



Housing Authority of the  
County of Alameda

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**RECEIVED**

*By Alameda County Environmental Health at 4:01 pm, Dec 18, 2014*

December 16, 2014

Alameda County Environmental Health  
Local Oversight Program  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502

Attention: Mr. Mark Detterman

Re: 22941 Atherton Street, Hayward, CA  
ACEH Case File: RO#3152

Dear Mr. Detterman:

Please find enclosed the Data Gap Investigation Work Plan and Focused Conceptual Site Model, prepared by SCA Environmental, Inc. (SCA). We believe SCA to be experienced and qualified to advise us in a technical area that requires a high degree of professional expertise. Therefore, we have relied upon SCA's assistance, knowledge, and expertise in their preparation of this Work Plan. I am unaware of any material inaccuracy in the information contained in the Work Plan or any violation of government guidelines that are applicable to the Work Plan.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

A handwritten signature in black ink, appearing to read 'Christine Gouig', is written over a faint, illegible stamp.

Christine Gouig  
Executive Director



**ENVIRONMENTAL, INC.**

December 10, 2014

Mr. Mark Detterman, P.G., C.E.G  
Alameda County Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

RE: Data Gap Investigation Work Plan and Focused Conceptual Site Model  
Housing Authority of the County of Alameda Property  
22941 Atherton Street, Hayward, California  
SCA Project No: B11167.04

Dear Mr. Detterman:

With this letter SCA Environmental, Inc. (SCA) presents this Data Gap Investigation Work Plan to complete a soil and groundwater investigation at the subject property. This report was prepared on behalf of the Housing Authority of the County of Alameda (HACA), the current property owner. The purpose of the proposed investigation is to evaluate hydrocarbon impacts to soil and groundwater at the Site. This Work Plan was prepared to address the Alameda County Environmental Health (ACEH) letter dated November 19, 2014.

## **BACKGROUND**

During recent building renovations, four single-walled steel underground storage tanks (USTs) were encountered near the northwestern portion of the existing HACA building. Three USTs were removed and disposed as hazardous waste. One 10,500 gallon UST was closed in-place. Data indicate that a release has occurred at the UST area. Based on field observations, SCA presumes that these USTs were used for diesel fuel and gasoline storage. No groundwater was encountered during UST removal activities.

Primary and reasonably accessible secondary sources of total petroleum hydrocarbon (TPH) contamination in soil were removed. No free phase hydrocarbons were observed however data indicate residual impacts of gasoline, diesel, and motor oil range hydrocarbons (TPHg, TPHd, and TPHmo) are present (up to 2,100 mg/kg, 5,700 mg/kg, and 3,100 mg/kg, respectively). Results of analyses detected no benzene, toluene, or MTBE in confirmation soil samples. Detected Naphthalene and Polycyclic Aromatic Hydrocarbon (PAH) concentrations do not exceed the Direct Contact Criteria for a Commercial, Industrial, and Utility Worker (Table 1) presented in the Regional Water Quality Control Board's (RWQCB) Low Threat Closure Policy (LTCP).

## **INVESTIGATION WORK PLAN**

SCA's investigation will be conducted using standard industry practices regarding worker health and safety (site-specific HSP and tailgate meetings), sample screening, sample collection and handling, chemical testing, and reporting. Prior to commencement of field work, SCA will obtain a drilling permit from the Alameda County Public Works Agency (ACPWA).

SCA will retain a private utility locating company to survey the proposed boring locations. SCA will notify ACEH and Underground Service Alert (USA) a minimum of three days (72 hours) prior to drilling. Drilling activities at the Site will be completed by a licensed C-57 drilling subcontractor using direct push drilling methods.

## **Soil and Groundwater Investigation**

Based on our review of recent groundwater monitoring reports available through the SWRCB's GeoTracker database (see attached Table 1 - Initial Site Conceptual Model) groundwater at the Site is anticipated to be encountered at depths between 55-65 feet bgs. Groundwater flow direction is also anticipated to be toward the southwest.

SCA proposes to complete six (6) borings to evaluate soil and groundwater conditions at the Site. Borings locations are illustrated on the attached Figure 1, and may be adjusted based on accessibility and proximity to existing utilities. The proposed rationale and chemical testing for each boring location is presented in the attached Table 2 – Data Gaps and Proposed Investigation.

SCA's field staff will screen soil samples with a photo-ionization detector (PID) and log each boring in accordance with the Unified Soil Classification System (USCS). Soil samples will be collected using stainless steel or clear acetate liners, sealed with Teflon sheets and plastic end caps, and stored in an ice-chilled cooler pending delivery to the chemical testing laboratory. All drill rods and sampling equipment will be cleaned before and after use to reduce potential cross-contamination between sampling locations.

