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Alameda County Health Care Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

Re: Chevron Service Station No. 9-0020
1633 Harrison Street
Oakland, CA

I have reviewed the attached Work Plan Addendum dated July 9, 2010

I agree with the conclusions and recommendations presented in the referenced Work Plan Addendum. The information in this Work Plan Addendum is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This Work Plan Addendum was prepared by Conestoga-Rovers & Associates, upon whose assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

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

Sincerely,

Aaron Costa
Project Manager

Attachment: Work Plan Addendum

CONESTOGA-ROVERS
& ASSOCIATES

5900 Hollis Street, Suite A
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Telephone: (510) 420-0700 Fax: (510) 420-9170
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July 9, 2010 Reference No. 311956

Mr. Mark Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502 6577

Re: Work Plan Addendum for Monitoring Well Installation and Offsite Investigation
Former Chevron Station 9-0020
1633 Harrison Street
Oakland, California
Fuel Leak Case No. RO0000143

Dear Mr. Mark Detterman:

Conestoga-Rovers & Associates (CRA) is submitting this *Work Plan Addendum for Monitoring Well Installation and Offsite Investigation* on behalf of Chevron Environmental Management Company (Chevron) for the site referenced above (Figures 1 and 2). CRA has made several attempts, but has been unable to install monitoring well MW-17 and advance borings near well MW-16 as proposed in the June 11, 2009 *Work Plan for Monitoring Well Installation and Additional Offsite Investigation*. We have encountered several utilities that have affected well installation and boring advancement (Figure 3). To complete the offsite investigation, CRA proposes a final attempt to install MW-17 with direct-push methods, relocation of the two previously proposed borings near MW-16, and advancement of a boring in the parking lane along 17th Street, as requested by Alameda County Environmental Health (ACEH). Presented below is a timeline related to CRA's attempts to complete the offsite investigation and the changes to the proposed scope of work.

OFFSITE INVESTIGATION TIMELINE

Below is a summary of correspondence, submittals, and events related to the implementation of offsite investigation for the site:

- 05/05/2009 – Oakland Housing Authority (OHA), Christian Church Homes (CCH), ACEH, Chevron, and CRA meet to discuss offsite investigation. CRA will prepare a work plan which incorporates decisions made during the meeting.
- 06/11/2009 – CRA submits *Work Plan for Monitoring Well Installation and Additional Offsite Investigation*.

- 07/24/2009 – CRA submits *Work Plan for Additional Onsite Investigation.*
- 09/24/2009 –ACEH approves both work plans with technical comments, reports are due December 30, 2009.
- 10/14/2009 – CRA completes fieldwork for additional onsite investigation.
- 10/23/2009 – CRA is informed of the City of Oakland moratorium on work in public right-of-way through January 2, 2010 while trying to obtain a permit to access public right-of-way.
- 10/26/2009 – CRA collects additional onsite soil vapor samples for use in an updated Human Health Risk Assessment (HHRA).
- 10/27/2009 – CRA obtains permit for offsite investigation in public right-of-way after moratorium is over.
- 11/19/2009 – CRA requests deadline extension (e-mail) for offsite investigation report due to the holiday moratorium.
- 11/19/2009 – ACEH approves deadline extension (e-mail), offsite investigation report now due February 26, 2010.
- 12/30/2009 – CRA submits *Additional Onsite Investigation Report* including an updated HHRA.
- 01/02/2010 – City of Oakland lifts holiday moratorium.
- 01/05/2010 – CRA notifies ACEH (e-mail) of fieldwork scheduled for January 9 and 10, 2010.
- 01/05/2010 – Chevron contacts ACEH (e-mail) about offsite utilities posing a risk to contractors during well installation at proposed location. Chevron requests a discussion with ACEH to agree on an alternative.
- 01/05/2010 – ACEH responds (e-mail) that only a well installed adjacent to the site in the sidewalk or street adequately confirms the effectiveness of onsite remediation.
- 01/09/2010 – During field work CRA encounters an unmarked utility in the proposed MW-17 location. No alternative location is available given the proposed drilling method.
- 01/10/2010 – CRA attempts to advance soil borings near MW-16 and locates an unmarked natural gas utility. No safe alternative boring locations are available at the time.
- 01/11/2010 – CRA provides a synopsis (e-mail) of utility constraints to ACEH which prevented the completion of the offsite investigation.
- 01/14/2010 – ACEH requests updated utility map (e-mail) to assess site constraints before providing alternatives.
- 01/15/2010 – CRA provides ACEH an updated utility map (e-mail).
- 01/21/2010 – CRA provides ACEH a photo (e-mail) of the sidewalk corner near the intersection of 17th and Harrison Streets showing physical impediments to the installation of MW-17 in the alternate location.

