

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

REBECCA GEBHART, Interim Director



DEPARTMENT OF ENVIRONMENTAL HEALTH
LOCAL OVERSIGHT PROGRAM (LOP)
For Hazardous Materials Releases
1131 HARBOR BAY PARKWAY
ALAMEDA, CA 94502
(510) 567-6700
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October 4, 2017

Revised

Mr. David Patten
Chevron Environmental Management Co.
6101 Bollinger Canyon Road
San Ramon, CA 94583
(Sent via electronic mail to:
drpatten@chevron.com)

Mr. Mark Hom and Anna Cheng
3135 Gibbons Drive
Alameda, CA, 94501-1749
(Sent via electronic mail to:
mark@galvinhom.com)

John Thompson
Address Unknown

Shirley & Ruben Cohen
Address Unknown

Gary & Jerri Fenstermaker
Address Unknown

Claire Cepollina & Fred Martini
Address Unknown

JL and Jane Bolton
Address Unknown

Subject: Request for Work Plan; Fuel Leak Case No. RO0000341; (Global ID # T0600100330);
Chevron #9-1153, (3126 Fernside Blvd), 3135 Gibbons Drive, Alameda, CA 94501

Dear Messrs. Patten and Hom, and Ms. Cheng:

Alameda County Department of Environmental Health (ACDEH) staff has reviewed the case file including the *Second Quarter 2017 Groundwater Monitoring and Sampling Report*, dated September 11, 2017. The report was prepared by and submitted on your behalf by GHD. Thank you for submitting the report.

Thank you also for attending the meeting held in our office on September 27, 2017. The intent of the meeting was to incorporate the current property owner's / home owner's thoughts into decisions concerning the site in regards to proceeding with mitigation rather than concurrent remediation and mitigation at the site, and to incorporate their thoughts and concerns, as well as those of the Chevron Environmental Management Company (CEMC), into the identification of potential Pathways to Closure for the site, and to review and incorporate recent data as summarized in our previous directive letter of June 27, 2017, and as further documented in the report referenced above, into the review process. Mr. Hom stated that his preference was to eliminate the disruption associated with remediation on a home with a family with children in school.

As previously communicated, the subject site is a former Chevron service station which was demolished in June 1986, and redeveloped in 1989 to a residential home in a residential and commercial neighborhood. The house contains a slab-on-grade garage, while a crawl space underlays living areas.

As background, the *Subsurface Investigation Data Report*, dated November 20, 2015, documented the installation of soil bores B-9 to B-15 in an effort to further characterize the southwestern and northwestern portions of the site, in particular with respect to exposure to residual benzene and ethylbenzene concentrations in soil. Concentrations of benzene up to 31 milligrams per kilogram (mg/kg) and ethylbenzene up to 180 mg/kg were documented in the 0 to 5 foot depth interval, as were concentrations of up to 6,000 mg/kg Total Petroleum Hydrocarbons as gasoline (TPHg) over an extensive area of the site outside of the footprint of the foundation of the house. Additionally a concentration of 247 mg/kg lead was detected at a depth of three feet below surface grade (bgs), while the residential Environmental Screening Level (ESL), as promulgated by the San Francisco Bay Regional Water Quality Control Board (RWQCB) is 80 mg/kg.

Due to the significant rainfall event of this past winter, the *First Quarter 2017 Groundwater Monitoring and Sampling Report* documented that the depth to groundwater at the site was artesian in one offsite well

(MW-5), while the remainder of the three onsite and five offsite wells ranged between 0.94 feet bgs and 2.69 feet bgs, with the majority of the water levels in the wells within 1 foot of the ground surface.

The *First Quarter 2017 Groundwater Monitoring and Sampling Report*, dated May 30, 2017, documented groundwater concentrations in onsite well C-1 that increased substantially from the previous groundwater sampling event in December 2016; up from 19,000 micrograms per liter (μl) to 67,000 μl TPHg, from 120 μl to 2,500 μl ethylbenzene, and from 120 μl to 7,300 μl total xylenes. Benzene concentrations decreased from 4,500 μl to 2,600 μl . Except for benzene these concentrations were the highest observed at the site in over seven years. Sheen and odor were noted on groundwater collected from well C-1 at a depth of 0.94 feet bgs. While Light Non-Aqueous Phased Liquids (LNAPL) had not been present in well C-1 for five quarters, LNAPL has previously and similarly disappeared and returned to as much as 1.23 feet of thickness in the well.

The most recent groundwater monitoring report, (*Second Quarter 2017 Groundwater Monitoring and Sampling Report*, as cited above), for the site documented the reappearance of LNAPL in well C-1 at a thickness of 0.18 feet. A groundwater sample was not collected. Depth to groundwater increased from 0.94 to 3.52 feet in the well.

Based on the review of the case file, ACDEH requests that you address the following technical comments and send us the documents requested below.

TECHNICAL COMMENTS

- 1) Conceptual Mitigation Plan and Vapor Intrusion Risk Evaluation, with an Updated Site Conceptual Model and Data Gap Work Plan** – An outcome of the meeting was the identification of future submittals. As discussed, ACDEH requests the generation and submittal of a detailed Conceptual Mitigation Plan (CMP), a Vapor Intrusion Risk Evaluation for the residential structure including the evaluation and identification of interim mitigation measures as short-term measures prior to the installation of final long-term mitigation measures, an updated Site Conceptual Model (SCM), identification of any data gaps, and concurrent submittal of a Data Gap Work Plan. The intent is to incorporate recent shallow groundwater levels and the return of mobile LNAPL at the site, into the array of conceptual proposed mitigation measures at the site in an effort to determine the appropriateness of the installation of the proposed mitigation measures in-lieu of undertaking both remediation and mitigation at the site. The document is intended to determine if mitigation alone, as is currently proposed, is appropriate at the site.

As discussed in the meeting, support for the CMP is requested to include, but is not limited to, groundwater hydrographs, existing development (structural) cross-sections relative to residual contamination depths and groundwater levels (See Attachment B), collection of additional soil, sub-slab, crawl space, and controlled indoor air vapor data during a higher groundwater stand (including stable worst-case “closed garage and door” indoor air conditions) to assess temporal vapor concentration trends, verification of the depth of groundwater in soil by the installation of very shallow wells / piezometers due to the potential for direct contact with contaminated groundwater or LNAPL during periods of very shallow groundwater, detailed home layout plans and cross-sections (including location of crawl space vents, electrical outlet locations, and etc.), identification of slab or crawl space utility penetrations (inclusive of subsurface utility mapping and depth determination, and utility lateral entry routes onto the property and into the structure) for screening, and calculation of attenuation factors, as appropriate.

Please also evaluate the effect of any proposed actions on the free-use of private property expected by homeowners at residential homes for the current and future property owners.

In order to expedite review, ACDEH requests the focused SCM be presented in a tabular format that highlights the major SCM elements and associated data gaps, which need to be addressed to progress the site to case closure. Please see Attachment A “Site Conceptual Model Requisite Elements”. Please

sequence activities in the proposed revised data gap investigation scope of work to enable efficient data collection in the fewest mobilizations possible.

Thus by the date identified below, please submit the CMP and Vapor Intrusion Risk Evaluation; with the concurrent generation of an Updated CSM and Data Gap Work Plan.

- 2) **Identification of Meeting Dates** – By the date identified below, please identify a range of dates for a meeting to discuss the submittals for all parties (including the current property owners).
- 3) **Quarterly Groundwater Monitoring** - Please continue to conduct quarterly groundwater monitoring at the subject site and submit report on the schedule listed below. As discussed in the meeting, if a sample of the LNAPL has not been collected, please collect and analyze the hydrocarbon product, and include the results in the next groundwater monitoring report.

SUBMITTAL ACKNOWLEDGEMENT STATEMENT

Please note that ACDEH has updated Attachment 1 with regard to report submittals to ACDEH. ACDEH will now be requiring a Submittal Acknowledgement Statement, replacing the Perjury Statement, as a cover letter signed by the Responsible Party (RP). The language for the Submittal Acknowledgement Statement is as follows:

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's Geotracker Website.

Please make this change to your submittals to ACDEH.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACDEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the specified file naming convention below, according to the following schedule:

- **December 15, 2017** – Third Quarter 2017 Groundwater Monitoring
File to be named: RO341_GWM_R_yyyy-mm-dd
- **January 26, 2018** – CMP and Vapor Intrusion Risk Evaluation; Concurrent SCM and Data Gap Work Plan; File to be named: RO341_SCM_WP_R_yyyy-mm-dd
- **February 16, 2018** – Potential Meeting Dates of All Responsible Parties
Email Notification to Case Worker
- **March 2, 2018** – Fourth Quarter 2017 Groundwater Monitoring
File to be named: RO341_GWM_R_yyyy-mm-dd
- **April 27, 2018** – Site Investigation Report
File to be named: RO341_SWI_R_yyyy-mm-dd

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

Online case files are available for review at the following website: <http://www.acgov.org/aceh/index.htm>.

Messrs. Patten and Hom, and Ms. Cheng
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If you have any questions, please call me at (510) 567-6876 or send me an electronic mail message at mark.detterman@acgov.org.

Sincerely,

A handwritten signature in blue ink that reads "Mark E. Detterman". The signature is stylized with a long horizontal stroke at the end.

Mark E. Detterman, PG, CEG
Senior Hazardous Materials Specialist

Enclosures: Attachment 1 – Responsible Party (ies) Legal Requirements / Obligations
Electronic Report Upload (ftp) Instructions

Attachment A – Site Conceptual Model Requisite Elements
Attachment B – Development Tool Set

cc: Kiersten Hoey, GHD, 5900 Hollis Street, Suite A, Emeryville, CA 94608
(Sent via electronic mail to: kiersten.hoey@ghd.com)

Dilan Roe, ACDEH, (Sent via electronic mail to: dilan.roe@acgov.org)
Paresh Khatri, ACDEH; (Sent via electronic mail to: paresh.khatri@acgov.org)
Mark Detterman, ACDEH, (Sent via electronic mail to: mark.detterman@acgov.org)
Electronic File; GeoTracker

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

Alameda County Department of Environmental Health's (ACDEH) Environmental Cleanup Oversight Programs, Local Oversight Program (LOP) and Site Cleanup Program (SCP) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program File Transfer Protocol (FTP) site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) GeoTracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and [other](#) data to the GeoTracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to SCP sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in GeoTracker (in PDF format). Please visit the SWRCB website (http://www.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/) for more information on these requirements.

