample tubes, inserted into the borehole and advanced to the next sampling point where the sample collection process is repeated.

### *Soil Sample Collection*

The undisturbed soil samples intended for laboratory analysis are cut away from the acetate sample liner using a hacksaw, or equivalent tool, in sections approximately 6 inches in length. The 6-inch samples are lined at each end with Teflon® sheets and capped with plastic caps. Labels documenting job number, borehole identification, collection date, and depth are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California to perform the specified tests. The remaining collected soil that has not been selected for laboratory analysis is logged using the United Soil Classification System (USCS) under the direction of a State Registered Professional Geologist, and is field screened for organic vapors using a photo-ionization detector (PID), or an equivalent tool. Soil cuttings generated are stored in Department of Transportation (DOT) approved 55-gallon steel drums, or an equivalent storage container.

### *Groundwater Sample Collection*

Once the desired groundwater sampling depth has been reached, a Hydropunch tip is affixed to the head of the sampling rods. The Hydropunch tip is advanced between approximately 6 inches to one foot within the desired groundwater sampling zone (effort is made to emplace the Hydropunch screen across the center and lower portion of the water table), and retracted to expose the Hydropunch screen.

Grab groundwater samples are collected by lowering a pre-cleaned, single-sample polypropylene, disposable bailer down the annulus of the sampler rod. The groundwater sample is discharged from the bailer to the sample container through a bottom emptying flow control valve to minimize volatilization.

Because the sampling section of the non-discrete groundwater sampler is not protected or sealed, this sampler should only be used where cross contamination from overlying materials is not a concern. Discrete groundwater samplers are driven to the sample interval, and then o-rings, a protective tube/sheath, and an expendable point provide a watertight seal.

Collected water samples are discharged directly into laboratory-provided, pre-cleaned vials or containers and sealed with Teflon-lined septum, screw-on lids. Labels documenting sample number, well identification, collection date, and type of preservative (if applicable, e.g., HCl for TPPH, BTEX, and fuel oxygenates) are affixed to each sample. The samples are then placed into an ice-filled cooler for delivery under chain-of-custody to a laboratory certified by the State of California to perform the specified tests.

### *Borehole Completion*

Upon completion of drilling and sampling, the rods are retracted. Neat cement grout, mixed at a ratio of 6 gallons of water per 94 pounds of Portland cement, is introduced, *via* a tremmie pipe, and pumped to displace standing water in the borehole. Displaced groundwater is collected at the surface into DOT approved 55-gallon steel drums, or an equivalent storage container. In areas where the borehole penetrates asphalt or concrete, the borehole is capped with an equivalent thickness of asphalt or concrete patch to match finished grade.

### **Organic Vapor Procedures**

Soil samples are collected for analysis in the field for ionizable organic compounds using a PID with a 10.2 eV lamp. The test procedure *involves* measuring approximately 30 grams from an undisturbed soil sample, placing this subsample in a Ziploc--type bag or in a clean glass jar, and sealing the jar with aluminum foil secured under a ring-type threaded lid. The container is warmed for approximately 20 minutes (in the sun); then the headspace within the container is tested for total organic *vapor*, measured in parts per million as benzene (ppm; volume/volume). The instrument is calibrated prior to drilling. The results of the field-testing are noted on the boring logs. PID readings are useful for indicating relative levels of contamination, but cannot be used to evaluate petroleum hydrocarbon levels with the confidence of laboratory analyses.

### **Equipment Decontamination**

Equipment that could potentially contact subsurface media and compromise the integrity of the samples is carefully decontaminated prior to drilling and sampling. Drill augers and other large pieces of equipment are decontaminated using high-pressure hot water spray. Samplers, groundwater pumps, liners and other equipment are decontaminated in an Alconox scrub solution and double rinsed in clean tap water rinse followed by a final distilled water rinse.

The rinsate and other wastewater are contained in 55-gallon DOT-approved drums, labeled (to identify the contents, generation date and project) and stored on-site pending waste profiling and disposal.

### **Soil Cuttings and Rinsate/Purge Water**

Soil cuttings and rinsate/purge water generated during drilling and sampling are stored onsite in DOT-approved 55-gallon steel drums pending characterization. A label is affixed to the drums indicating the contents of the drum, suspected contaminants, date of generation, and the boring number from which the waste is generated. The drums are removed from the site by a licensed waste disposal contractor under manifest to an appropriate facility for treatment/recycling.