Upon completion of soil sampling, 1-inch diameter slotted PVC well casing will be installed in each boring to facilitate groundwater sampling. Groundwater samples will be obtained using new disposable bailers and decanted into laboratory prepared containers. Grab groundwater samples will be labeled and stored in a chilled ice chest, and will be transported under chain-of-custody documentation to a state-certified laboratory for testing. Upon completion of sampling, the PVC casings will be removed and the borings will be sealed with neat cement grout according to permit requirements.

To conform with ACEH requirements, we have tabulated the Initial Conceptual Site Model (CSM), and Data Gaps and Proposed Investigation (Tables 1 and 2) describing the Site setting, data gaps, proposed investigation, rationale, and chemical analyses proposed for this investigation.

## **Waste Management**

All investigation-derived waste, including soil cuttings and decontamination water, will be placed in DOT-approved 55 gallon drums, which will be labeled, and temporarily stored onsite pending offsite disposal. SCA will complete a waste profile for the drums, and coordinate pickup and disposal of the waste following our investigation.

## **Schedule and Reporting**

SCA is prepared to proceed with the investigation described herein upon receiving ACEH approval of this Work Plan, and subject to driller availability and procuring the necessary permits. We anticipate that the field investigation will be completed over a two-day period.

SCA will provide ACEH with a report approximately five to six weeks following the completion of the investigation described herein. The report will summarize the field activities and observations, tabulate the results of analyses, include an updated the CSM, and identify any remaining data gaps. Results will be compared to the Cal-EPA's California Human Health Screening Levels (CHHSLs) and/or Environmental Screening Levels (ESLs) issued by the

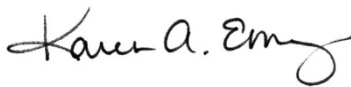
RWQCB, as appropriate, and the General and Media-Specific criteria listed in the RWQCB's LTCP. Copies of the laboratory reports will also be attached. Results of that investigation will be used to evaluate whether the Site is suitable for regulatory case closure using Low Threat Closure protocols or requires additional investigation.

### CLOSING

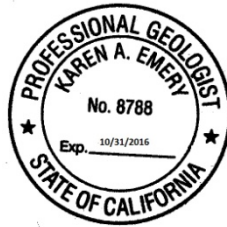
On behalf of the owner, SCA respectfully requests your concurrence with this Work Plan. If you have any questions regarding this Work Plan, please feel free to contact the undersigned.

Sincerely,

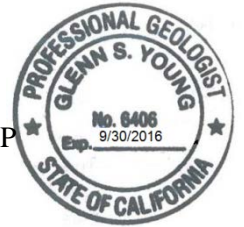
SCA ENVIRONMENTAL, INC.



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Attachments:

Table 1: Initial Conceptual Site Model  
Table 2: Data Gaps and Proposed Investigation  
Figure 1: Site Map

Table 1  
Initial Conceptual Site Model  
Housing Authority of the County of Alameda Property  
22941 Atherton Street  
Hayward, California

CSM Element	CSM Sub-Element	Description	Data Gap	How to Address
Geology and Hydrogeology	Regional	<p><b>Geology:</b> The geologic map titled Geologic Map of the Hayward 7.5 minute Quadrangle, Contra Costa and Alameda Counties, California maps the Site as Surficial Sediments (Qa) of Holocene age. These surficial deposits consist of alluvial gravel, sand and clay of valley areas, including gravel and sand of major stream channels. Regional geology consists of clay with discontinuous lenses of silt, sand, silty sand, sandy silt, sandy gravel and gravel to depths greater than 300 feet.</p> <p><b>Hydrogeology:</b> Investigation documents for the former Unocal Station #6049, located at 898 A Street in Hayward, California, approximately 0.4-miles north of the site were procured from the GeoTracker website. Depth to groundwater during the March 2014 groundwater monitoring event varied from 61.5 to 62.5 feet bgs. The groundwater flow direction for this event was toward the east with a relatively flat hydraulic gradient of 0.004 ft/ft, however, previous groundwater monitoring report for the years 2009-2013 indicate a groundwater flow direction at this facility that is generally to the southwest. Groundwater monitoring reports from 2005 for Chevron Station #9-2206, located at 24086 Mission Blvd., and approximately 0.2-miles east of the site were also reviewed. In 2005, depth to water measured in various wells varied between 17.8 and 52.5 feet bgs. Groundwater flow direction was to the southwest with a gradient of 0.2 ft/ft. It should be noted that the over 30 ft difference between groundwater depths may be attributed to a splay of the Hayward fault that traverses through that site. Depth to water measured in November 2013 at the former Arco Station #1319, located at 365 Jackson Street, approximately 0.3-miles south-southwest of the site, reported depth to water varying between 48.13 and 50.07 feet bgs, with a hydraulic gradient of 0.005 ft/ft to the southwest.</p>	None	NA
	Site	<p><b>Geology:</b> Observations during UST removal indicate that shallow soil comprises brown silty clay (CL). Geotechnical borings at the site were shallow (&lt;5') to evaluate pavement conditions.</p>	Site-specific soil conditions are limited to observations during UST removal.	Complete borings to evaluate shallow soil conditions.
		<p><b>Hydrogeology:</b> The TerraTech letter dated March 11, 1996 for the site indicates that the shallow groundwater gradient is toward the west-southwest.</p>	Site-specific depth to groundwater in unknown	Complete borings to evaluate depth to groundwater.
Surface Water Bodies:		Ward Ceek is located approximately 710 feet south of the Site.	None	NA
Nearby Wells		The SWQCB's Geotracker GAMA website includes information regarding the approximate locations of water supply wells in California. In the vicinity of the site, the closest identified water supply well is listed at USGS Well SF-39 located approximately 1.53 miles southwest of the site and a water supply well at the Holy Sepulchre Cemetery located approximately 1.6 miles southeast of the site. The nearest shallow monitoring wells are located along Mission Boulevard approximately 1,000 feet east of the Site.	A formal well survey is needed to identify water-supply wells, monitoring, cathodic protection, and dewatering wells.	If groundwater impacts are confirmed, obtain data for permitted wells from California Department of Water Resources and Zone 7 Water Agency.

