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July 17, 2014

Mr. Keith Nowell
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

RE: Soil and Groundwater Management Plan
Former Union Oil Station No. 0843
1629 Webster Street, Alameda, California
Fuel Leak Case No.: RO0000450

Dear Mr. Nowell,

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

If you have any questions or need additional information, please contact me at (925) 790-6912.

Sincerely,

Nicole Arceneaux
Union Oil of California – Project Manager

Attachment
Soil and Groundwater Management Plan

ARCADIS
Infrastructure · Water · Environment · Buildings

Imagine the result

Chevron Environmental Management Company

Soil and Groundwater Management Plan

Former Union Oil Service Station No. 0843
1629 Webster Street, Alameda, California
Case No. RO0000450

July 17, 2014

ARCADIS

Laura Madsen
Project Geologist

Katherine Brandt, P.G.
Certified Project Manager

Soil and Groundwater Management Plan

Former Union Oil Station No. 0843
1629 Webster Street
Alameda, California
Case No. RO0000450

Prepared for:
Chevron Environmental Management Company

Prepared by:
ARCADIS U.S., Inc.
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Tel 510 652 4500
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Our Ref.:
B0047584.2014

Date:
July 17, 2014

ARCADIS

Table of Contents

Figures

1. Introduction

In response to a request from the Alameda County Department of Environmental Health ("ACEH") and on behalf of Chevron Environmental Management Company ("CEMC") and its affiliate, Union Oil Company of California ("Union Oil"), ARCADIS U.S., Inc. (ARCADIS) has prepared this Soil and Groundwater Management Plan (SGMP) for the property located at 1629 Webster Street, Alameda, Alameda County, California (the "Site"). The Site may contain petroleum hydrocarbon-impacted soil or groundwater associated with Union Oil's former operations that could be encountered during construction activities. The purpose of this SGMP is to provide recommended procedures for evaluating and managing impacted soil that may be uncovered during construction activities.

2. SGMP Background

2.1 Site Description and Planned Development

The Site is identified as Assessor's Parcel Number (APN) 074-0430-001-01, and is owned by Michelle and Sam Koka (Figure 1). The Site currently is used for commercial parking and is undeveloped with no structures. All USTs, dispenser islands, and associated product piping were removed when the service station was decommissioned in 1998. Property in the immediate vicinity of the Site is mixed-use residential and commercial. The Site is bounded to the north by Pacific Avenue, to the east by Webster Street, and to the south and west by commercial property. Ten groundwater monitoring wells (MW-1, MW-1AR, MW-1BR, MW-3, MW-4, and MW-7 through MW-11) currently are associated with the Site (Figure 2).

Proposed future development of the property consists of a two story mixed-use building including ground floor retail; and two residential units, and a storage/office space on the second floor. The proposed development does not include plans for sub-terrain parking or basements.

2.2 Summary of Environmental Conditions

Petroleum hydrocarbons have been detected in the soil and groundwater at the Site. Investigation and cleanup activities have been performed under the oversight of ACEH. Several excavations have been completed to remove the source material and new impacts are not anticipated to be encountered during construction activities.

2.2.1 Environmental Investigation Summary

The Site was decommissioned in June 1998 and two gasoline underground storage tanks (USTs), one waste oil UST, and associated product lines and fuel dispensers were removed at that time. Holes were observed in the waste oil tank and approximately 338 tons of hydrocarbon impacted soil and backfill were excavated from the area where the waste oil tank was located. Site investigation commenced with six soil borings (four onsite and two offsite) advanced and completed as monitoring wells in 1999.

An underground utility survey was performed in March 2001 to identify possible preferential flow pathways caused by utility corridors. Between May and December 2001, 17 direct-push soil borings were advanced to evaluate preferential pathways and to assess the extent of residual hydrocarbons in the vadose zone. Approximately 292 tons of impacted soil were excavated from beneath the former eastern dispenser island, and one replacement well was installed in 2002. During 2008 and 2009, one soil boring, seven groundwater monitoring wells, and one injection well were installed, and one replacement monitoring well was abandoned. A daily ozone injection feasibility test was performed in September 2009. In January 2011, five investigative GeoProbe soil borings were advanced. Monitoring well locations and site features are presented in Figure 2.

