

July 11, 2002

ICES 2262

Ms. Eva Chu  
Hazardous Materials Specialist  
Alameda County Health Agency  
1131 Harbor Bay Parkway, 2nd Floor  
Alameda, California 94502

Subject: Work Plan  
Supplementary Site Investigation  
Marina Cove Subdivision  
Alameda, California

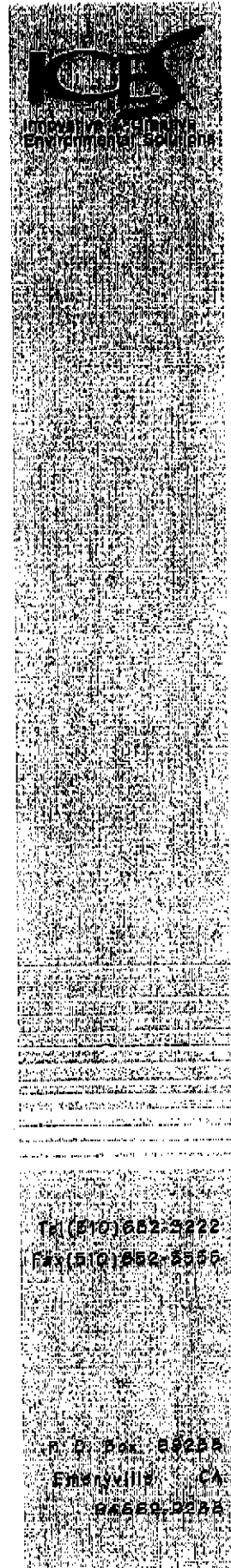
Dear Eva:

At the request of KB Homes ("the Client"), Innovative and Creative Environmental Solutions (ICES) has prepared this Work Plan to conduct a supplementary site investigation at the Park Parcel of the Marina Cove Subdivision in Alameda, California ("the Site"; Figure 1).

The purpose of the supplementary site investigation activities is to delineate the extent of the volatile organic compounds (VOCs) that were previously encountered in soil samples TR-1 and TR-2. The soil samples were collected from a trench which was located at the western portion of the Site.

Sampling activities will consist of collecting soil and grab groundwater samples from four boring locations. Borings B-1 and B-2 will be located north to northeast of the trench, downgradient of samples TR-1 and TR-2; boring B-3 will be located within the trench adjacent to sample TR-1; and boring B-4 will be located south to southwest of the trench, upgradient of samples TR-1 and TR-2. The approximate boring locations are shown in Figure 2.

Soil samples will be collected from the borings at depths of approximately 3 feet and 6 feet below the existing ground surface by driving a sampler containing vinyl acetate tubing using a power





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probe. Grab groundwater samples will be collected from the four boring locations using hydropunches. Soil and grab groundwater samples will be collected in accordance with the sampling procedures presented in Appendix A.

The soil and grab groundwater samples will be sent to a state-certified laboratory and selectively analyzed for:

- VOCs using EPA Method 8260; and
- pH using EPA Method 9045.

The samples will be analyzed on a 72-hour rush turnaround basis.

A written report will be prepared following receipt of laboratory analytical results. The report will describe our field observations, sample collection, laboratory analytical results, and conclusions regarding the sampling activities. The sampling report will be submitted to the Alameda County Health Services within three weeks following completion of field activities and receipt of laboratory analytical results.

If you have any questions or comments, please do not hesitate to contact me.