ACKNOWLEDGEMENT STATEMENT

All work plans, technical reports, or technical documents submitted to ACDEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6731, 6735, and 7835) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately licensed or certified professional. For your submittal to be considered a valid technical report, you are to present site-specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this case meet this requirement. Additional information is available on the Board of Professional Engineers, Land Surveyors, and Geologists website at: <http://www.bpelsg.ca.gov/laws/index.shtml>.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, late reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Alameda County Environmental Cleanup Oversight Programs (LOP and SCP)	REVISION DATE: December 1, 2016
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010, July 25, 2010; May 15, 2014, November 29, 2016
SECTION: Miscellaneous Administrative Topics & Procedures	SUBJECT: Electronic Report Upload (ftp) Instructions

The Alameda County Environmental Cleanup Oversight Programs (LOP and SCP) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection.**
- It is **preferable** that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- **Signature pages and perjury statements must be included and have either original or electronic signature.**
- **Do not password protect the document.** Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. **Documents with password protection will not be accepted.**
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Submission Instructions

- 1) Obtain User Name and Password
 - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - i) Send an e-mail to deh.loptoxic@acgov.org.
 - b) In the subject line of your request, be sure to include "**ftp PASSWORD REQUEST**" and in the body of your request, include the **Contact Information, Site Addresses**, and the **Case Numbers (RO# available in Geotracker) you will be posting for.**
- 2) Upload Files to the ftp Site
 - a) Open File Explorer using the Windows  key + E keyboard shortcut.
 - i) Note: Netscape, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) On the address bar, type in ftp://alcoftp1.acgov.org.
 - c) Enter your User Name and Password. (Note: Both are Case Sensitive)
 - d) Click Log On.
 - e) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
 - f) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
 - a) Send email to deh.loptoxic@acgov.org notify us that you have placed a report on our ftp site.
 - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
 - c) The subject line of the e-mail must start with the RO# followed by **Report Upload**. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO#, use the street address instead.
 - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.

ATTACHMENT A

Site Conceptual Model Requisite Elements

The site conceptual model (SCM) is an essential decision-making and communication tool for all interested parties during the site characterization, remediation planning and implementation, and closure process. A SCM is a set of working hypotheses pertaining to all aspects of the contaminant release, including site geology, hydrogeology, release history, residual and dissolved contamination, attenuation mechanisms, pathways to nearby receptors, and likely magnitude of potential impacts to receptors.

The SCM is initially used to characterize the site and identify data gaps. As the investigation proceeds and the data gaps are filled, the working hypotheses are modified, and the overall SCM is refined and strengthened until it is said to be "validated". At this point, the focus of the SCM shifts from site characterization towards remedial technology evaluation and selection, and later remedy optimization, and forms the foundation for developing the most cost-effective corrective action plan to protect existing and potential receptors.

For ease of review, Alameda County Environmental Health (ACEH) requests utilization of tabular formats to (1) highlight the major SCM elements and their associated data gaps which need to be addressed to progress the site to case closure (see Table 4-1 of attached example), and (2) highlight the identified data gaps and proposed investigation activities (see Table 5-1 of the attached example). ACEH requests that the tables presenting the SCM elements, data gaps, and proposed investigation activities be updated as appropriate at each stage of the project and submitted with work plans, feasibility studies, corrective action plans, and requests for closures to support proposed work, conclusions, and/or recommendations.

The SCM should incorporate, but is not limited to, the topics listed below. Please support the SCM with the use of large-scaled maps and graphics, tables, and conceptual diagrams to illustrate key points. Please include an extended site map(s) utilizing an aerial photographic base map with sufficient resolution to show the facility, delineation of streets and property boundaries within the adjacent neighborhood, downgradient irrigation wells, and proposed locations of transects, monitoring wells, and soil vapor probes.

- a. Regional and local (on-site and off-site) geology and hydrogeology. Include a discussion of the surface geology (e.g., soil types, soil parameters, outcrops, faulting), subsurface geology (e.g., stratigraphy, continuity, and connectivity), and hydrogeology (e.g., water-bearing zones, hydrologic parameters, impermeable strata). Please include a structural contour map (top of unit) and isopach map for the aquitard that is presumed to separate your release from the deeper aquifer(s), cross sections, soil boring and monitoring well logs and locations, and copies of regional geologic maps.
- b. Analysis of the hydraulic flow system in the vicinity of the site. Include rose diagrams for depicting groundwater gradients. The rose diagram shall be plotted on groundwater elevation contour maps and updated in all future reports submitted for your site. Please address changes due to seasonal precipitation and groundwater pumping, and evaluate the potential interconnection between shallow and deep aquifers. Please include an analysis of vertical hydraulic gradients, and effects of pumping rates on hydraulic head from nearby water supply wells, if appropriate. Include hydraulic head in the different water bearing zones and hydrographs of all monitoring wells.
- c. Release history, including potential source(s) of releases, potential contaminants of concern (COC) associated with each potential release, confirmed source locations, confirmed release locations, and existing delineation of release areas. Address primary leak source(s) (e.g., a tank, sump, pipeline, etc.) and secondary sources (e.g., high-

Site Conceptual Model Requisite Elements (continued)

concentration contaminants in low-permeability lithologic soil units that sustain groundwater or vapor plumes). Include local and regional plan view maps that illustrate the location of sources (former facilities, piping, tanks, etc.).

- d. Plume (soil gas and groundwater) development and dynamics including aging of source(s), phase distribution (NAPL, dissolved, vapor, residual), diving plumes, attenuation mechanisms, migration routes, preferential pathways (geologic and anthropogenic), magnitude of chemicals of concern and spatial and temporal changes in concentrations, and contaminant fate and transport. Please refer to the *Preferential Pathway and Sensitive Preceptor Study* description on the next page. Please include three-dimensional plume maps for groundwater and two-dimensional soil vapor plume plan view maps to provide an accurate depiction of the contaminant distribution of each COC.
- e. Summary tables of chemical concentrations in different media (i.e., soil, groundwater, and soil vapor). Please include applicable environmental screening levels on all tables. Include graphs of contaminant concentrations versus time.
- f. Current and historic facility structures (e.g., buildings, drain systems, sewer systems, underground utilities, etc.) and physical features including topographical features (e.g., hills, gradients, surface vegetation, or pavement) and surface water features (e.g. routes of drainage ditches, links to water bodies). Please include current and historic site maps.
- g. Current and historic site operations/processes (e.g., parts cleaning, chemical storage areas, manufacturing, etc.).
- h. Other contaminant release sites in the vicinity of the site. Hydrogeologic and contaminant data from those sites may prove helpful in testing certain hypotheses for the SCM. Include a summary of work and technical findings from nearby release sites, including the two adjacent closed LUFT sites, (i.e., Montgomery Ward site and the Quest Laboratory site).
- i. Land uses and exposure scenarios on the facility and adjacent properties. Include beneficial resources (e.g., groundwater classification, wetlands, natural resources, etc.), resource use locations (e.g., water supply wells, surface water intakes), subpopulation types and locations (e.g., schools, hospitals, day care centers, etc.), exposure scenarios (e.g. residential, industrial, recreational, farming), and exposure pathways, and potential threat to sensitive receptors. Include an analysis of the contaminant volatilization from the subsurface to indoor/outdoor air exposure route (i.e., vapor pathway). Please include copies of Sanborn maps and aerial photographs, as appropriate. Please refer to the *Preferential Pathway and Sensitive Preceptor Study* description on the next page.
- j. Identification and listing of specific data gaps that require further investigation during subsequent phases of work. Proposed activities to investigate and fill data gaps identified.

Preferential Pathway and Sensitive Receptor Study

Please conduct a study as a part of the SCM requested in order to (1) locate potential anthropogenic migration pathways on and in the vicinity of the site that could spread contamination through vertical and lateral migration, and (2) identify exposure scenarios and sensitive receptors that are linked to site contamination through these preferential pathways. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b) including but not limited to the following components, as applicable to the site:

- a. **Utility Survey** - An evaluation of all existing subsurface utility lines, laterals, and trenches including sewers, electrical, fiber optic cable, cable, water, storm drains, trench backfill, etc. within and near the site and plume area(s). Please include an evaluation of shallow utilities associated with current and historical site operations/processes including UST systems, remediation systems, parts cleaning, sumps, etc.
- b. **Updated Well Survey** – ACEH requests that well data sources (Alameda County Public Works Agency [ACPWA] and Department of Water Resources [DWR]) be reviewed for more recently installed vicinity water supply wells. ACEH requests the identification of all active, inactive, standby, decommissioned (sealed with concrete), unrecorded, and abandoned (improperly decommissioned or lost) wells including monitoring, remediation, irrigation, water supply, industrial, livestock, dewatering, and cathodic protection wells within a ¼-mile radius of the subject site. Please inspect all available Well Completion Reports filed with the DWR and ACPWA in your survey, and perform a background study of the historical land uses of the site and properties in the vicinity of the site. Use the results of your background study to determine the existence of unrecorded/unknown (abandoned) wells, which can act as contaminant migration pathways at or from your site.
- c. **Land Uses and Exposure Scenarios on the Facility and Adjacent Properties** – The surrounding land use appears to be predominately agricultural; however, redevelopment of the site as a service station has been planned. Consequently, the identification of existing and future land use on and in the vicinity of the site is requested, including:
 - o Beneficial resources (e.g., groundwater classification, wetlands, surface water bodies, natural resources, etc.)
 - o Subpopulation types and locations (e.g., schools, hospitals, day care centers, elder care facilities, etc.)
 - o Exposure scenarios (e.g. residential, industrial, recreational, farming) and exposure pathways including those identified in the Low Threat Underground Storage Tank Case Closure Policy General Criteria h – Nuisance Conditions, and Media-Specific Criteria for Groundwater, Vapor Intrusion to Indoor Air, and Direct Contact and Outdoor Air Exposure
- d. **Planned Development** – Future development activities are planned in the vicinity of the site. Please include an analysis of new utility corridors, building foundations, wells, and/or development activities that could significantly alter contaminant migration (i.e., covering of large areas of the site with pavement, etc.).

Please synthesize this information and discuss your analysis and interpretation of the results of the preferential pathway and sensitive receptor study and incorporate into the requested SCM. Please provide the following supporting documentation and data as applicable:

- Copies of current and historical maps, such as site maps, Sanborn maps, aerial photographs, etc., used when conducting the background study.
- DWR well logs, marked as confidential, uploaded to Alameda County Environmental Health's ftp site. For confidentiality purposes do not upload the DWR well logs to Geotracker. The well logs will be placed in our confidential file and will be available only to internal staff for review.
- Table with details of the well search findings including Map ID corresponding to well location on map, State Well ID, Well Owner ID, approximate distance from the site, direction from the site, use, installation date, depth (feet below ground surface [bgs]), screened interval (feet bgs), sealed interval (feet bgs), diameter (inches), and well location address.
- Maps and geologic cross-sections illustrating historical groundwater elevations and flow directions (rose diagram) at the site. Synthesize the data requested above and include the location and depth of all utility lines, trenches, UST pits and piping trenches, wells, surface water bodies, foundational elements, surface covering types (pavement, landscaped, etc.) within and near the site and plume area(s), and the location of potential receptors.