- 01/26/2010 – CRA provides ACEH an updated site plan (e-mail).
- 01/26/2010 – OHA sends ACEH a letter referencing the May, 2007 meeting between ACEH, OHA, Chevron, and CRA during which, according to OHA, ACEH agreed that offsite and onsite issues would be distinguished such that continuing offsite investigation would not hinder onsite case resolution. OHA requests ACEH comment on the sufficiency of CRA's *Additional Onsite Investigation Report*.
- 02/01/2010 – ACEH reiterates its requirement of a well (MW-17) to "obtain repeatable verification that the remedial actions taken at the site had the intended effect." ACEH states that waiting for monitored natural attenuation in MW-16 is undesirable to all and asks about feasibility of sidewalk corner for well installation and about plans for offsite borings.
- 02/03/2010 – CRA supervises private utility mark out for alternate locations.
- 02/19/2010 – ACEH sends a letter agreeing with CRA that the second generation UST pit did not significantly affect the subsurface and requests a revised HHRA to include total petroleum hydrocarbons as gasoline (TPHg) analysis be submitted by April 30, 2010.
- 03/09/2010 – CRA submits a revised HHRA that concludes there are no vapor intrusion risks to future onsite residents.
- 03/15/2010 – Telephone meeting with OHA, ACEH, Chevron, and CRA to discuss options for MW-17 installation. ACEH requests Chevron to assess whether or not MW-17 can be installed in the sidewalk near the corner adjacent to the site.
- 04/22/2010 – OHA phones CRA to explain that their lawyers forbid MW-17 installation in sidewalks adjacent to the site. According to OHA, HUD funding requirements are not met if wells are installed in the sidewalk.

PROPOSED SCOPE OF WORK

CRA proposes using direct-push technology to safely avoid underground utilities and install monitoring well MW-17 in the previously proposed location (Figure 3). Based on two utility surveys, underground service alert (USA) markings, and field observations, no other feasible location exists in Harrison or 17th Streets. CRA proposes relocating the two proposed borings near MW-16 into the adjacent sidewalk. The borings could not be advanced at the previously proposed locations due to a natural gas utility. CRA still proposes a boring along 17th Street, as requested by ACEH (Figure 3). To install the proposed monitoring well and advance the three proposed borings, CRA will complete the following tasks, in addition to tasks previously proposed in the June 11, 2009 *Work Plan for Monitoring Well Installation and Additional Offsite Investigation*.

Permits
CRA will work with Alameda County Public Works Agency (ACPWA) to extend previously granted drilling permits. All work in the public right-of-way will be performed under the active City of Oakland encroachment- permit. A minimum of one week's notice will be given to OHA, ACEH, ACPWA, and the City of Oakland prior to beginning drilling activities.

Site Health and Safety Plan
CRA will amend the previously approved Site-Specific Health and Safety Plan to include the appropriate direct-push drilling safety documents. The plan will be reviewed and signed by all site workers and visitors and kept onsite during all field activities.

Underground Utility Location
CRA will contact Underground Service Alert to re-mark underground utilities at the site. The results of two recently performed private utility surveys will be reviewed prior to choosing the exact boring locations.

Borehole clearance
As required by Chevron and CRA safety policies, all boring locations will be cleared to at least 8 feet below grade (fbg) using an air-knife assisted vacuum truck and/or hand augers to expose any unmarked utilities prior to drilling. The MW-17 location will be cleared to 15 fbg to ensure sanitary and storm drain utilities are clear. Visual observations and City of Oakland utility maps indicate utilities in this location are as deep as 12 fbg.