ACEH requested preparation of this SGMP in an email dated January 28, 2014, following a meeting with the property owners, CEMC, ACEH, and ARCADIS. No Further Action (NFA) and Site closure will likely be achieved by the end of 2014 following completion of verification monitoring for methyl tertiary butyl ether (MTBE) in deep groundwater.

2.3 Chemicals of Potential Concern

The primary COPC for the Site is MTBE for both soil and groundwater. The groundwater analytical results from the most recent sampling event conducted in February 2014 showed that only MTBE was detected at elevated concentrations. Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g) by United States Environmental Protection Agency (EPA) Method 8015B; benzene, toluene, ethylbenzene, and total xylenes (BTEX, collectively), oxygenates (MTBE, ethyl tertiary butyl ether [ETBE], di-isopropyl ether [DIPE], tertiary amyl methyl ether [TAME], tertiary butyl alcohol [TBA]), 1,2-dibromoethane (EDB), 1,2-

dichloroethane (1,2-DCE or EDC), and ethanol by EPA Method 8260B. None of these constituents was detected above the laboratory reporting limit.

2.4 Site Geology

During previous investigation activities, borings were advanced to a maximum depth of 55 feet below ground surface (bgs). The Site is underlain by poorly-graded and well-graded sands and silty sands, with interbedded silt and clay lenses less than 2 feet in thickness.

2.5 Site Hydrogeology

Quarterly/Semi-annual groundwater monitoring and reporting have been conducted at the Site since March 1999. Data from these monitoring events show that static depth to groundwater varies from approximately 4.5 feet bgs to 10 feet bgs. The groundwater elevation has increased in Site monitoring wells by approximately 4 feet since late 2008. Groundwater seasonal fluctuation varies by less than 2 feet. The groundwater flow direction is generally to the north-northeast with infrequent variations to the northwest.

3. Soil and Groundwater Management

This section outlines the process to identify and manage potentially impacted soil and/or groundwater that may be encountered during construction activities, including but not limited to:

- Surfacing, excavation, trenching, and grading;
- Subsurface utility installation, maintenance, or repair;
- Construction of the building foundation;
- Other subsurface work; and
- Landscaping.

3.1 SGMP Applicability

Construction contractors (Contractors and Subcontractors) performing any construction work which disturbs the soil on Site should follow the soil and groundwater management protocols presented in this SGMP. Additionally, if workers observe potentially impacted soil or groundwater while performing construction work, they should follow the protocols set forth in this plan.

3.2 Risk Management

Described below are the risk management procedures that should be followed prior to starting and during any construction activities. These procedures include pre-planning/notification, health and safety requirements and construction measures to minimize impacts to the surrounding area during construction.

3.2.1 Pre-Construction Planning and Notification

Prior to the initiation of any work disturbing the soil, such as, for example, grading, excavation, or trenching, a copy of this SGMP should be provided to the Contractors for their review. Contractors should provide this document to their Subcontractors for their review.

3.2.2 Site-Specific Health and Safety Worker Requirements

Contractors will be responsible for the health and safety of their own workers as required by the Occupational Safety and Health Administration (OSHA). Contractors will also prepare a health and safety plan (HASP) prior to starting any work. The HASP will provide information regarding the various hazards a worker might encounter during construction activities, guidelines for mitigating and monitoring for potential chemical exposure to construction workers, and emergency and safety procedures. Contractors will be responsible for determining the requirements for worker training based on the level of contact to potentially impacted soil and groundwater and the types of activities the workers will be performing.

3.2.3 Construction Impact Mitigation Measures

Mitigation measures (specifically site control, equipment decontamination, using personal protective equipment (PPE), dust control, and storm water runoff management) should be taken to minimize impacts during construction. Each mitigation measure is described below.