**Table 4-1
Site Conceptual Model**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Regional	<p>As described by URS (2004), the lithology encountered in the subsurface beneath the Site during drilling activities consisted predominantly of a brown to greenish-gray silty clay with sand and gravel. The primary stratigraphic units at the Site are listed below, with the approximate ranges of depth (bgs) each unit was encountered across the Site:</p> <ul style="list-style-type: none"> • 0 to 5 feet bgs: The surface soil typically consisted of very dark-brown clay to dark-gray gravel fill, depending on whether the boring was in the vacant vegetated parcel (dark-brown clay), at 3860 MLK Jr. Way; or beneath the asphalt and concrete surfaces at the Lucky's Auto Body parcel at 3884 MLK Jr. Way (gravel fill). • 5 to 20 feet bgs: very dark-brown silty clay grades to a greenish-gray silty clay and brown silty clay and gravelly clay. <p>Groundwater was encountered in direct-push boreholes at an average depth of 17.2 feet bgs, with depths ranging from 16.2 to 19.6 feet bgs. This groundwater depth is not considered a stabilized groundwater depth, because it was not measured from appropriately constructed monitoring wells.</p>	None	NA

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
Geology and Hydrogeology	Site	<p>Regional groundwater in the Oakland area generally follows topography, from areas of higher elevation in the east toward lower elevation in the west and southwest. The groundwater flow direction in the vicinity of the Site is to the west towards San Francisco Bay (Arcadis, 2012).</p> <p>URS reviewed groundwater investigation reports from the ARCO #4931 station at 731 West MacArthur Boulevard, approximately 1,000 feet southwest of the Site (Arcadis, 2012). The depth to water in the groundwater monitoring wells at the ARCO site ranged from approximately 3.2 to 10.8 feet bgs (approximately 52.2 to 43 feet elevation).</p>	1. There are no monitoring wells on site so that the local groundwater flow direction and gradient is not known.	Five groundwater wells are to be installed at the site.
Surface Water Bodies		The closest surface water body is the San Francisco Bay, which is 1.5 miles west of the site.		
Nearby Wells		The State Water Resource Quality Control Board (RWQCB) Geotracker GAMA website provides the locations of water supply wells proximal to the site. The nearest supply well is located approximately 2 miles southwest of the site. There are multiple monitoring wells in the vicinity of the site including those at the Arco services station at 781 West MacArthur Blvd., and Dollar Cleaners, 4860 – 4868 Telegraph Avenue, Oakland.	2.	NA
Release Source and Volume		The three prior gasoline USTs (two 650-gallon and one 500-gallon) are considered the main source of the release of fuel hydrocarbons that have been detected in soil and groundwater beneath the Site. Tanks #1 and #2 were both observed to have one or more holes from corrosion at the time of removal. Although no holes were observed in Tank #3 during removal, the integrity of the tank was questionable as it split into two pieces along the weld during removal. Soil surrounding the tanks was stained green and was noted to have strong petroleum hydrocarbon odors. The release from the Tanks at the Site was discovered on January 5, 1995 during tank removal activities. The volume of the release is not known.	5. & 6. Additional soil and groundwater data is required in the source areas.	See data gaps table. Additional soil borings will be advanced in the source areas. Groundwater monitoring wells will be installed.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		The area around the ramps and pit in the southern area of the site is considered a potential source area.		
LNAPL		There are currently no groundwater monitoring wells located at the Site. Although light non-aqueous phase liquids were not observed during grab groundwater sampling activities, concentrations of TPH-g in sample G2 (22,000 µg/L), located near former Tank #3, and sample GP3 (79,800 µg/L), located adjacent to former Tank #1 may indicate the potential for the presence of light non-aqueous phase liquid (LNAPL) to be present.	1. Need monitoring wells at the site.	Monitoring wells (5) to be installed.
Source Removal Activities		Soil that was excavated from the UST pits during tank removal activities was returned to the excavation after the collection of soil samples for chemical analysis. There is no information regarding the quality of the soil that was placed back in the UST excavations. As such, with the exception of the removal of the USTs themselves, there have been no other source removal activities conducted at the Site.	2., 5.,6. Soil contamination at depth (12-foot bgs and deeper) is not well characterized. Since the site is to be excavated to approximately 12 feet bgs for the construction of a parking garage, additional shallow soil sampling is not required.	Ten soil borings are proposed, as discussed in the data gaps table.
Contaminants of Concern		Based on the historical investigations conducted at the Site, BTEX, cis-1,2-dichloroethene (cis-1,2-DCE), 1,2-dichloroethane (1,2-DCA) and TPH-g are present in groundwater above their respective MCLs and/or ESLs. However, based on correspondence from the ACEHSD, the contaminants of concern (COCs) for the site are BTEX, and TPH-g. These COCs are present above the screening levels primarily in the northern corner of the Site, near the location of the former USTs. Benzene and TPH-g are also present in groundwater above their MCLs and ESLs in the southern portion of the Site in the vicinity of the truck ramp and pit adjacent to the	4.	

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		former shop building, and in the northwestern area of the Site.		
Petroleum Hydrocarbons in Soil		<p>Of the 58 samples analyzed from the two investigations, eight samples from seven borings exceeded their respective screening criteria. These samples were typically the deepest sample from the boring, ranging from 8.0 to 14.0 feet bgs. This is consistent with releases from a UST as opposed to a surface spill or release. Based on the historical investigation data, BTEX and TPH-g are the contaminants present in soil at concentrations exceeding their respective screening criteria. The contaminants are present mainly in soil at the location of former Tanks #1 through #3, and to a lesser extent, near the former fuel pump island in the northern corner of the Site.</p> <p>The lateral extent of contamination exceeding the screening criteria appears to be limited to the area around the former USTs. Soil concentration in all the samples from boring GP3 and S10, located in the sidewalk by Martin Luther King Jr. Way near former Tank #1 and Tank #2 are below their respective screening criteria. There is no additional data from around former Tank #3. Given the nature of the petroleum hydrocarbon (mainly light fraction gasoline), the vertical extent of contamination beneath and in close proximity to the former tanks is likely limited to the lowest level of groundwater fluctuation.</p>	4. & 7. Additional soil sampling is required to better define the vertical extent of contamination. Redevelopment will include excavation of the entire site to a depth of 12 feet bgs for the construction of an underground parking garage.	Additional soil borings to be advanced, as described in the data gaps table.
Petroleum Hydrocarbons in Groundwater		<p>During the two subsurface investigations conducted at the Site, a total of 15 grab groundwater samples were collected and analyzed for TPH-g and BTEX. The results of the analyses are summarized in Table 2-2. Concentration of TPH-g and/or BTEX exceeded their respective screening criteria in ten of the 15 samples analyzed. Similar to the soil sampling results, the highest concentrations were detected beneath or in close proximity to the former USTs. However, TPH-g and benzene were detected in one Site boring (G7) exceeding their respective screening criteria near the southern corner of the Site. There are no permanent monitoring wells located at the Site. As such, the groundwater flow direction across</p>	8. There are no monitoring wells on site.	Five monitoring wells will be installed, as described in the data gaps table and in the work plan.

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>the Site cannot be evaluated. This has been defined as a significant data gap. The scope of work presented in this work plan includes the installation of four groundwater monitoring wells at the Site.</p>		
Risk Evaluation		<p>The Site is a former auto body and car wash facility. The Site is currently vacant, and with the exception of a billboard located in the northwest corner of the Site, has no structures and is covered with either asphalt or concrete foundations from former buildings located at the Site. The Site is zoned for residential and current plans are to redevelop the Site for residential use. However, there may be some commercial use on the ground level. This preliminary CSM assumes that development would consist of an underground parking garage; store fronts and residential units at ground level; and second story residential units.</p> <p>The CSM identifies the primary source; impacted media; release mechanism(s); secondary source(s); exposure route; potential receptors (residential, commercial/industrial worker, and construction worker), and an assessment of whether the exposure route/pathway is potentially complete, incomplete, or insignificant. Potential exposure routes that have been evaluated include incidental ingestion, dermal contact, dust inhalation, and vapor inhalation.</p> <p>For direct contact with contaminated soil, the exposure route for incidental ingestion, dermal contact, and dust inhalation for a residential and commercial/industrial worker are considered incomplete. These exposure routes for the construction worker are considered a potentially complete pathway, depending on the nature of the work. For volatilization from soil to outdoor air, vapor inhalation is the potential exposure pathway. Given dilution effects that take place outdoors, this exposure pathway is considered incomplete for all three potential receptors. For indoor air, this exposure pathway is considered potentially complete for all three potential receptors.</p>		

**Table 4-1
Site Conceptual Model (Continued)**

CSM Element	CSM Sub-Element	Description	Data Gap Item #	Resolution
		<p>For leaching of contaminants from soil to groundwater, the ingestion and dermal pathways for groundwater are considered incomplete, except for the construction worker, as shallow groundwater is not utilized as a drinking water source at the Site. For the construction worker, incidental ingestion and dermal contact is a potentially complete pathway. For volatilization from groundwater to outdoor air, the exposure pathway is considered insignificant due to dilution effects that take place outdoors. For indoor air, volatilization from groundwater to indoor air is considered a potentially complete pathway.</p>		

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
2	<p>The soil data set does not adequately characterize the contamination (if any) that may remain on site after the excavation to approximately 11 to 12 feet bgs for the underground parking structure.</p> <p>The current soil data sets are 7 and 9 years old and may not be representative of current site conditions.</p> <p>Lithology below is not adequately characterized.</p>	<p>Ten soil borings will be drilled to a total depth of 20 feet bgs.</p> <p>Soil samples will be collected at 12 feet, 15 feet, and 20 feet bgs from soil borings SB-4 through SB-10. Soil samples will not be collected from soil borings SB-1, SB-2, and SB-3 which are located across MLK north of the site, as there is no reason to suspect an off-site soil contamination source in this area.</p> <p>Borings will be logged using the Unified Soil Classification System.</p> <p>Grab groundwater samples will be collected from the first encountered groundwater at each soil boring.</p>	<p>Soil samples will be collected starting at 12 feet bgs. Shallow soil on site is to be excavated for disposal during the construction of the underground parking garage. Excavation will be conducted to a depth of about 12 feet bgs.</p> <p>Soil borings will be located as shown in the work plan figure:</p> <p>Source area borings: At the former locations of USTs 1, 2 and 3. One boring north of the site on the side walk of MLK Way. One boring between USTs 1 and 2 and the pump island (potential leakage from conveyance piping). One boring at the approximate location of UST 3 (in addition to the soil samples to be collected from the monitoring well to be installed at this location). One boring in the vicinity of the ramps and pit in the southern portion of the site (in addition to soil samples to be collected from the monitoring well in this area).</p> <p>Step out borings: Step out boring SB-5 to be completed proximal to the UST #3 source area.</p> <p>GP4 Area: Benzene was previously detected at 25,000 µg/kg at location GP4 (Carver, 2006). Two step-out borings will be completed in this area to further characterize soils at depth.</p>	<p>TPH-g, BTEX, EDB, EDC.</p> <p>Boring SB-4 (on sidewalk of MLK near UST 1): PAHs</p>

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
3	There is no data on the presence and usage of wells in the vicinity of the site.	Obtain a well survey.	Identify irrigation and other wells in the site vicinity.	N/A
4	PAHs are potential COCs at the northern boundary of the site.	See soil borings – Item 2. PAHs will be analyzed at select locations as described in Item 2.	Item 2	Item 2
5	There is a potential source area in the vicinity of the ramps and pit.	A monitoring well will be installed in this area. It will also serve as the upgradient well for the site. See Item 2. A soil boring will also be completed in this area.	Item 2	Item 2
6	Determine size and contents of the three USTs that were removed from the site	Review prior reports.	Tanks #1 and #2 were identified as 650-gallon gasoline tanks. Tank #3 was a 500-gallon gasoline tank [Tank Removal Report – 1995]. Tanks #2 and #3 were observed to be badly deteriorated with holes due to corrosion.	NA
7	Confirm whether TPH-g and BTEX were detected during construction of the adjacent residential unit	Review prior reports.	The URS site investigation conducted in 2004 found no detections of TPH-g [$<1,000 \mu\text{g}/\text{kg}$] or BTEX [$<5.0 \mu\text{g}/\text{kg}$] in the borings completed to 14 feet bgs.	NA