Table 2  
 Data Gaps and Proposed Investigation  
 Housing Authority of the County of Alameda Property  
 22941 Atherton Street  
 Hayward, California

Item	Data Gap	Proposed Investigation	Rationale	Analysis
1	Evaluate the lateral and vertical extent of TPH impacts to shallow soil and groundwater near the source.	Complete three (3) probes near the former UST area.	<p>B-1 will be completed within the former UST area to a maximum depth of 65 feet bgs to evaluate vertical TPH impacts below the former UST.</p> <p>Boring B-5 and B-6 will be completed adjacent to the UST that was closed in-place to a depth of 20 feet bgs to evaluate the lateral TPH impacts adjacent to the UST source area.</p>	<p><b>Soil at B-1:</b> 1 sample from the vadose zone (below the UST, above the capillary zone) to be analyzed for TPHg, TPHd, TPHmo using EPA Test Method 8015m and BTEX using EPA Test Method 8021</p> <p><b>Soil at B-5 &amp; B-6:</b> 1 sample from each boring within the the upper 10 feet to be analyzed for TPHg, TPHd, TPHmo using EPA Test Method 8015m; BTEX using EPA Test Method 8021; Naphthalene and PAHs using EPA Test Method 8270 ; and 1 sample from collected between 10 and 20 feet bgs to be analyzed for TPHg, TPHd, TPHmo using EPA Test Method 8015m; BTEX using EPA Test Method 8021;</p> <p><b>Grab Groundwater at B-1:</b> TPHg, TPHd, TPHmo using EPA Test Method 8015m. BTEX and Naphthalene using EPA Test Method 8260.</p>
2	Evaluate the lateral extent of TPH impacts to soil and groundwater.	Complete B-2, B-3, and B-4 downgradient of the former UST. Collect soil samples from capillary zone and grab groundwater samples from each of the three (3) proposed borings.	Borings B-2 through B-4 will be completed to a maximum depth of 65 feet bgs. B-2 will completed approximately 65 feet west-southwest of the former USTs to evaluate shallow downgradient groundwater conditions. B-3 will be completed approximately 130 feet south of the former UST to evaluate shallow downgradient groundwater conditions. B-4 will completed approximately 75 feet west of the former UST to evaluate shallow downgradient groundwater conditions.	<p><b>Soil at B-2 through B-4:</b> 1 sample from the capillary zone from each boring to be analyzed for TPHg, TPHd, TPHmo using EPA Test Method 8015m and BTEX using EPA Test Method 8021</p> <p><b>Grab Groundwater at B-2 through B-4:</b> TPHg, TPHd, TPHmo using EPA Test Method 8015m. BTEX and Naphthalene using EPA Test Method 8260.</p>
3	Evaluate possible soil-vapor impacts to the building	Results of the groundwater investigation will be compared to the ESL for Groundwater Screening Levels for Evaluation of Potential for Vapor Intrusion listed in the RWQCB's ESL Guidance document (Table E-1).	Impacts to groundwater as well as soil types and strata specific to the site are as yet unknown. Exceedance of ESL criteria may warrant further investigation.	NA
4	Obtain information regarding subsurface structures and utilities that may serve as preferential migration pathways and sources.	None at this stage of the site investigation. This may be re-evaluated once the lateral extent of TPH in groundwater is determined.	No structures or utilities were encountered during UST removal activities. Shallow utilities installed during site improvement did not encounter contamination. The depth to groundwater is likely far deeper than structures and utilities at the Site.	NA