3.2.3.1 Site Control

The Contractor should provide site control measures such as fencing to ensure the Site is controlled against unauthorized personnel entering the property during construction activities. The Contractor should limit access to the Site during construction work by posting signs at all entrances instructing visitors to sign in at designated areas.

3.2.3.2 Equipment Decontamination

Equipment decontamination procedures should be implemented to prevent potentially impacted soils transferring offsite. Suggested decontamination practices include but are not limited to placing gravel at Site entrances and exits to knock off soils from vehicles before leaving the Site, and routing traffic in the construction work zone around any exposed soil stockpiles to prevent vehicles from driving on potentially impacted soils. Additionally, excess soil should be removed from equipment by brushing or scraping before removing it from the Site.

3.2.3.3 Personal Protective Equipment

PPE is used to protect the worker from contact with COPCs and other physical hazards while conducting work. The minimum level of PPE that should be used is Level D. Based on the type of work to be completed, the Contractor should evaluate and modify if necessary the list of suggested PPE below based upon the Contractor's own HASP.

- Long sleeved shirt, long pants or coveralls;
- Level II reflective safety vest;
- Steel-toed boots;
- Hard hat;
- Safety glasses or goggles;
- Appropriate work gloves such as leather or cut-resistant; and
- Hearing protection

3.2.3.4 Dust Control

Dust emissions may result from excavation and grading activities, vehicle or equipment movement, wind blowing across the Site or over soil stockpiles, and loading or unloading of soil. Dust control would minimize worker exposure to dust containing COPCs and reduce off-Site migration of both COPCs and nuisance dust. During earthwork activities dust control measures should be implemented to mitigate generation of visible dust into the air as follows:

- Application of water to the soils as needed during work activities;
- Limit the number soil disturbing activities being performed at one time;
- Minimize drop heights while loading or unloading soil;
- Sweep paved roadways near exit routes daily, or more frequently if necessary;
- Stop soil disturbing activities when wind speed is in excess of 25 miles per hour; and
- Limiting vehicle speeds on unpaved portions of the Site to 5 miles per hour.

Additional dust control measures may be required if air monitoring or observation shows that dust emissions from the Site exceed the legally permissible discharge limits established by state or local requirements. Follow all applicable local, state and federal permit conditions.

3.2.3.5 Storm Water Pollution Controls

Stormwater runoff from the Site during construction activities may contain sediments due to exposure of surface soils, excavations, and the modification of established drainage patterns. Contractors must file a Notice of Intent ("NOI") with the California State Water Resources Control Board and have a Storm Water Pollution Prevention Plan ("SWPPP"). Contractors and their Subcontractors should follow all procedures described in the SWPPP.

3.3 Groundwater Management Protocols

Depth to groundwater ranges at the Site from approximately 4.5 to 10 feet bgs, and may be encountered during construction activities. The sections below describe the protocols that should be taken if groundwater is encountered to ensure proper handling of potentially impacted groundwater.

3.3.1 Excavation Dewatering

Subsurface construction work may require the dewatering of excavations or trenches of any groundwater that may seep into, or storm water that accumulates into, the work areas. Prior to any water removal, a sample of the water should be collected and analyzed for COPCs to evaluate discharge alternatives. Groundwater or storm water may be disposed of in one of four ways:

- Reuse (reclamation) of extracted water onsite for dust control;
- Discharge to publicly owned treatment works (POTW) sanitary sewer system;
- Discharge to the storm drain system under a National Pollutant Discharge Elimination System (NPDES) permit;
- Off-haul to a permitted recycling facility.