**Table 5-1
Data Gaps Summary and Proposed Investigation (Continued)**

Item	Data Gap Item #	Proposed Investigation	Rationale	Analyses
8	Review data from the nearby service stations (Arco)	Review prior reports.	The former Arco station (731 West MacArthur Blvd.) is about 0.5 miles crossgradient of the 3884 MLK site. The BTEX levels are lower than those at the subject site; the Arco site does not appear to be contributing to on site TPH or BTEX contamination. Groundwater elevation data from this site was used to calculate groundwater flow direction, since there are currently no wells at the 3884 MLK site.	NA

ATTACHMENT B

Development Tool Set

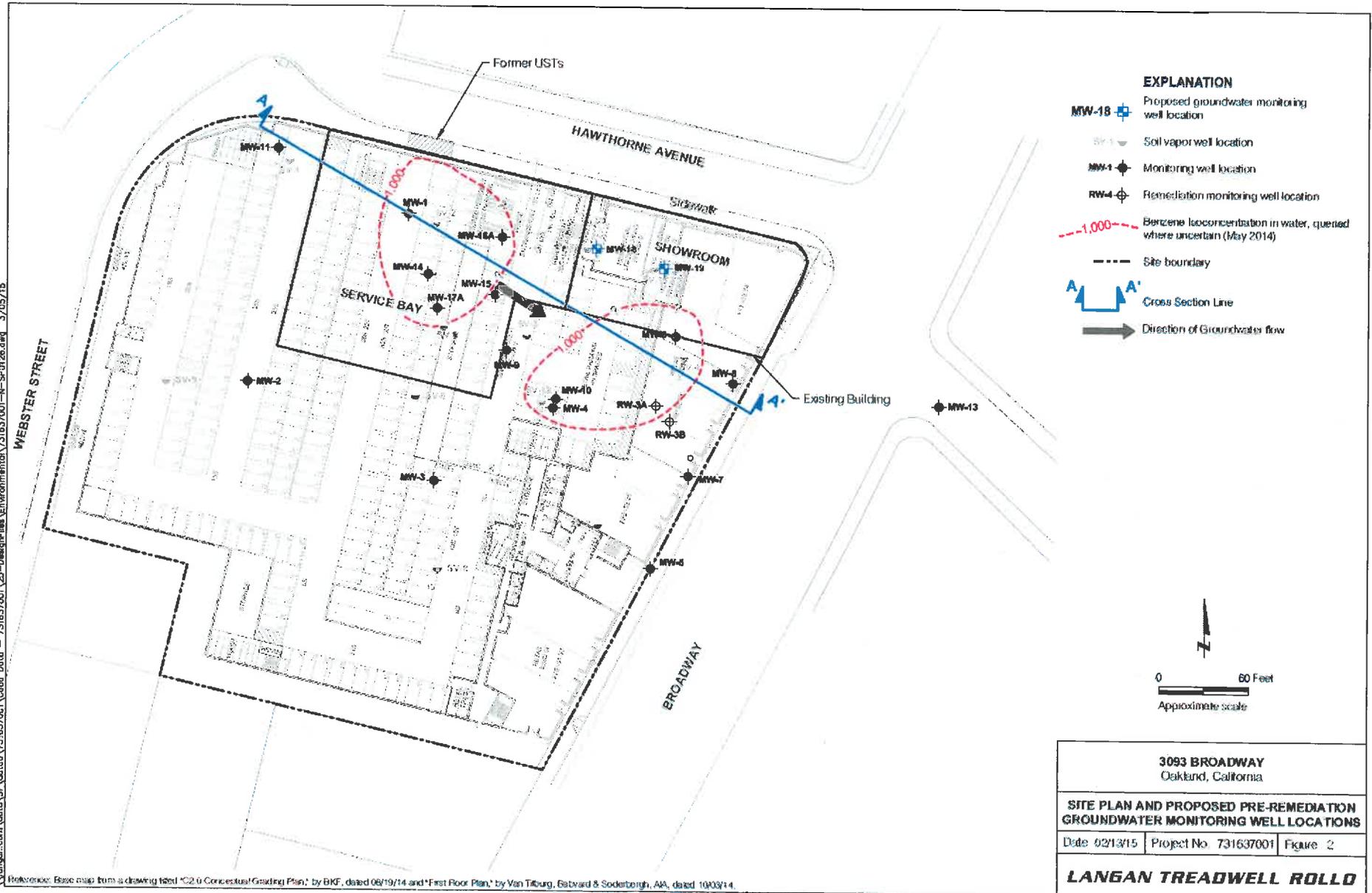
Development Tool Set

The following Development Tools are appropriate at sites with planned land use changes, or for existing developments with residual contamination, and are anticipated to assist the Alameda County Environmental Department of Health (ACDEH) in determining the appropriateness of existing structures or planned redevelopment.

- Plan view of historic borings, recent / current bores, and any proposed bores and historic infrastructure related to contamination, or areas of groundwater contamination of concern, etc.
- Plan view of proposed redevelopment related to historic, current, and proposed bore locations. This may require several figures at complex data sites; fewer is better, but at the risk of too complex a figure that decreases the communication effort.
- Multiple cross sections across a site that depict proposed excavation base elevation, foundation depth elevation, cut / fill lines, old soil bore locations along that cross section, and depth-correct residual analytical proposed to remain below the foundation. Below the future proposed foundation elevation, lithology can be depicted if it plays an important role; however, one intent is to depict the location of residual contamination relative to the proposed building foundation and the proposed lowest building level (or higher if appropriate), proposed uses (commercial / residential / day care / senior care / etc.). Generally the highest groundwater depth and analytical should also be depicted as well. Lithology or data above the proposed excavation depth can be removed if it decreases the clutter of the figure; it won't be of consequence to the future development once removed, but the analytical data will remain in the tables (see below).
- An appropriate number of detailed cross section through areas of interest, such as former sources (former parts storage, former dry cleaner, former UST system locations, potential offsite areas of contamination that would affect reuse after redevelopment [hospital fill beneath sidewalk], unexplored areas of potential contamination, or other areas identified as potential areas of concern needing clearer illumination). The intent is to quickly illustrate residual contamination, or perhaps the lack of data, and once investigated, why it is protective of current, future occupants, or future uses. These cross sections must include any offsite improvements where contamination is documented or likely (fill under sidewalk, etc), or café chairs and permeable pavers over residual contamination, infrastructure improvements such as utilities through residual contamination (such as a utilities or storm drain drop box at a former offsite UST location), or other items that can / will affect site users, construction workers, or the public.
- A table by parcel with historic infrastructure, proposed uses (comm. / res), historic / current borings, proposed bores, rational for future bores in the area, etc.
- Electronic Phase 1 for all involved redevelopment parcels.
- Full electronic plan set; most recent.
- For future plan set changes ACDEH will require a cover letter from the environmental professional geologist or engineer a statement that "The following plan sets, (list of sets, including applicable dates) submitted to the City of Oakland, have been reviewed and are consistent with the Assessment results, recommendations, and with the proposed mixed use redevelopment." The intent is to eliminate building or planning department changes that can alter the commercial / residential exposure to any site residual contamination.
- A table with all historic and current analytical data, with removed soil (historic and future) indicated by shading or strike out (but still legible). If you want to distinguish between historic removed and that proposed to be removed, consider the use different shadings. Many of the example tables (pg 8 and beyond of the attached scan) tabulate data by "soil to be removed / soil proposed to remain"; alternatively the data can remain in standard presentation style form (bore / sample / depth).
- All ND tabulated analytical listed by individual chemical detection limit (<x), and highlighting / bolding of detects, or of concentrations over ESLs (or other goals), including non-detects over ESLs or other appropriate goals. Can partly be combined with a professional signed statement that your consultant has reviewed all analytical data and has found it is below ESLs or other goals for the site.
- An extra column on soil tables for "Sample Depth Relative to Proposed Foundation Depth".
- Parcel Data Table – List of all parcels to be redeveloped, parcel number, historic use, sampling points, RECs or BRECs, or other appropriate data.

- Project schedule – where is project in entitlement project planning, CEQA, building and planning department approvals, when construction is hoped to realistically begin, a realistic time frame for regulatory review (30 days as discussed; we'll try for better if we can, but standard is 60 days), when and what project proponents will need something in writing from ACDEH for financing, and recognition that if mitigation measures are involved closure cannot be provided until a final confirmation sampling report is submitted and reviewed (60 days). The submittal of a Gantt chart may be appropriate so that we can all set realistic time frames, and incorporate changes as events happen.
- An understanding that the Porter-Cologne Water Quality Act requires that any regulatory agency in California use a deed restriction / land use covenant (LUC) if contamination above goals (ESLs or other) is proposed to remain at a site. LUCs take time to word, sign, and record at the County. Potential planning to remove any such contamination prior to site development, or provided that the extent is well characterized, potentially with the use of a Site Management Plan (SMP) to manage the removal of the contamination at the time of redevelopment, may be appropriate. As discussed, please be aware that a large removal is essentially a Corrective Action, and a 30 day public notification may be required per state requirements (affecting the Gantt chart inputs). Minor cleanup of inappropriate contamination is not a CA.
- Appropriate use of ESLs relative to the future proposed foundation depth (groundwater or a soil vapor sample at a site may have been 10 feet bgs, may now be 2 ft below the proposed foundation, and would not meet the 10 foot separation distance groundwater ESLs assume or 5 ft separation that VI ESLs assume / require).
- If mitigation measures are required (hospital fill under sidewalk to prevent gardener exposure) then the site might need a RAP and / or a HHRA to evaluate risk with and without mitigation measures (assuming no removal of residual contamination below the future foundation). If needed, the RAP must be approved by ACDEH and then incorporated into the building plans, which requires coordination with ACDEH, building department, and the consultant throughout the final plan approval to ensure changes made during building department or planning review do not conflict with ACDEH approved plans. This is a perennial issue ACDEH has. All plan changes will also require a professional signed statement from your consultant that the changes do not affect the proposed mitigation measures.
- Generation of a Fact Sheet for public comment associated with (essentially) site Corrective Actions (attached example; please return as Word doc in one column format; I'll tweak and place on letterhead and get aerial image).
- Generation of a robust SMP to deal with proposed "Corrective Actions"; known (volumes, destinations, etc.) or unexpected contamination that might be found during redevelopment, construction dust management / monitoring for onsite and additionally dust exposure for any offsite residential receptors, storm water, step-out contingency, confirmation samples below vertically undefined contamination, or are there potential USTs? - Perhaps a contingency for contact info with ACDEH CUPA group, etc.

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Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan," by BKF, dated 08/19/14 and "First Floor Plan," by Van Tilburg, Babward & Soderburgh, AA, dated 10/03/14.