Well Installation
After clearing to 15 fbg, the proposed boring will be advanced to approximately 30 fbg using a 2.25-inch outside diameter direct-push sampler lined with 4-foot long acetate liners, into undisturbed sediments to vertically delineate hydrocarbons in soil. Next, 3.5-inch outside diameter direct-push casing will be driven to approximately 30 fbg. The boring will be back-filled with bentonite chips within one foot of the screened interval. Well MW-17 will be constructed within the casing using 1-inch diameter schedule 40 PVC casing, with a 0.010-inch slotted screen from approximately 17 to 22 fbg. The filter pack will consist of Monterey #2/12 sand on top of bentonite from approximately 23 feet to 2 feet above the screened interval. A 2-foot hydrated bentonite seal will be placed above the sand pack and the remaining space will be filled with Portland Type II/V grout to approximately 1 fbg. The top of the well will be finished with a traffic-grade well box, which will be level with the existing surface. Well placement, final depth, and construction may be altered based on observations of hydrocarbons and hydrogeology. CRA's Standard Field Procedure for Soil Boring and Monitoring Well Installation is included as Attachment A.

Direct-Push Soil Borings
Two soil borings will be advanced in the sidewalk near well MW-16, and one soil boring will be advanced in the northern parking lane of 17th Street to a depth of approximately 30 fbg. Exact boring locations will be based on utility constraints. Boring depths will be extended 5 feet below indications of hydrocarbons. After utility clearance, the borings will be advanced using a 2.25-inch outside diameter direct-push sampler lined with 4-foot long acetate liners into undisturbed sediments. Upon completion, the borings will be backfilled to grade with Portland Type II/V grout using a tremie pipe and patched to match the existing surface.

Soil Sampling Protocol
Soil samples will be collected for laboratory analysis at approximately 5-foot intervals, at obvious changes in soils, at the capillary fringe, in the saturated zone and where field screening indicates possible hydrocarbon concentrations, to the bottom of the boring. Soil will be field-screened using a photo-ionization detector (PID) and visual observations. CRA geologists will log collected soils using the ASTM D2488-06 Unified Soil Classification System. In order to perform safe utility clearance, all shallow soil samples will be collected from hand-augers and will be classified as disturbed samples. All samples will be sealed, capped, labeled, logged on a chain-of-custody form, placed on ice, and transported to a Chevron and State-approved laboratory for analysis.

Grab-Groundwater Sampling Protocol
Grab-groundwater samples will be collected for laboratory analysis from first encountered groundwater in each soil boring. Groundwater samples will be collected from steam-cleaned stainless steel or disposable bailers and decanted into the appropriate laboratory-provided containers. Samples will be labeled, placed on ice and transported under chain-of-custody to a Chevron- and State-approved laboratory for analysis. Groundwater samples will only be collected from MW-17 after well development.

Chemical Analysis
Soil and grab-groundwater samples will be analyzed for the following:
- Total Petroleum Hydrocarbons as diesel (TPHd) by EPA Method 8015 modified with silica-gel cleanup.
- Total Petroleum Hydrocarbons as gasoline (TPHg) by EPA Method 8015 modified
- Benzene, toluene, ethylbenzene, xylenes (BTEX), and methyl tertiary-butyl ether (MTBE) by EPA Method 8260B.

Waste Disposal
Soil cuttings and purge water will be placed in drums, labeled appropriately, and stored onsite. These wastes will be transported to the appropriate Chevron-approved disposal facility following receipt of analytical profile results.

Well Development and Sampling
MW-17 will be developed at least 72 hours after installation using agitation and extraction. Groundwater sampling will occur at least 48 hours after well development and will continue on a quarterly basis for one year. Blaine Tech Services, Inc. of San Jose, California will develop and sample the well.

Well Elevation Survey
The well latitude, longitude, and top-of-casing elevation will be surveyed with respect to mean sea level by a California Licensed Surveyor. The survey will comply with applicable Geotracker™ guidelines.