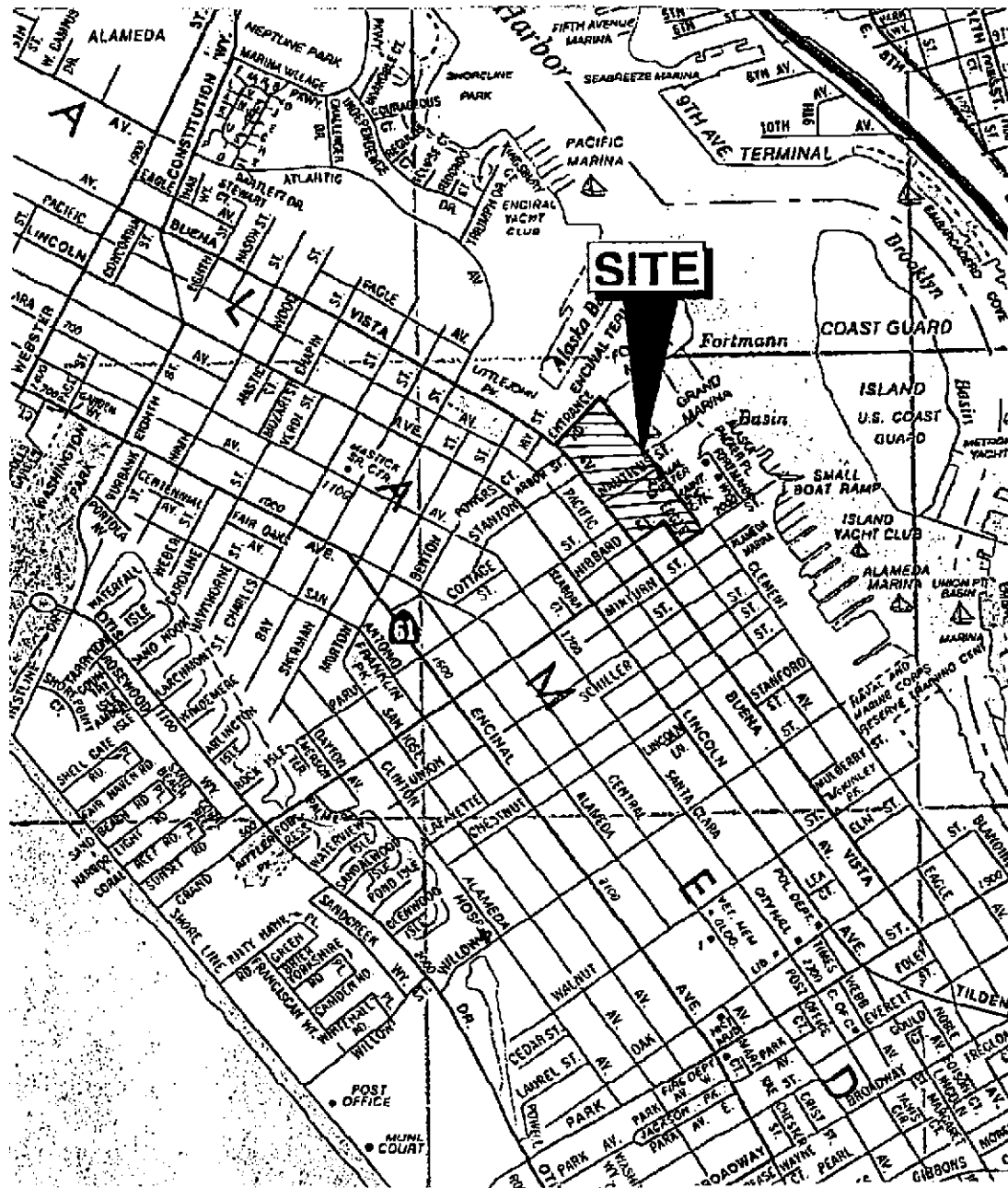
Sincerely,

A handwritten signature in black ink, appearing to read 'Derek Wong', with a long, sweeping underline that extends to the right.

Derek Wong  
Project Manager

Enclosure

cc: Mr. Joe Sordi, KB Homes



MAP SOURCE :  
CSAA

Scale: 1" = ± 1320'

July 2002

# SITE LOCATION

Marina Cove Subdivision, Alameda, California

Figure 1

Project 2262

**ICE**  
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FORTMANN  
BASIN

Former  
CPC International  
Tank Farm

B-1

B-2

TR-1

B-3

TR-2

B-4

EXPLANATION:

◆ Proposed  
Boring  
Location  
B-1

▲ Trench  
Sample  
Location  
(October 2001)  
TR-1



Scale: 1" = ± 50'

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# PROPOSED BORING LOCATIONS

Marina Cove Subdivision, Alameda, California

Figure 2

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alameda7



**APPENDIX A**

**SAMPLING PROCEDURES**



## SAMPLING PROCEDURES

### SUPPLEMENTARY SITE INVESTIGATION MARINA COVE SUBDIVISION ALAMEDA, CALIFORNIA

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Soil and groundwater sampling will be conducted to provide data to evaluate the extent of chemicals in the soil and groundwater at the Site. Soil and groundwater samples will be used for chemical analysis. The methodology used for this sampling purpose is discussed in the following sections.

#### Soil Sampling

Soil may be collected for chemical analysis by directly driving a sampler containing vinyl acetate tubing or precleaned brass or stainless steel tubes into the soil to assess surface/subsurface level conditions. The samples must completely fill the tubes to minimize headspace and consequent loss of volatile contaminants, if present. These tubes shall be lined with aluminum foil or Teflon, capped with air-tight plastic lids, and taped around the caps to prevent possible moisture and chemical loss. Disturbed soil samples will be collected in 250-ml jars with taped, airtight lids. Each jar will be completely filled with soil to minimize headspace and consequent loss of volatile contaminants, if present.

After being sealed and labeled, the soil samples will be maintained at a temperature of 4°C or lower using blue ice during delivery to the laboratory and prior to analysis by the laboratory. Samples will be analyzed at the laboratory within specific holding times.