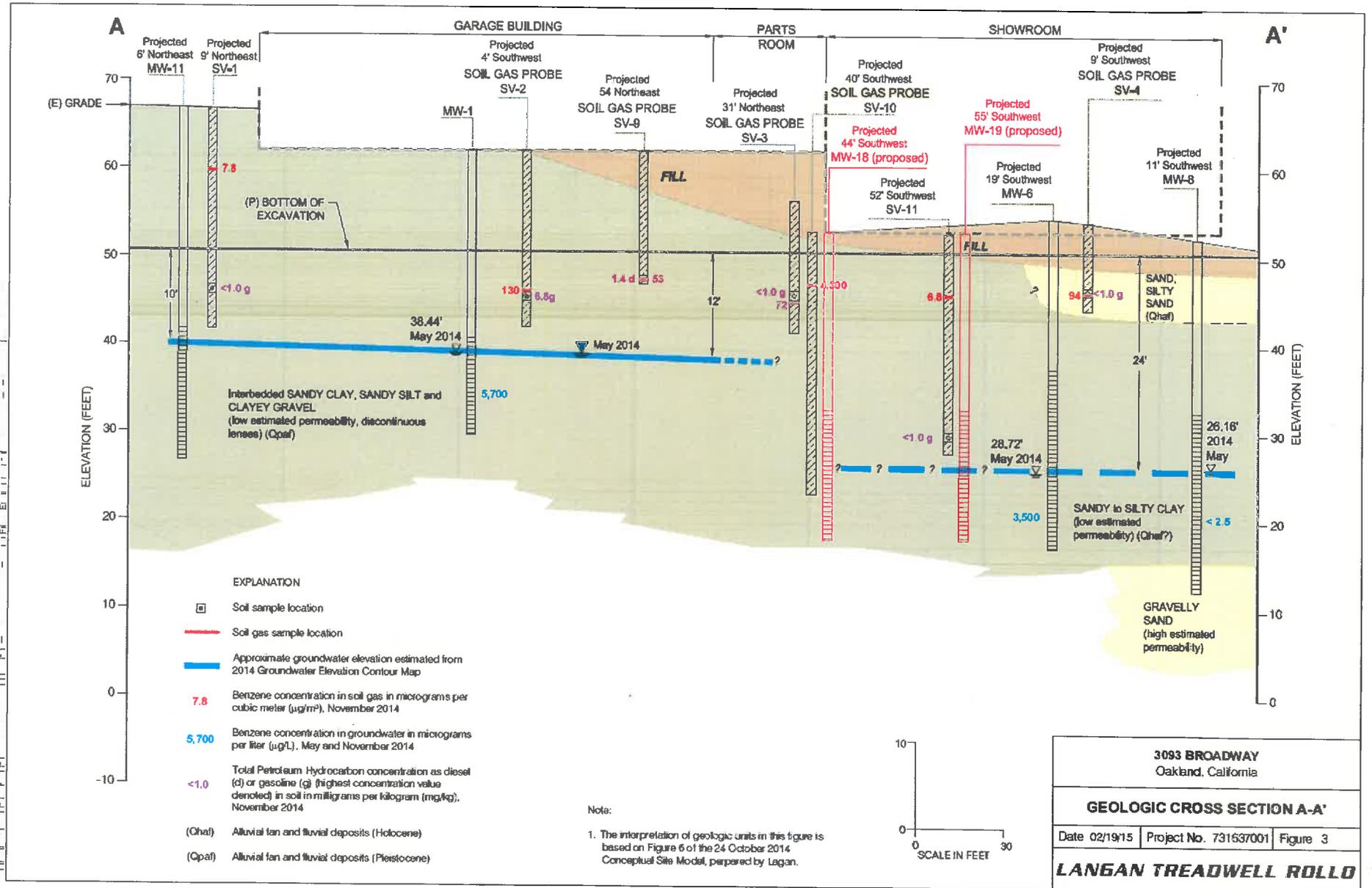


Table 1
Summary of Soil Sampling and Analysis
May 2015
3093 Broadway
Oakland, California

Sample ID	Sampling Location	Sample Depth	Ground Elevation ¹	Future Grade Elevation	Sample Elevation	Analytes							pH
						TPH- gasoline, diesel, motor oil	BTEX	PAHs (including naphthalene)	VOCs	SVOCs	PCBs and Pesticides	CAM-17 metals	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
B-1	Service Bay	2.5	64.02	52	61.52	X		X	X	X	X	X	X
		7.5	64.02	52	58.52	X		X	X	X	X	X	X
		12.5	64.02	52	51.52	X	X	X	X	X	X	X	X
		17.5	64.02	52	46.52	X	X	X					
B-2	Service Bay	2.5	61.86	52	59.36								
		7.5	61.86	52	54.36								
		12.5	61.86	52	49.36	X		X					
		17.5	61.86	52	44.36	X	X	X					
B-3	Service Bay	2.5	61.86	52	59.36								
		7.5	61.86	52	54.36								
		12.5	61.86	52	49.36	X	X	X					
		17.5	61.86	52	44.36	X	X	X					
B-4	Service Bay	2.5	61.78	52	59.28								
		7.5	61.78	52	54.28								
		12.5	61.78	52	49.28	X	X	X					
		17.5	61.78	52	44.28	X	X	X					
B-5	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-6	Service Bay	2.5	61.82	52	59.32								
		7.5	61.82	52	54.32								
		12.5	61.82	52	49.32	X	X	X					
		17.5	61.82	52	44.32	X	X	X					
B-7	Service Bay	2.5	61.81	52	59.31								
		7.5	61.81	52	54.31								
		12.5	61.81	52	49.31	X	X	X					
		17.5	61.81	52	44.31	X	X	X					
B-8	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-9	Service Bay	2.5	61.86	52	59.16								
		7.5	61.86	52	54.16								
		12.5	61.86	52	49.16	X	X	X					
		17.5	61.86	52	44.16	X	X	X					
B-10	Service Bay	2.5	61.72	52	59.22								
		7.5	61.72	52	54.22	X		X	X	X	X	X	X
		12.5	61.72	52	49.22	X	X	X	X	X	X	X	X
		17.5	61.72	52	44.22	X	X	X					
B-11	Service Bay	2.5	61.74	52	59.24								
		7.5	61.74	52	54.24								
		12.5	61.74	52	49.24	X	X	X					
		17.5	61.74	52	44.24	X	X	X					
B-12	Service Bay	2.5	61.73	52	59.23								
		7.5	61.73	52	54.23								
		12.5	61.73	52	49.23	X	X	X					
		17.5	61.73	52	44.23	X	X	X					

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						TPH: gasoline, diesel, motor oil	BTEX	PAHs (including naphthalene)	VOCs	SVOCs	PCBs and Pesticides	CAM-17 metals	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
B-13	Service Bay	2.5	61.76	52	59.26								
		7.5	61.76	52	54.26								
		12.5	61.76	52	49.26	X	X	X					
		17.5	61.76	52	44.26	X	X	X					
B-14	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-15	Service Bay	2.5	61.51	52	59.01								
		7.5	61.51	52	54.01								
		12.5	61.51	52	49.01	X	X	X					
		17.5	61.51	52	44.01	X	X	X					
B-16	Service Bay	2.5	61.76	52	59.26								
		7.5	61.76	52	54.26								
		12.5	61.76	52	49.26	X	X	X					
		17.5	61.76	52	44.26	X	X	X					
B-17	Service Bay	2.5	61.73	52	59.23								
		7.5	61.73	52	54.23								
		12.5	61.73	52	49.23	X	X	X					
		18	61.73	52	43.73	X	X	X					
B-18	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-19	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-20	Service Bay	2.5	61.73	52	59.23								
		7.5	61.73	52	54.23	X	X	X	X	X	X	X	X
		12.5	61.73	52	49.23	X	X	X	X	X	X	X	X
		17.5	61.73	52	44.23	X	X	X					
B-21	Service Bay	2.5	61.76	52	59.26								
		7.5	61.76	52	54.26								
		12.75	61.76	52	49.01	X	X	X					
		17.75	61.76	52	44.01	X	X	X					
B-22	Service Bay	2.5	61.76	52	59.26								
		7.5	61.76	52	54.26								
		12.5	61.76	52	49.26	X	X	X					
		17.5	61.76	52	44.26	X	X	X					
B-23	Service Bay	2.5	61.75	52	59.25								
		7.5	61.75	52	54.25								
		12.5	61.75	52	49.25	X	X	X					
		17.5	61.75	52	44.25	X	X	X					
B-24	Service Bay	2.5	61.75	52	59.25								
		7.5	61.75	52	54.25								
		12.5	61.75	52	49.25	X	X	X					
		17.5	61.75	52	44.25	X	X	X					

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Summary of Soil Sampling and Analysis
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Sample ID	Sampling Location	Sample Depth	Ground Elevation ¹	Future Grade Elevation	Sample Elevation	Analytes							pH
						TPH, gasoline, diesel, motor oil	BTEX	PAHs (including naphthalene)	VOCs	SVOCs	PCBs and Pesticides	CAM-17 metals	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
B-25	Service Bay	2.5	61.78	52	59.28								
		7.5	61.78	52	54.28								
		12.5	61.78	52	49.28	X	X	X					
		17.5	61.78	52	44.28	X	X	X					
B-28	Service Bay	2.5	61.72	52	59.22								
		7.5	61.72	52	54.22								
		12.5	61.72	52	49.22	X	X	X					
		17.5	61.72	52	44.22	X	X	X					
B-27	Service Bay	2.5	61.69	52	59.19								
		7.5	61.69	52	54.19								
		12.5	61.69	52	49.19	X	X	X					
		17.5	61.69	52	44.19	X	X	X					
B-28	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-29	Service Bay	2.5	61.77	52	59.27								
		7.5	61.77	52	54.27								
		12.5	61.77	52	49.27	X	X	X					
		17.5	61.77	52	44.27	X	X	X					
B-30	Service Bay	2.5	61.74	52	59.24								
		7.5	61.74	52	54.24	X	X	X	X	X	X	X	X
		12.5	61.74	52	49.24	X	X	X	X	X	X	X	X
		17.5	61.74	52	44.24	X	X	X					
B-31	Service Bay	2.5	61.74	52	34.74	X	X						
		7.5	61.77	52	59.27								
		12.75	61.77	52	54.27								
		17.75	61.77	52	49.02	X	X	X					
B-32	Service Bay	2.5	61.8	52	59.3								
		7.5	61.8	52	54.3								
		12.5	61.8	52	49.3	X	X	X					
		17.75	61.8	52	44.05	X	X	X					
B-33	Service Bay	2.5	61.78	52	59.28								
		7.5	61.78	52	54.28								
		12.5	61.78	52	49.28	X	X	X					
		17.5	61.78	52	44.28	X	X	X					
B-34	Service Bay	2.5	61.73	52	59.23								
		7.5	61.73	52	54.23								
		12.5	61.73	52	49.23	X	X	X					
		17.5	61.73	52	44.23	X	X	X					
B-35	Service Bay	2.5	61.75	52	59.25								
		7.5	61.75	52	54.25								
		12.5	61.75	52	49.25	X	X	X					
		17.5	61.75	52	44.25	X	X	X					

Table 1
Summary of Soil Sampling and Analysis
May 2015
3093 Broadway
Oakland, California