Reporting
Upon completion of field activities and review of the analytical results, CRA will prepare an investigation report that, at a minimum, will contain:

- Descriptions of the drilling and sampling methods
- Boring logs
- Tabulated soil and groundwater analytical results
- Analytical reports and chain-of-custody forms
- Soil disposal details
- An evaluation of the extent of hydrocarbons in the subsurface
- Conclusions and recommendations

SCHEDULE

CRA will proceed with the proposed scope of work upon receipt of written approval from ACEH. After approval, CRA will obtain the necessary permits and schedule the subcontractors at their earliest availability. We will submit our investigation report approximately eight weeks after completion of field activities

CONESTOGA-ROVERS & ASSOCIATES

July 9, 2010 Reference No. 311956

We appreciate the opportunity to work with you on this project. Please contact Nathan Lee at (510) 420-3333 or nlee@craworld.com if you have any questions or comments regarding this report.

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Ian Hull Brandon S. Wilken, P.G. #7564

IH/doh/3
Encl.

Figure 1	Vicinity Map
Figure 2	Site Plan with Soil Boring Locations
Figure 3	Site Plan with Proposed Well and Boring Locations

Attachment A	CRA's Standard Field Procedure for Soil Borings and Monitoring Well Installation

cc: Mr. Aaron Costa, Chevron Environmental Management Company
Mr. Shad Small, Oakland Housing Authority
Mr. Karl Lauff, Christian Church Homes
Ms. Jeriann Alexander, FugroWest