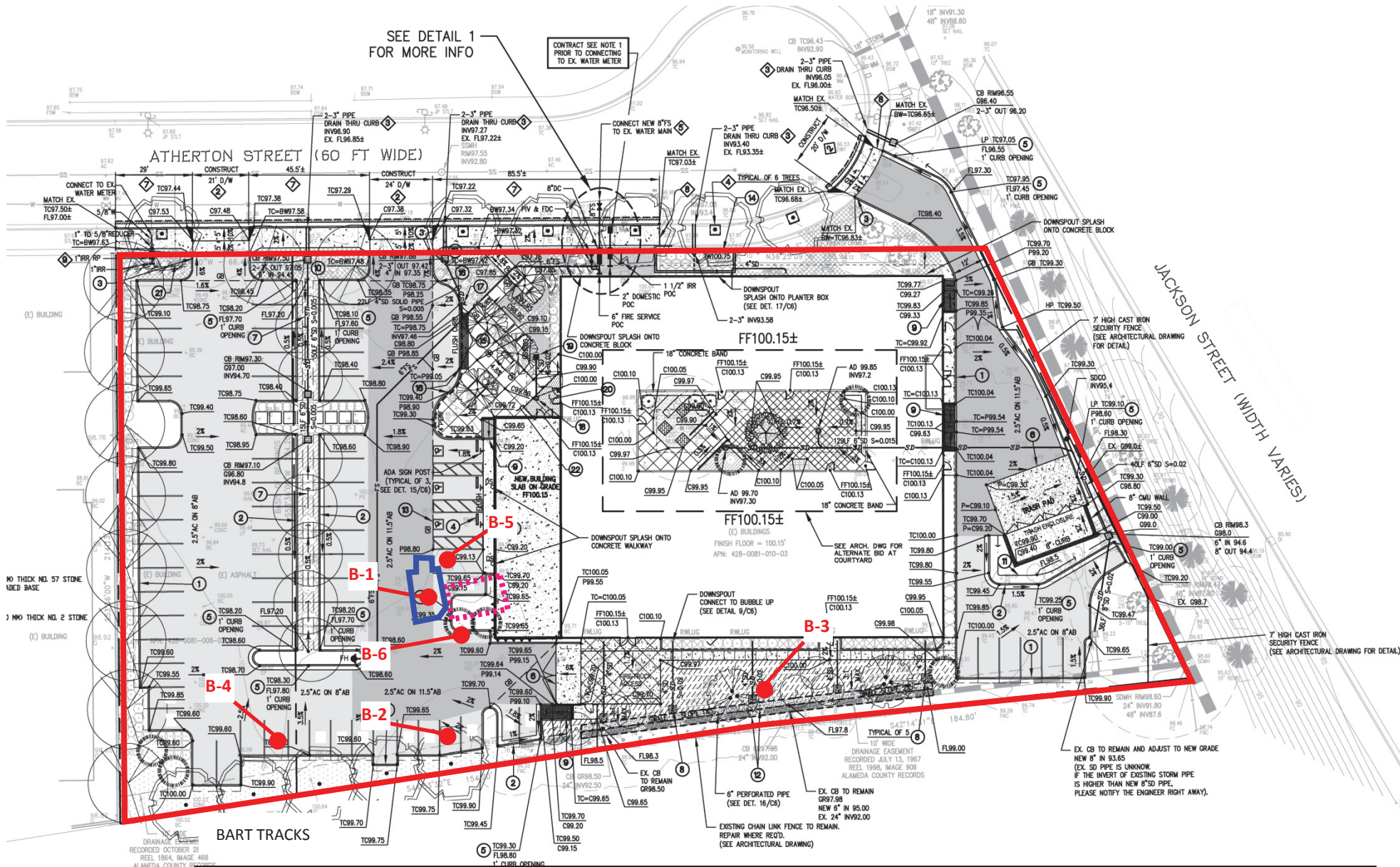

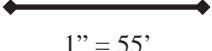





Image Source: Grading and Utility Plan, Alameda County Housing Authority, HACA Office Remodel, Underwood & Rosenblum, Inc., Sheet C3, 2013

	Approximate Site Boundary	North		<b>SITE MAP</b> Housing Authority of the County of Alameda 22941 Atherton Street Hayward, California SCA Project No.: B11167.04	<b>Figure 1</b>
	Approximate Former UST Area				
	Approximate Location of UST (closed in place)				
	Approximate Boring Location				