Sample ID	Sampling Location	Sample Depth	Ground Elevation ¹	Future Grade Elevation	Sample Elevation	Analytes							pH
						TPH-gasoline, diesel, motor oil	BTEX	PAHs (including naphthalene)	VOCs	SVOCs	PCBs and Pesticides	CAM-17 metals	
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
B-36	Site - NW Quadrant	2.5	65.57	52	63.07	X		X	X	X	X	X	X
		7.5	65.57	52	58.07	X		X	X	X	X	X	X
		12.5	65.57	52	53.07	X		X	X	X	X	X	X
		17.5	65.57	52	48.07	X		X	X	X	X	X	X
		22.5	65.57	52	43.07	X		X	X	X	X	X	X
B-37	Site - Center	2.5	63.95	52	61.45	X		X	X	X	X	X	X
		7.5	63.95	52	56.45	X		X	X	X	X	X	X
		12.5	63.95	52	51.45	X		X	X	X	X	X	X
		17.5	63.95	52	46.45	X		X	X	X	X	X	X
		22.5	63.95	52	41.45	X		X	X	X	X	X	X
B-38	Site - Center North	2.5	59.08	52	56.58	X		X	X	X	X	X	X
		7.5	59.08	52	51.58	X		X	X	X	X	X	X
		12.5	59.08	52	46.58	X		X	X	X	X	X	X
B-39	Site - Center South	2.5	57.6	52	55.10	X		X	X	X	X	X	X
		7.5	57.6	52	50.10	X		X	X	X	X	X	X
		12.5	57.6	52	45.10	X		X	X	X	X	X	X
B-40	Showroom	2.5	52.68	52	50.18	X		X	X	X	X	X	X
		7.5	52.68	52	45.18	X		X	X	X	X	X	X
		12.5	52.68	52	40.18	X		X	X	X	X	X	X
B-41	Site - NE Quadrant	2.5	54.21	52	51.71	X		X	X	X	X	X	X
		7.5	54.21	52	46.71	X		X	X	X	X	X	X
		12.5	54.21	52	41.71	X		X	X	X	X	X	X
B-42	Site - Center East	2.5	54.45	52	51.95	X		X	X	X	X	X	X
		7.5	54.45	52	46.95	X		X	X	X	X	X	X
		12.5	54.45	52	41.95	X		X	X	X	X	X	X
B-43	Site - SE Quadrant	2.5	53.33	52	50.83	X		X	X	X	X	X	X
		7.5	53.33	52	45.83	X		X	X	X	X	X	X
MW-18	Showroom	2.5	52.51	52	50.01								
		7.5	52.51	52	45.01	X ²	X		X ³				
		12.5	52.51	52	40.01	X ²	X		X ³				
		17.5	52.51	52	35.01	X ²	X		X ³				
		21.5	52.51	52	31.01	X ²	X		X ³				
		26.5	52.51	52	26.01	X ²	X		X ³				
MW-19	Showroom	2.5	52.35	52	49.85								
		7.5	52.35	52	44.85	X ²	X		X ³				
		12.5	52.35	52	39.85	X ²	X		X ³				
		14	52.35	52	38.35								
		17.5	52.35	52	34.85	X ²	X		X ³				
		22	52.35	52	30.35	X ²	X		X ³				
		27.5	52.35	52	24.85	X ²	X		X ³				
32.5	52.35	52	19.85										

Table 1
Summary of Soil Sampling and Analysis
May 2015
3093 Broadway
Oakland, California

Sample ID	Sampling Location	Sample Depth ¹	Ground Elevation ¹	Future Grade Elevation	Sample Elevation	Analytes							
						TPH- gasoline, diesel, motor oil	BTEX	PAHs (including naphthalene)	VOCs	SVOCs	PCBs and Pesticides	CAM-17 metals	pH
						mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
RB-2	Service Bay	22	61.78	52	39.78	X			X				
		24	61.78	52	37.78	X			X				
		28	61.78	52	35.78	X			X				
		30	61.78	52	33.78	X			X				
		32	61.78	52	29.78	X			X				
		34	61.78	52	27.78	X			X				
		36	61.78	52	25.78	X			X				
		38	61.78	52	23.78	X			X				
		40	61.78	52	21.78	X			X				
RB-6	Service Bay	3	61.71	52	58.71	X ²	X		X ³				
		22	61.71	52	39.71	X			X				
		24	61.71	52	37.71	X			X				
		26	61.71	52	35.71	X			X				
		28	61.71	52	33.71	X			X				
		30	61.71	52	31.71	X			X				
		32	61.71	52	29.71	X			X				
		34	61.71	52	27.71	X			X				
		36	61.71	52	25.71	X			X				
38	61.71	52	23.71	X			X						
40	61.71	52	21.71	X			X						

Notes:

Soil samples located at elevations above 52 feet a-msl will be removed during site development

Soil samples located at elevations below 42 feet a-msl will be greater than 10 feet below the future site grade

¹Ground surface and top of casing (TOC) elevations for boring and monitoring well locations, respectively, were collected by BKF on 28 May 2015

²Samples analyzed for TPHg and TPHd

³Samples analyzed for select VOCs including 1,2-dichloroethane (1,2-DCA), MTBE and naphthalene

a-msl - above mean sea level

bgs - below ground surface

BTEX - Benzene, toluene, ethylbenzene and xylenes using EPA Method 8260B

CAM-17 - California Assessment Metals using EPA Method 3050B

MTBE - Methyl tertiary butyl ether using EPA Method 8260

TPHg - Total Petroleum Hydrocarbons as Gasoline using EPA Method 8015M

TPHd - Total Petroleum Hydrocarbons as Diesel Range using EPA Method 8015M

TPHmo - Total Petroleum Hydrocarbons as Motor Oil using EPA Method 8015M

PAHs - Polycyclic Aromatic Hydrocarbons using EPA Method 8270C SIM

PCBs - Polychlorinated biphenyls and Pesticides using EPA Method 8081A/8082

Pesticides using EPA Method 8081A/8082

pH using method 9045D

SVOCs - Semi-Volatile Organic Compounds using EPA Method 8270C

VOCs - Volatile Organic Compounds using EPA Method 8260B

Table 2
Soil Analytical Results for TPH, BTEX, Naphthalene and MTBE
3013 Broadway
Oakland, California

Sample ID	Sample Date	Sample Elevation feet a-msl	TPHd	TPHig	TPHmo	Benzene	Ethylbenzene	Toluene	Xylenes	MTBE	Naphthalene
Soil to be Removed¹											
B-1-2.5	5/12/2015	61.52	12	1.5	76	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088
B-1-7.5	5/15/2015	56.82	<1	<1	<5	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
B-16-2.5	5/18/2015	59.22	21	<1	95	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083
B-16-7.5	5/18/2015	64.22	<1	<1	<5	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083
B-20-2.5	5/19/2015	59.23	1.1	<1	5.2	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
B-20-7.5	5/19/2015	54.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
B-30-2.5	5/11/2015	59.24	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
B-30-7.5	5/11/2015	54.24	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006
B-36-2.5	5/20/2015	63.07	3.1	<1	32	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097
B-36-7.5	5/20/2015	58.07	<1	<1	<5	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083
B-36-12.5	5/20/2015	53.07	<1	<1	<5	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091
B-37-2.5	5/20/2015	61.46	<1	<1	<5	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008
B-37-7.5	5/20/2015	56.46	<1	<1	5.2	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088
B-38-2.5	5/20/2015	58.89	65	<1	610	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092
B-38-7.5	5/20/2015	66.10	24	<1	179	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084
B-38-12.5	5/18/2015	58.71	58	700	-	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25
Soil to Remain in Place² - Results for Future Shallow Soil (0 to 10 feet below future grade)											
B-1-12.5	5/15/2015	61.52	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-1-17.5	5/15/2015	46.52	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-3-12.5	5/15/2015	49.36	3.6	<1	6	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-3-17.5	5/15/2015	44.36	1,300	4,000	43	1.4	7.1	6.3	120	-	22
B-3-12.5	5/19/2015	49.36	1,000	6.8	3,299	<0.006	<0.006	<0.006	<0.006	-	<0.1
B-3-17.5	5/19/2015	44.36	1,200	27	2,800	<0.006	<0.006	<0.006	<0.006	-	<0.1
B-4-12.5	5/19/2015	49.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-4-17.5	5/19/2015	44.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-6-12.5	5/15/2015	49.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-6-17.5	5/15/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-8-12.5	5/15/2015	48.32	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-8-17.5	5/15/2015	44.32	38	16	120	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-7-12.5	5/19/2015	48.31	430	<1	1,100	<0.006	<0.006	<0.006	<0.006	-	<0.1
B-7-17.5	5/19/2015	44.31	10	2,900	<0.006	<0.006	<0.006	<0.006	<0.006	-	<0.1
B-8-12.5	5/19/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-8-17.5	5/19/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-9-12.5	5/12/2015	48.16	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-9-17.5	5/12/2015	44.16	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-10-12.5	5/18/2015	48.22	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-10-17.5	5/18/2015	44.22	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-11-12.5	5/18/2015	48.24	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-11-17.5	5/18/2015	44.24	51	26	86	<0.017	<0.017	<0.017	0.22	-	0.69
B-12-12.5	5/19/2015	48.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-12-17.5	5/19/2015	44.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-13-12.5	5/12/2015	48.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-13-17.5	5/12/2015	44.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-14-12.5	5/18/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-14-17.5	5/18/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-15-12.5	5/19/2015	44.01	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-15-17.5	5/19/2015	48.01	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-16-12.5	5/19/2015	48.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	0.023
B-16-17.5	5/19/2015	44.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-17-12.5	5/12/2015	48.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-17-18	5/12/2015	43.73	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-18-12.5	5/18/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-18-17.5	5/18/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-19-12.5	5/19/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-19-17.5	5/19/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-20-12.5	5/19/2015	48.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-20-17.5	5/19/2015	44.23	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-21-12.75	5/12/2015	48.01	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-21-17.75	5/12/2015	44.01	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-22-12.5	5/18/2015	48.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-22-17.5	5/18/2015	44.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-23-12.5	5/18/2015	48.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-23-17.5	5/18/2015	44.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-24-12.5	5/19/2015	48.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-24-17.5	5/19/2015	44.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-25-12.5	5/12/2015	48.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-26-17.5	5/12/2015	44.28	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-28-12.5	5/11/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-28-17.5	5/11/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-29-12.5	5/11/2015	48.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-29-17.5	5/11/2015	44.27	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-30-12.5	5/11/2015	48.24	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-30-17.5	5/11/2015	44.24	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-31-12.75	5/12/2015	48.02	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-31-17.75	5/12/2015	44.02	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-33-12.5	5/12/2015	48.3	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-33-17.75	5/12/2015	44.06	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-33-12.5	5/18/2015	49.38	25	<1	81	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-33-17.5	5/18/2015	44.38	730	15	1,600	<0.006	0.0062	<0.006	0.0084	-	<0.1
B-34-12.5	5/18/2015	49.23	1,400	43	3,800	<0.006	0.013	<0.006	0.048	-	<0.1
B-34-17.5	5/18/2015	44.23	1.9	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-35-12.5	5/19/2015	48.26	<1	<1	<5	<0.006	<0.006	<0.006	<0.006	-	<0.01
B-35-17.5	5/19/2015	44.26	2.8	<1	7	<0.006	<0.006	<0.006	<0.006	-	<0.01

Table 2
Soil Analytical Results for TPH, BTEX, Naphthalene and MTBE
2082 Broadway
Oakland, California