#### Groundwater Sampling

Groundwater samples will be collected manually (hand-bailed) using a Teflon bailer. The samples will be transferred into 40-ml VOA vials with Teflon septa and 1-liter amber-colored glass bottles. The samples will be stored in a chilled cooler containing crushed ice to maintain the sample at 4°C for delivery to the laboratory. A field blank sample and duplicate will also be collected for quality control purposes. Strict



chain-of-custody (COC) protocols will be followed in all phases of sample handling.

All equipment used during this investigation which might come into contact with contaminated material will be thoroughly cleaned before and after each use. This will be accomplished by washing with Alconox (a laboratory-grade detergent) and/or cleaning with high-pressure hot water (steam cleaning).

After being sealed and labeled, groundwater samples will be maintained at a temperature of 4°C by using crushed ice during delivery to the laboratory and prior to analysis by the laboratory. Samples will be analyzed at the laboratory within specific holding times.

#### Documentation

- o The following information will be entered on the sample collection data form at the time of sampling:
  - project name and number
  - sampler's name
  - time and date of sampling
  - sampling location
  - sampling method
  - sample number
  - sample condition (disturbed/undisturbed)
  - laboratory analyses requested

Each sample will be packaged and transported appropriately, as described in the following protocol.

- o Collect samples in appropriately-sized and prepared containers
- o Properly seal and package sample containers.
- o Fill out field sample log and COC and analyses request forms.
- o Separate and place samples into coolers according to laboratory destination. Samples will be packaged so that the potential for shipping damage is minimized.
- o Chill samples to approximately 4°C. Blue ice or regular crushed ice used in the coolers will be sealed in a plastic bag other than the one in which it was purchased.



- o Seal a copy of the COC form inside a zip-lock bag. Use strapping tape to hold the packet on the inside of the cooler.
- o Seal cooler with several strips of strapping tape.

## **DECONTAMINATION PROCEDURES**

### Equipment Decontamination

All equipment used for collecting samples during this investigation which might come into contact with contaminated material will be properly decontaminated before and after each use, and before initial use at the Site. This will be accomplished through steam-cleaning and/or washing with Alconox (a laboratory-grade detergent) and rinsing with deionized, distilled, or fresh water. Decontamination procedures will allow for disposal of cleaning fluids in the manner described below.

### Disposal Procedures

The cleaning fluids will be collected and placed into appropriate containers to be analyzed and disposed by a licensed recycling facility. The non-hazardous waste, such as cardboard boxes, scrap paper, etc., will be disposed at a Class III landfill.

### Sample Custody

In order to check and link each reported datum with its associated sample, sample custody and documentation procedures were established. Three separate, interlinking documentation and custody procedures--for field, office, and laboratory--can be described. The COC forms, which are central to these procedures, are attached to all samples and their associated data throughout the tracking process.

## **FIELD CUSTODY PROCEDURES**

Field documentation will include sample labels, daily field activities logbook, and COC and analyses request forms. These documents will be filled out in indelible ink. Any corrections to the document will be made by drawing a line through the error and entering the correct value without obliterating the original entry. Persons correcting the original document will be expected to initial any changes made. The documents are as follows:





### Sample Labels

Labels will be used to identify samples. The label is made of a waterproof material with a water-resistant adhesive. The sample label, to be filled out using waterproof ink, will contain at least the following information: sampler's name, sample number, date, time, location, and preservative used.

### Field Log of Daily Activities

A field log will be used to record daily field activities. The project manager is responsible for making sure that a copy of the field log is sent to the project file as soon as each sampling round is completed. Field log entries will include the following:

- o field worker's name;
- o date and time data are entered;
- o location of activity;
- o personnel present on-site;
- o sampling and measurement methods;
- o total number of samples collected;
- o sample numbers;
- o sample distribution (laboratory);
- o field observations, comments;
- o sample preservation methods used, if any.

### Chain-of-Custody (and Analysis Request) Form

The COC form is filled out for groups of samples collected at a given location on a given day. The COC will be filled out in duplicate form, and will accompany, every shipment of samples to the respective analytical laboratories.

One copy will accompany the samples to the analytical laboratory. The second copy is kept in the ICES QA/QC file. The COC makes provision for documenting sample integrity and the identity of any persons involved in sample transfer. Other information entered on the COC includes:

- o project name and number;
- o project location;
- o sample number;
- o sampler's/recorder's signature;
- o date and time of collection;
- o collection location;
- o sample type;



- o number of sample containers for each sample;
- o analyses requested;
- o results of laboratory's inspection of the condition of each sample and the presence of headspace, upon receipt by the laboratory;
- o inclusive dates of possession;
- o name of person receiving the sample;
- o laboratory sample number;
- o date of sample receipt; and
- o address of analytical laboratory.