Extracted water to be reused onsite must have concentrations of COPCs less than the Water Board's Environmental Screening Levels (ESLs) for fresh water. If this condition is not met, or if an ESL does not exist for a particular COPC, another disposal alternative should be evaluated. Samples of groundwater or storm water that is discharged under an NPDES permit should be analyzed, as required, by the conditions

of the permit. Samples of groundwater or storm water that is off-hauled to a permitted recycling facility should be analyzed for the COPC mentioned in Section 2.3. Groundwater or storm water hauled off-Site must be transported in accordance with federal, state, and local regulations under appropriate waste manifests and disposed of or recycled at a permitted facility. The Regional Water Quality Control Board (RWQCB), ACEH, ARCADIS and CEMC should be notified of the results of any groundwater or surface water sampling.

3.3.2 Groundwater Monitoring Wells

There are ten (10) groundwater monitoring wells which are used in an ongoing groundwater monitoring program at the Site (Figure 2). Onsite groundwater monitoring wells will be properly decommissioned prior to site redevelopment.

3.4 Soil Management Protocols

Potentially impacted soil may be encountered during construction activities. The sections below outline the recommended procedures to follow for monitoring and management of soils.

3.4.1 Soil Monitoring and Screening

If potentially impacted soil is observed (discolored soil or odors) during construction activities, work should be stopped immediately, the work area secured off using cones and caution tape to prevent accidental entry. Contractors should perform field screening of the potentially impacted soil.

Field screening should be conducted using the headspace method and a photo-ionization detector (PID) such as a MiniRae 2000 or equivalent. A small amount of the soil to be screened should be placed in a zip-top baggie, homogenized, and sealed. Allow a minimum of 10 minutes for headspace development before collecting any readings. After the development period, using the instrument probe quickly puncture the side of the baggie to a point approximately half of the headspace depth. Exercise care to avoid contact with any condensation droplets or soil particulates. The highest meter response should be recorded for each baggie as the headspace concentration. PID readings may be erratic due to very high organic vapor concentrations or conditions of elevated headspace moisture, in which case headspace data should be recorded and erratic meter response noted. All soil screening concentrations should be

recorded in a log book as a concentration of part per million (ppm), in addition to other observations as location of the screened soil, odor, and color.

Soil with headspace field screening concentrations of 5 ppm or greater should be collected and sent in for laboratory analysis to verify soil concentrations. Soil samples should be analyzed for COPCs and results may be rushed if appropriate based on construction activities. In the event soil samples are collected for laboratory analysis based on elevated PID readings, the Contractor should stop work in the area until the sampling results are received. If the COPC is detected additional investigation may be performed to determine nature and extent of impacts. Any additional investigations or remedial work will be coordinated between the property owner and the Contractor.

3.4.2 Management of Impacted Soil

Field screening and any subsequent sampling results should be used to characterize and evaluate the soil for proper handling and disposal. If the soil analytical results show the COPC concentration is below the applicable screening levels, the excavated soil may be reused on Site. Any soil with COPC concentrations above the screening levels should be characterized for offsite disposal. The frequency of samples collected for off-Site disposal shall be in accordance with specific landfill requirements, and analyzed in according to landfill-specific criteria.

Soil that has COPC concentrations above the screening levels should be kept separate from non-impacted soil. Any impacted soil that is excavated should be temporarily stock-piled on plastic sheeting and covered with plastic sheeting to prevent cross-contamination of impacts to clean soils. The temporary stockpile should be managed according to the SWPPP.

3.4.3 Import Fill

The Contractor should follow all import fill permit requirements and notify ACEH prior to importing any fill. Any imported fill must pass geotechnical requirements and must have results of comprehensive analytical testing to verify there are no contaminants present above the current residential environmental screening goals (unrestricted use criteria), and/or regional background concentrations.

4. Notification and Documentation

4.1 Key Contacts

Key Contacts for CEMC ACEH will be provided at the start of site redevelopment.

4.2 Notifications

CEMC requests that Michelle and Sam Koka or the current property owner(s) provide CEMC and ACEH with advance notice of plans to conduct construction activities that may encounter soil and groundwater. Advance notification is required in order to coordinate arrangements for costs the property owner may incur to properly address the impacted soil and/or groundwater. Cheryl Cameron of CEMC may be reached at 925-790-3377.