Sample ID	Sample Date	Sample Elevation feet a-msl	TPHd	TPHg	TPHmo	mg/kg					
						Benzene	Ethylbenzene	Toluene	Xylenes	MTBE	Naphthalene
B-36-17.5	5/20/2015	46.07	<1	<1	<5	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091	< 0.0091
B-36-22.5	5/20/2015	43.97	<1	<1	<5	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093
B-37-12.5	5/20/2015	51.46	<1	<1	<5	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
B-37-17.5	5/20/2015	46.46	<1	<1	<5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
B-38-7.5	5/20/2015	51.55	<1	<1	<5	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084
B-38-12.5	5/20/2015	46.68	<1	<1	<5	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084
B-38-7.5	5/20/2015	50.1	<1	<1	<5	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089	< 0.0089
B-39-12.5	5/20/2015	46.1	<1	<1	<5	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082	< 0.0082
B-40-2.5	5/13/2015	50.18	<1	<1	<5	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
B-40-7.5	5/13/2015	45.18	1.4	<1	<5	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093
B-41-2.5	5/20/2015	51.71	3.1	<1	94	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085
B-41-7.5	5/20/2015	46.71	<1	<1	<5	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081	< 0.0081
B-42-2.5	5/20/2015	51.95	15	<1	93	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084	< 0.0084
B-42-7.5	5/20/2015	46.96	<1	<1	<5	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
B-43-2.5	5/20/2015	50.53	40	<1	410	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
B-43-7.5	5/20/2015	45.83	5.9	<1	31	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085	< 0.0085
MW-18-7.5	5/13/2015	46.91	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-18-7.5	5/13/2015	44.86	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Soil to Remain in Place² - Results for Future Deeper Soil (greater than 10 feet below future grade)											
B-28-28	5/11/2015	33.77	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	-	-
B-30-27	5/11/2015	34.74	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	-	-
B-37-22.5	5/20/2015	41.45	1.1	<1	<5	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093	< 0.0093
B-40-12.5	5/13/2015	40.18	<1	<1	<5	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088
B-41-12.5	5/20/2015	41.71	<1	<1	<5	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088	< 0.0088
B-42-12.5	5/20/2015	41.86	<1	<1	<5	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009	< 0.009
MW-18-12.5	5/13/2015	40.01	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-18-17.5	5/13/2015	35.01	2	13	-	0.18	0.11	< 0.010	0.17	< 0.010	0.18
MW-18-21.5	5/13/2015	31.01	37	620	-	< 0.5	2	< 0.5	1.9	< 0.5	1.9
MW-18-26.5	5/13/2015	26.01	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-18-31.5	5/13/2015	21.09	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-19-12.5	5/13/2015	39.86	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-19-17.5	5/13/2015	34.35	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-19-22	5/13/2015	33.56	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
MW-19-27.6	5/13/2015	24.66	<1	<1	-	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
RB-2-32	5/15/2015	39.78	1,600	10,000	130	< 20	160	250	940	< 20	55
RB-2-34	5/15/2015	37.78	2,500	13,000	240	120	190	640	850	< 50	87
RB-2-26	5/15/2015	35.78	7,700	22,000	860	100	140	640	770	< 100	< 160
RB-2-28	5/15/2015	33.78	530	5,100	< 50	11	70	150	400	< 10	24
RB-2-30	5/15/2015	31.78	160	3,100	< 50	< 10	38	74	160	< 10	11
RB-2-32	5/15/2015	29.78	3.2	11	< 5	0.24	0.061	0.06	0.37	< 0.025	0.055
RB-2-34	5/15/2015	27.78	16	29	< 5	0.1	< 0.1	< 0.1	0.49	< 0.1	0.26
RB-2-36	5/15/2015	25.78	52	950	< 50	< 2	2.1	< 2	14	< 2	< 2
RB-2-38	5/15/2015	23.78	1.7	16	< 5	0.48	0.16	0.066	0.74	< 0.025	0.079
RB-2-40	5/15/2015	21.78	2	7.7	< 5	0.69	0.26	0.34	0.29	< 0.05	< 0.05
RB-6-22	5/15/2015	39.71	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-24	5/15/2015	37.71	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-26	5/15/2015	35.71	500	2,100	< 50	< 5	50	50	50	< 5	25
RB-6-28	5/15/2015	33.71	1,200	7,200	< 50	14	77	210	360	< 10	40
RB-6-30	5/15/2015	31.71	460	1,600	< 50	< 5	13	< 6	43	< 5	17
RB-6-32	5/15/2015	29.71	<1	<1	<5	0.0065	0.009	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-34	5/15/2015	27.71	<1	1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-36	5/15/2015	25.71	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-38	5/15/2015	23.71	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
RB-6-40	5/15/2015	21.71	<1	<1	<5	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006
Residential LTCP						1.9	-	2.1	-	-	5.7
Residential ESL			100	100	100	0.044	3.3	2.9	2.3	0.023	1.2
Commercial ESL			110	500	500	0.044	3.3	2.9	2.3	0.023	1.2
Construction Worker ESL			900	2,700	28,000	71	4,300	480	2,500	3,500	370

Notes:

¹ Soil samples located above the future site grade elevation of 52 feet a-msl

² Shallow (upper 10 feet bgs) and deep (greater than 10 feet bgs) soil samples located below the proposed future site grade elevation of 52 feet a-msl

Results for soil to be removed and shallow soil (0 to 10 feet below future grade) to remain in place were screened against ESLs; bolded values exceed Residential ESLs.

Results for soil to be removed and shallow soil (0 to 10 feet below future grade) to remain in place were screened against Residential LTCP criteria; shaded values exceed the Residential LTCP criteria.

a-msl - above mean sea level

bgs - below ground surface

BTEX - Benzene, toluene, ethylbenzene and xylenes using EPA Method 8260B

ESLs - Environmental Screening Levels

LTCP = Low Threat Underground Storage Tank Case Closure Policy, State Water Resources Control Board, May 2012

mg/kg - milligrams per kilogram

MTBE = Methyl tertiary butyl ether by EPA Method 8260.

TPHg - Total Petroleum Hydrocarbons as Gasoline using EPA Method 8015M

TPHd - Total Petroleum Hydrocarbons as Diesel Range using EPA Method 8015M

TPHmo - Total Petroleum Hydrocarbons as Motor Oil using EPA Method 8015M

< 1.0 - Analyte was not detected above the laboratory reporting limit (1.0 mg/kg)

- - not analyzed, not applicable or criteria not established

Residential LTCP = Table 1 - Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health, State Water Resources Control Board, May 2012; the 0 to 5 feet bgs depth interval protects potential receptors from ingestion, dermal contact and inhalation of potentially contaminated soil.

Residential ESL = Table A-1 - Environmental Screening Levels for Shallow Soil (<3 meters), Residential Land Use, where groundwater is a current or potential drinking water resource, as established by the San Francisco Regional Water Quality Control Board, December 2013.

Commercial ESL = Table A-2 - Environmental Screening Levels for Shallow Soil (<3 meters), Commercial Land Use, where groundwater is a current or potential drinking water resource, as established by the San Francisco Regional Water Quality Control Board, December 2013.

Construction Worker ESL = Table K-3 - Direct Exposure Soil Screening Levels, Construction/Trench Worker Exposure Scenario, as established by the San Francisco Regional Water Quality Control Board, December 2013.

Table 3
Soil Analytical Results for VOCs
3093 Broadway
Oakland, California

Langan Project: 731637001
 July 2015

Sample ID	Sample Date	Sample Elevation feet a-mal	1,2,4-Trimethyl- benzene	1,2-Dichloroethane (1,2-DCA)	1,3,5-Trimethyl- benzene	2-Butanone (MEK)	4-Isopropyl toluene	4-Methyl-2- pentanone (MIBK)	Isopropyl- benzene	n-Butyl benzene	n-Propyl benzene	t-Butyl alcohol (TBA)	All Other VOCs
			mg/kg										
Soil to be Removed¹													
B-1-2.5	5/12/2015	61.52	<0.0088	<0.0088	<0.0088	<0.035	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	ND
B-1-7.5	5/15/2015	56.52	<0.005	<0.004	<0.005	<0.02	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05	ND
B-10-2.5	5/18/2015	59.22	<0.0083	<0.0083	<0.0083	<0.033	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	ND
B-10-7.5	5/18/2015	54.22	<0.0083	<0.0083	<0.0083	<0.033	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	ND
B-20-2.5	5/19/2015	59.23	<0.0086	<0.0086	<0.0086	<0.034	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	ND
B-20-7.5	5/19/2015	54.23	<0.0088	<0.0088	<0.0088	<0.035	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	<0.0088	ND
B-30-2.5	5/11/2015	59.24	<0.0091	<0.0091	<0.0091	<0.036	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	ND
B-30-7.5	5/11/2015	54.24	<0.0087	<0.0087	<0.0087	<0.035	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	<0.0087	ND
B-36-2.5	5/20/2015	63.07	<0.0097	<0.0097	<0.0097	<0.039	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	ND
B-36-7.5	5/20/2015	58.07	<0.0093	<0.0093	<0.0093	<0.033	<0.0093	<0.0093	<0.0093	<0.0093	<0.0093	<0.0093	ND
B-36-12.5	5/20/2015	53.07	<0.0091	<0.0091	<0.0091	<0.035	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	ND
B-37-2.5	5/20/2015	61.45	<0.008	<0.008	<0.008	<0.032	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	ND
B-37-7.5	5/20/2015	56.45	<0.0086	<0.0086	<0.0086	<0.034	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	<0.0086	ND
B-38-2.5	5/20/2015	56.58	<0.0092	<0.0092	<0.0092	<0.037	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092	<0.0092	ND
B-39-2.5	5/20/2015	55.10	<0.0084	<0.0084	<0.0084	<0.034	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	ND
RB-63	5/15/2015	58.71	-	<0.2	-	-	-	-	-	-	-	<2.5	ND
Soil to Remain in Place² - Results for Future Shallow Soil (0 to 10 feet below future grade)													
B-36-17.5	5/20/2015	48.07	<0.0091	<0.0091	<0.0091	<0.038	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	<0.0091	ND
B-36-22.5	5/20/2015	43.07	<0.0083	<0.0083	<0.0083	<0.033	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	<0.0083	ND
B-37-12.5	5/20/2015	51.45	<0.009	<0.009	<0.009	<0.036	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	ND
B-37-17.5	5/20/2015	46.45	<0.01	<0.01	<0.01	<0.04	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-38-7.5	5/20/2015	51.58	<0.0084	<0.0084	<0.0084	<0.034	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	ND
B-38-12.5	5/20/2015	46.58	<0.0084	<0.0084	<0.0084	<0.034	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	ND
B-39-7.5	5/20/2015	50.10	<0.0089	<0.0089	<0.0089	<0.036	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	<0.0089	ND
B-39-12.5	5/20/2015	45.10	<0.0082	<0.0082	<0.0082	<0.033	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	<0.0082	ND
B-40-2.5	5/13/2015	50.18	<0.0095	<0.0095	<0.0095	<0.038	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	ND
B-40-7.5	5/13/2015	45.18	<0.0093	<0.0093	<0.0093	<0.037	<0.0093	<0.0093	<0.0093	<0.0093	<0.0093	<0.0093	ND
B-41-2.5	5/20/2015	51.71	<0.0085	<0.0085	<0.0085	<0.034	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	ND
B-41-7.5	5/20/2015	46.71	<0.0081	<0.0081	<0.0081	<0.033	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	<0.0081	ND
B-42-2.5	5/20/2015	51.95	<0.0084	<0.0084	<0.0084	<0.034	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	<0.0084	ND
B-42-7.5	5/20/2015	46.95	<0.009	<0.009	<0.009	<0.036	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	ND
B-43-2.5	5/20/2015	50.83	<0.009	<0.009	<0.009	<0.036	<0.009	<0.009	<0.009	<0.009	<0.009	<0.009	ND
B-43-7.5	5/20/2015	45.83	<0.0085	<0.0085	<0.0085	<0.034	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	<0.0085	ND
MW-18-7.5	5/13/2015	46.01	-	<0.004	-	-	-	-	-	-	-	-	ND
MW-19-7.5	5/13/2015	44.85	-	<0.004	-	-	-	-	-	-	-	-	ND