FIGURES

04/23/07

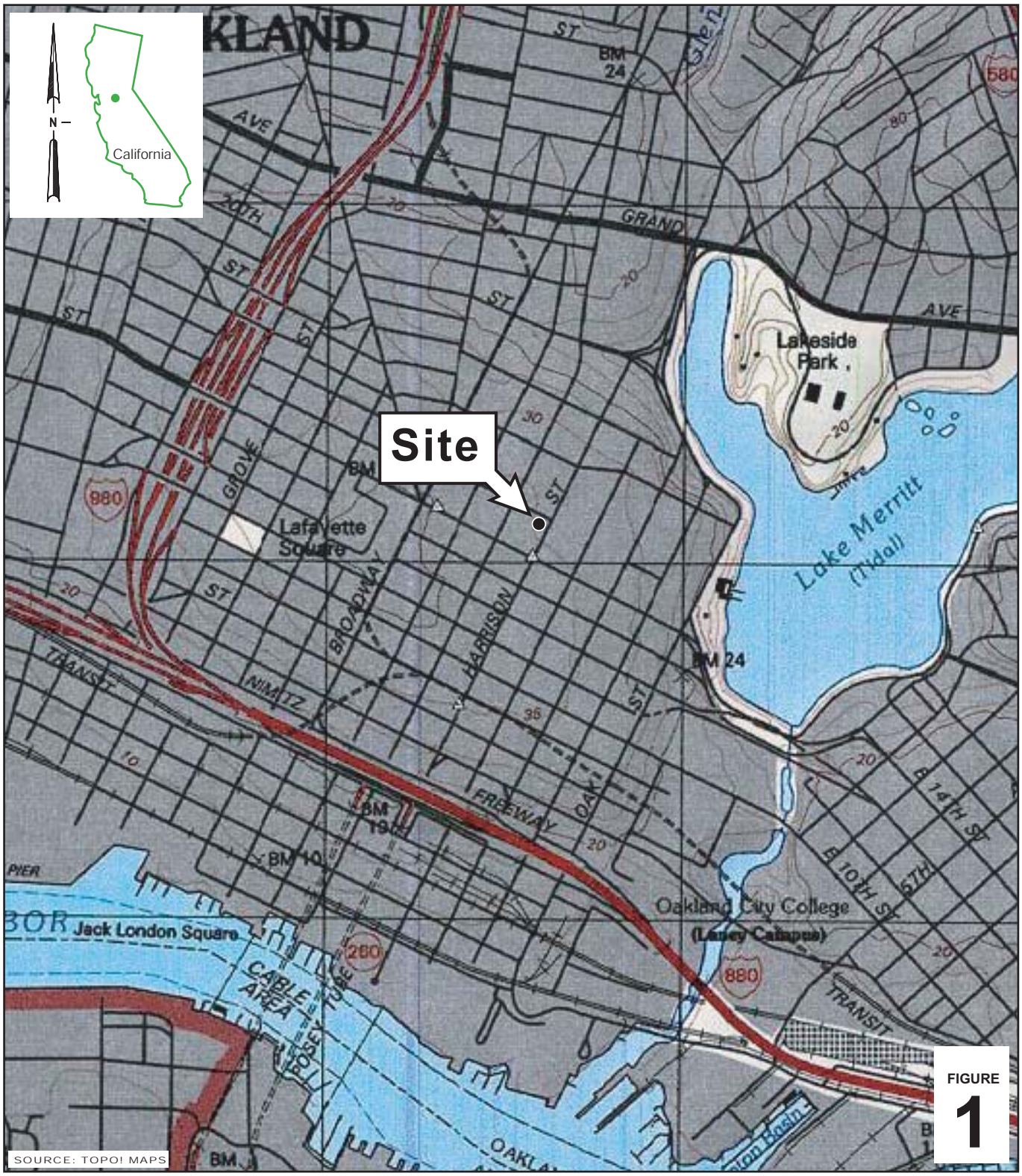

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FIGURE 1

0 1/8 1/4 1/2 1

SCALE : 1" = 1/4 MILE

Former Chevron Station 9-0020

1633 Harrison Street

Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

Figure 2

SITE PLAN WITH SOIL BORING LOCATIONS
FORMER CHEVRON STATION 9-0020
1633 HARRISON STREET
OAKLAND, CALIFORNIA

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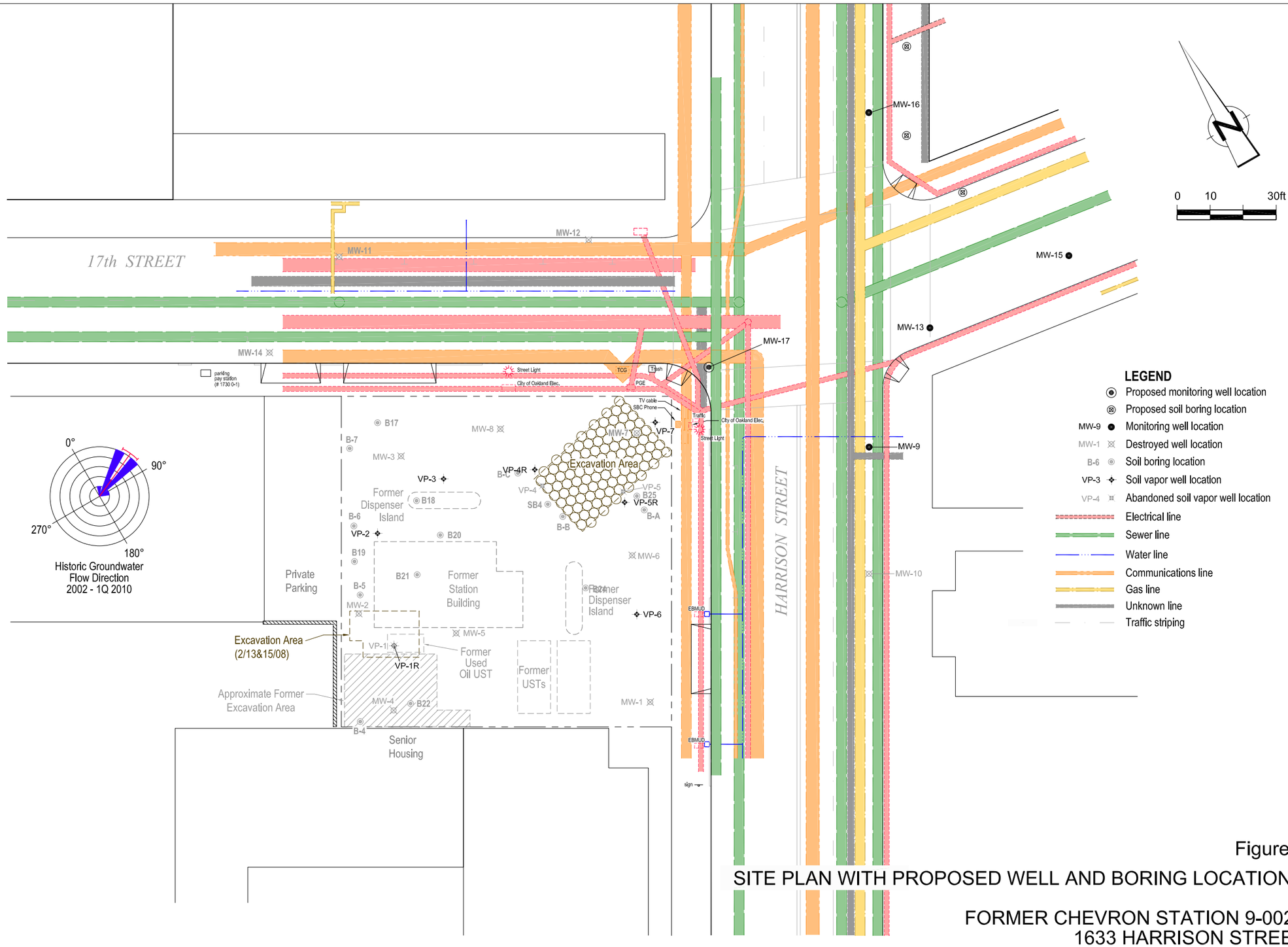