ACEH should be notified within 24 hours if suspected petroleum hydrocarbon-impacted soil or groundwater is encountered during construction activities, or any additional environmental conditions are encountered that may require action.

4.3 Documentation

CEMC may require documentation that clearly supports the need to remove the impacted soil from the Site due to petroleum hydrocarbons impacts.

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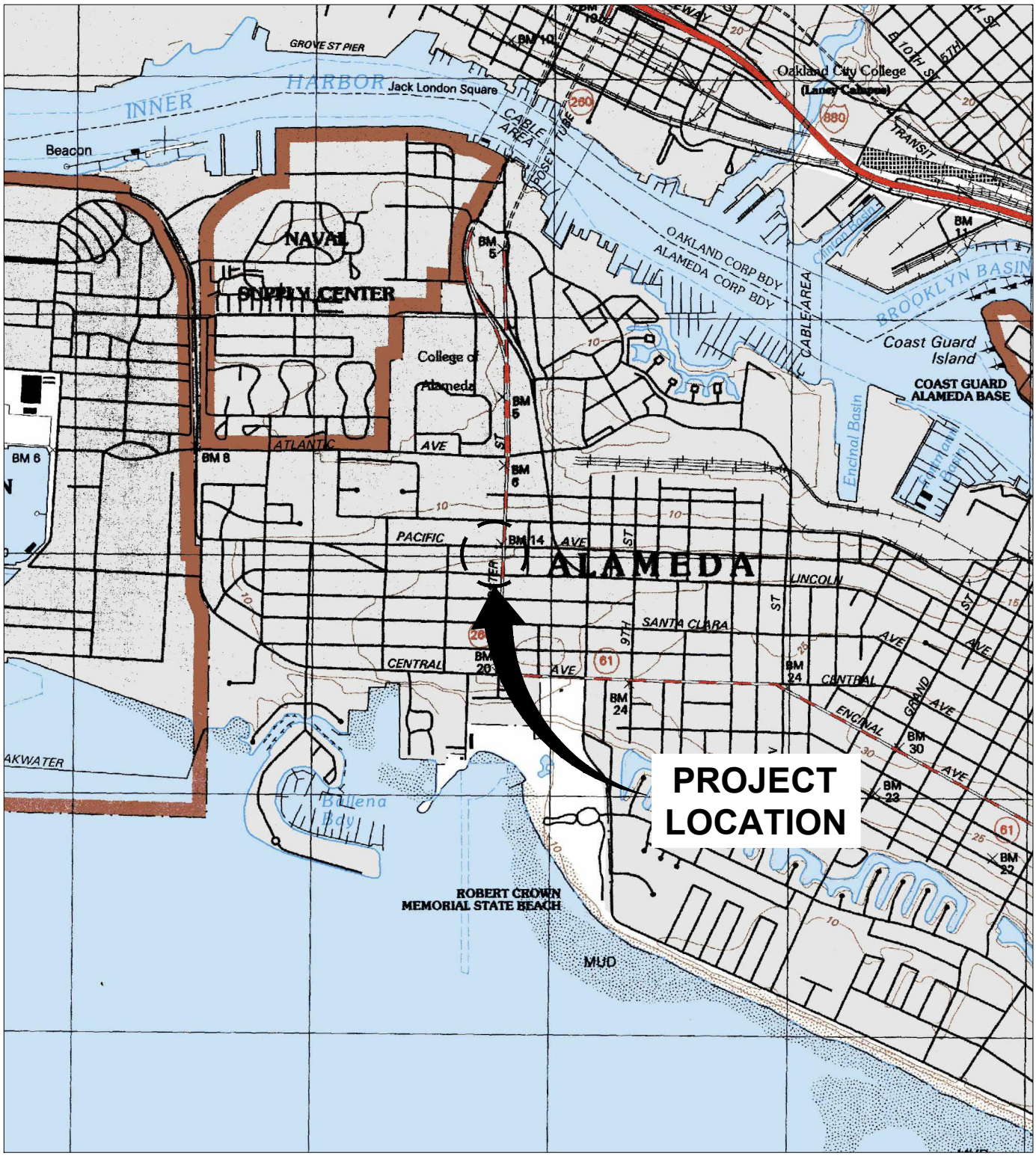
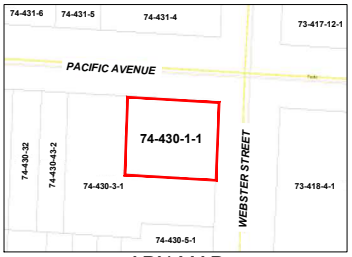
Figures



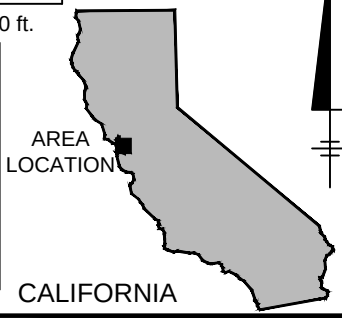
REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., OAKLAND WEST, CALIFORNIA, 1993.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



APN MAP



UNION OIL
FORMER FACILITY NO. 0843
1629 WEBSTER STREET
ALAMEDA, CALIFORNIA

VICINITY MAP

ARCADIS

FIGURE
1

XREFS: IMAGES: PROJECTNAME: ---
Oakland West.jpg

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENVCAD DB: J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B0047584\2014\0003\SMP\DWG\47584N01.dwg LAYOUT: 1 SAVED: 2/18/2014 1:27 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/18/2014 1:27 PM BY: HARRIS, JESSICA

VACANT

ALAMEDA ART CENTER

MW-6

SUBWAY

PACIFIC AVENUE

SIDEWALK

MW-3

MW-8

MW-4

FORMER DISPENSER ISLANDS

MW-7

FORMER USTs

MW-2A

MW-10

MW-9

SIDEWALK

FORMER 76 STATION 0843

MW-1BR

MW-11

BUILDING

MW-1AR

MW-1

SK AUTO REPAIR

MEXICAN RESTAURANT

PLANTER

S-3

S-4

WEBSTER STREET

HAWTHORNE SUITES, LTD. (FORMER GAS STATION)

LEGEND

- PROPERTY BOUNDARY
- MW-1 SITE MONITORING WELL (SHALLOW)
- MW-1 SITE MONITORING WELL (DEEP)
- S-3 SHELL SERVICE STATION MONITORING WELL (SHALLOW)
- MW-2A ABANDONED WELL
- APPROXIMATE LIMIT OF EXCAVATION (1999)
- APPROXIMATE LIMIT OF EXCAVATION (2002)

NOTES:

1. BASE MAP PROVIDED BY TRC, DATED AUGUST 2010, AT A SCALE OF 1"=60'. SHELL SERVICE STATION DATA PROVIDED BY CRA.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE. SOURCE: GOOGLE MAPS DATED 2012.

0 25' 50'

APPROXIMATE SCALE

UNION OIL
FORMER FACILITY NO. 0843
1629 WEBSTER STREET
ALAMEDA, CALIFORNIA

SITE MAP

ARCADIS

FIGURE 2

CITY: SAN RAFAEL, CA (PETALUMA) DIV/GROUP: ENV DB: J. HARRIS, B. ROBITAILLE, J. HARRIS
C:\Users\jharris\Desktop\ENVCAD\B004758\2014\00003\SMP\DWG\47584B01.dwg LAYOUT: 2 SAVED: 2/18/2014 1:30 PM ACADVER: 18.1S (LMS TECH) PAGESETUP: SETUP1 PLOTSTYLETABLE: ARCADIS.CTB PLOTTED: 2/18/2014 1:30 PM BY: HARRIS, JESSICA
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