Figure 3

SITE PLAN WITH PROPOSED WELL AND BORING LOCATIONS

FORMER CHEVRON STATION 9-0020
1633 HARRISON STREET
Oakland, California

I:\CHEVRON\3119--\311956 9-0020 OAKLAND\311956-FIGURES\311956-EM003_UTILITY.DWG

ATTACHMENT A

CRA'S STANDARD FIELD PROCEDURE FOR SOIL BORING AND MONITORING WELL INSTALLATION

STANDARD FIELD PROCEDURES FOR MONITORING WELL INSTALLATION

This document presents standard field methods for drilling and sampling soil borings and installing, developing and sampling groundwater monitoring wells. These procedures are designed to comply with Federal, State and local regulatory guidelines. Specific field procedures are summarized below.

SOIL BORINGS

Objectives: Soil samples are collected to characterize subsurface lithology, assess whether the soils exhibit obvious hydrocarbon or other compound vapor or staining, and to collect samples for analysis at a State-certified laboratory. All borings are logged using the Unified Soil Classification System by a trained geologist working under the supervision of a California Professional Geologist (P.G.) or Professional Engineer (P.E.).

Soil Boring and Sampling: Soil borings are typically drilled using hollow-stem augers or direct-push technologies such as the Geoprobe®. Soil samples are collected at least every five feet to characterize the subsurface sediments and for possible chemical analysis. Additional soil samples are collected near the water table and at lithologic changes. Samples are collected using lined split-barrel or equivalent samplers driven into undisturbed sediments at the bottom of the borehole.

Drilling and sampling equipment is steam-cleaned prior to drilling and between borings to prevent cross-contamination. Sampling equipment is washed between samples with trisodium phosphate or an equivalent EPA-approved detergent.

Sample Analysis: Sampling tubes chosen for analysis are trimmed of excess soil and capped with Teflon tape and plastic end caps. Soil samples are labeled and stored at or below 4° C on either crushed or dry ice, depending upon local regulations. Samples are transported under chain-of-custody to a State-certified analytic laboratory.

Field Screening: One of the remaining tubes is partially emptied leaving about one-third of the soil in the tube. The tube is capped with plastic end caps and set aside to allow hydrocarbons to volatilize from the soil. After 10 to 15 minutes, a portable volatile vapor analyzer measures volatile hydrocarbon vapor concentrations in the tube headspace, extracting the vapor through a slit in the cap. Volatile vapor analyzer measurements are used along with the field observations, odors, stratigraphy and groundwater depth to select soil samples for analysis.

Water Sampling: Water samples, if they are collected from the boring, are either collected using a driven Hydropunch® type sampler or are collected from the open borehole using bailers. The groundwater samples are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4°C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Grouting: If the borings are not completed as wells, the borings are filled to the ground surface with cement grout poured or pumped through a tremie pipe.

MONITORING WELL INSTALLATION, DEVELOPMENT AND SAMPLING

Well Construction and Surveying: Groundwater monitoring wells are installed to monitor groundwater quality and determine the groundwater elevation, flow direction and gradient. Well depths and screen lengths are based on groundwater depth, occurrence of hydrocarbons or other compounds in the borehole, stratigraphy and State and local regulatory guidelines. Well screens typically extend 10 to 15 feet below and 5 feet above the static water level at the time of drilling. However, the well screen will generally not extend into or through a clay layer that is at least three feet thick.

Well casing and screen are flush-threaded, Schedule 40 PVC. Screen slot size varies according to the sediments screened, but slots are generally 0.010 or 0.020 inches wide. A rinsed and graded sand occupies the annular space between the boring and the well screen to about one to two feet above the well screen. A two feet thick hydrated bentonite seal separates the sand from the overlying sanitary surface seal composed of Portland type I,II cement.

Well-heads are secured by locking well-caps inside traffic-rated vaults finished flush with the ground surface. A stovepipe may be installed between the well-head and the vault cap for additional security.

The well top-of-casing elevation is surveyed with respect to mean sea level and the well is surveyed for horizontal location with respect to an onsite or nearby offsite landmark.

Well Development: Wells are generally developed using a combination of groundwater surging and extraction. Surging agitates the groundwater and dislodges fine sediments from the sand pack. After about ten minutes of surging, groundwater is extracted from the well using bailing, pumping and/or reverse air-lifting through an eductor pipe to remove the sediments from the well. Surging and extraction continue until at least ten well-casing volumes of groundwater are extracted and the sediment volume in the groundwater is negligible. This process usually occurs prior to installing the sanitary surface seal to ensure sand pack stabilization. If development occurs after surface seal installation, then development occurs 24 to 72 hours after seal installation to ensure that the Portland cement has set up correctly.

All equipment is steam-cleaned prior to use and air used for air-lifting is filtered to prevent oil entrained in the compressed air from entering the well. Wells that are developed using air-lift evacuation are not sampled until at least 24 hours after they are developed.

Groundwater Sampling: Depending on local regulatory guidelines, three to four well-casing volumes of groundwater are purged prior to sampling. Purging continues until groundwater pH, conductivity, and temperature have stabilized. Groundwater samples are collected using bailers or pumps and are decanted into the appropriate containers supplied by the analytic laboratory. Samples are labeled, placed in protective foam sleeves, stored on crushed ice at or below 4^{o}C, and transported under chain-of-custody to the laboratory. Laboratory-supplied trip blanks accompany the samples and are analyzed to check for cross-contamination. An equipment blank may be analyzed if non-dedicated sampling equipment is used.

Waste Handling and Disposal: Soil cuttings from drilling activities are usually stockpiled onsite and covered by plastic sheeting. At least three individual soil samples are collected from the stockpiles and composited at the analytic laboratory. The composite sample is analyzed for the same constituents analyzed in the borehole samples in addition to any analytes required by the receiving disposal facility. Soil cuttings are transported by licensed waste haulers and disposed in secure, licensed facilities based on the composite analytic results.

Groundwater removed during development and sampling is typically stored onsite in sealed 55-gallon drums. Each drum is labeled with the drum number, date of generation, suspected contents, generator identification and consultant contact. Upon receipt of analytic results, the water is either pumped out using a vacuum truck for transport to a licensed waste treatment/disposal facility or the individual drums are picked up and transported to the waste facility where the drum contents are removed and disposed of appropriately.