Table 4
Soil Analytical Results for PAHs
3093 Broadway
Oakland, California

Langan Project: 731637001
 July 2015

Sample ID	Sample Date	Sample Elevation feet a-msl	1-Methyl-naphthalene	2-Methyl-naphthalene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Fluoranthene	Indeno (1,2,3-c,d)pyrene	Phenanthrene	Pyrene	Other PAHs
			mg/kg												
Soil to be Removed¹															
B-1-2.5	5/12/2015	61.52	<0.05	<0.05	0.18	0.33	0.34	0.28	0.17	0.16	0.29	0.21	0.22	0.27	ND
B-1-7.5	5/15/2015	56.52	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-10-2.5	5/18/2015	59.22	<0.01	<0.01	0.014	0.022	0.019	0.018	0.012	<0.01	0.018	0.012	<0.01	0.013	ND
B-10-7.5	5/18/2015	54.22	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-20-2.5	5/19/2015	59.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-20-7.5	5/19/2015	54.23	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-30-2.5	5/11/2015	59.24	<0.01	<0.01	0.012	0.012	0.014	<0.01	<0.01	<0.01	0.011	<0.01	<0.01	0.013	ND
B-30-7.5	5/11/2015	54.24	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-36-2.5	5/20/2015	63.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	ND
B-36-7.5	5/20/2015	58.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-36-12.5	5/20/2015	53.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-37-2.5	5/20/2015	61.45	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-37-7.5	5/20/2015	56.45	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-38-2.5	5/20/2015	56.58	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	ND
B-39-2.5	5/20/2015	55.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
Shallow Soil to Remain in Place² - Results for Future Shallow Soil (0 to 10 feet below future grade)															
B-1-12.5	5/15/2015	61.52	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-1-17.5	5/15/2015	46.52	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-2-12.5	5/15/2015	49.36	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-2-17.5 ³	5/15/2015	44.36	16	27	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
B-3-12.5	5/19/2015	49.36	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
B-3-17.5	5/19/2015	44.36	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
B-4-12.5	5/19/2015	49.28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-4-17.5	5/19/2015	44.28	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-5-12.5	5/15/2015	49.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-5-17.5	5/15/2015	44.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-6-12.5	5/15/2015	49.32	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-6-17.5	5/15/2015	44.32	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-7-12.5	5/19/2015	49.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
B-7-17.5	5/19/2015	44.31	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	ND
B-8-12.5	5/19/2015	49.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-8-17.5	5/19/2015	44.27	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND
B-9-12.5	5/12/2015	49.16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	ND

**Table 5
Soil Analytical Results for Metals**
3888 Broadway
Oakland, California

Sample ID	Sample Date	Sample Description (Feet-e-ml)	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium (WET)	Cobalt	Copper	Lead	Lead (WET)	Lead (WET)	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
																							mg/kg
Soils to be Remediated																							
B1-2.5	5/15/2015	07-15	1.8	8	220	<0.5	1.8	32	<0.05	<0.05	7.5	37	179	4.0	<0.20	0.22	0.85	3.5	<0.5	<0.5	<0.5	41	1,400
B1-7.5	5/15/2015	10-10	<0.5	4.4	130	<0.5	<0.25	37	<0.05	<0.05	12	19	7.1	-	<0.05	0.3	30	<0.5	<0.5	<0.5	49	29	
B1-10.5	5/15/2015	13-20	<0.5	6.3	130	<0.5	<0.25	37	-	-	12	11	9	-	<0.05	0.41	35	<0.5	<0.5	<0.5	20	21	
B1-13.5	5/15/2015	16-22	<0.5	3.4	130	<0.5	<0.25	32	-	-	9.9	9.8	4.9	-	<0.05	<0.5	31	<0.5	<0.5	<0.5	20	22	
B2-2.5	5/15/2015	10-20	<0.5	8.2	140	<0.5	<0.25	54	-	-	9.5	18	11	-	<0.05	0.2	35	<0.5	<0.5	<0.5	33	30	
B2-7.5	5/15/2015	13-23	<0.5	3.1	33	<0.5	<0.25	33	-	-	7.3	11	6.9	-	<0.05	<0.5	33	<0.5	<0.5	<0.5	37	21	
B2-10.5	5/15/2015	16-24	0.34	4.2	330	<0.5	0.26	52	0.13	<0.05	8.1	19	229	22	0.22	0.40	0.66	30	<0.5	<0.5	<0.5	48	210
B2-13.5	5/15/2015	19-25	<0.5	6.4	170	<0.5	<0.25	61	<0.05	<0.05	13	22	7.7	-	<0.05	<0.5	31	<0.5	<0.5	<0.5	51	36	
B3-2.5	5/20/2015	03-07	0.94	3.9	230	0.61	<0.25	41	-	-	8.4	29	40	-	<0.05	<0.5	31	<0.5	<0.5	<0.5	30	31	
B3-7.5	5/20/2015	07-07	0.98	17	110	0.94	<0.25	130	0.14	<0.05	3.5	27	7.5	-	0.1	0.37	0.4	<0.5	<0.5	<0.5	61	44	
B3-12.5	5/20/2015	10-12	<0.5	0.7	150	0.7	<0.25	57	<0.05	<0.05	8.2	29	5.6	-	0.11	0.25	0.6	<0.5	<0.5	<0.5	53	66	
B3-17.5	5/20/2015	03-05	0.39	0.2	81	<0.5	<0.25	69	0.025	<0.05	8.3	18	5.5	-	0.096	0.30	0.6	<0.5	<0.5	<0.5	61	29	
B3-22.5	5/20/2015	05-09	0.29	6.3	120	0.34	<0.25	130	0.14	<0.05	9.2	24	2.1	-	0.14	0.39	0.3	<0.5	<0.5	<0.5	61	110	
B3-27.5	5/20/2015	10-14	<0.5	6.3	92	<0.5	<0.25	21	-	-	6.9	19	18	-	0.081	<0.5	14	<0.5	<0.5	<0.5	50	89	
B3-32.5	5/20/2015	03-11	<0.5	3.7	160	<0.5	<0.25	39	-	-	9.5	19	9.4	-	<0.05	<0.5	32	<0.5	<0.5	<0.5	44	27	
Soils to be Remediated in Place - Results for Metals Shallow Soil (0 to 10 feet below future grade)																							
B3-11.5	5/20/2015	03-02	<0.5	6.8	350	<0.5	0.28	37	-	-	8	29	3.2	-	0.03	0.71	0.3	<0.5	<0.5	<0.5	47	44	
B3-12.5	5/20/2015	03-02	<0.5	3.4	170	0.71	<0.25	56	-	-	7.2	32	6	-	0.15	<0.5	37	<0.5	<0.5	<0.5	26	28	
B3-13.5	5/20/2015	01-05	<0.5	1.7	120	<0.5	<0.25	82	<0.05	<0.05	3.7	18	2.7	-	0.091	<0.5	58	<0.5	<0.5	<0.5	33	53	
B3-17.5	5/20/2015	08-08	<0.5	3.8	190	0.63	<0.25	60	-	-	9.9	21	4.2	-	0.1	<0.5	40	<0.5	<0.5	<0.5	30	50	
B3-17.5	5/20/2015	01-20	<0.5	4.8	100	<0.5	<0.25	61	-	-	11	12	5.2	-	0.069	<0.5	37	<0.5	<0.5	<0.5	36	38	
B3-17.5	5/20/2015	08-08	<0.5	3.8	200	<0.5	<0.25	60	-	-	18	24	12	-	0.13	0.49	0.4	<0.5	<0.5	<0.5	63	53	
B3-27.5	5/20/2015	03-10	<0.5	3.3	94	<0.5	<0.25	37	-	-	9.3	12	3.9	-	0.033	<0.5	47	<0.5	<0.5	<0.5	33	30	
B3-32.5	5/20/2015	03-12	<0.5	8.4	160	0.84	<0.25	68	-	-	27	16	8.1	-	<0.05	0.60	0.6	<0.5	<0.5	<0.5	50	30	
B4-2.5	5/15/2015	10-14	<0.5	7.9	190	0.58	<0.25	38	-	-	3.9	9.7	4.4	-	<0.05	<0.5	81	<0.5	<0.5	<0.5	31	22	
B4-7.5	5/15/2015	16-19	<0.5	4.8	130	<0.5	<0.25	34	-	-	9	17	7	-	0.031	1.1	55	<0.5	<0.5	<0.5	41	30	
B4-12.5	5/20/2015	01-21	<0.5	5.8	100	0.62	<0.25	78	0.061	0.066	5.3	22	10	-	0.1	0.78	0.9	<0.5	<0.5	<0.5	62	26	
B4-17.5	5/20/2015	08-21	<0.5	6.8	170	0.26	<0.25	47	-	-	30	21	9.2	-	<0.05	0.71	7.9	<0.5	<0.5	<0.5	62	19	
B4-22.5	5/20/2015	01-25	<0.5	4.8	170	<0.5	<0.25	46	-	-	31	14	21	-	0.098	<0.5	35	<0.5	<0.5	<0.5	41	37	
B4-27.5	5/20/2015	08-26	<0.5	1.8	35	<0.5	<0.25	8.8	-	-	3.1	6.5	2.3	-	<0.05	<0.5	12	<0.5	<0.5	<0.5	8.8	7	
B4-32.5	5/20/2015	01-31	<0.5	3.8	38	<0.5	<0.25	17	-	-	7.7	28	60	-	0.48	<0.5	21	<0.5	<0.5	<0.5	53	130	
B4-37.5	5/20/2015	02-01	<0.5	8.0	1000	0.94	3.2	-	-	-	27	46	17	-	0.38	2.1	410	0.61	<0.5	7.8	84	50	
Soils to be Remediated in Place - Results for Metals Deep Soil (greater than 10 feet below future grade)																							
B3-12.5	5/20/2015	03-02	<0.5	4.7	190	0.32	<0.25	42	-	-	8	21	5.3	-	0.031	<0.5	60	<0.5	<0.5	<0.5	30	32	
B3-17.5	5/15/2015	08-10	<0.5	4.8	160	<0.5	<0.25	36	-	-	9.7	16	6	-	0.11	<0.5	57	<0.5	<0.5	<0.5	30	49	
B4-12.5	5/20/2015	01-21	<0.5	9.4	340	0.31	0.41	84	-	-	12	22	5.5	-	0.091	1.5	32	<0.5	<0.5	<0.5	44	24	
B4-17.5	5/20/2015	01-26	<0.5	5.3	190	0.91	0.21	70	-	-	13	25	8.9	-	0.055	0.93	0.8	<0.5	<0.5	<0.5	55	61	
TEL			20	30	10,000	75	100	2,500	-	-	8,000	2,300	1,000	-	20	3,900	2,000	100	500	700	2,400	5,000	
TEL			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Residential ESL			20	0.34	700	4	12	1,000	-	-	21	230	30	-	0.7	60	150	10	20	0.78	200	100	
Commercial ESL			20	1.60	1,500	8	12	2,500	-	-	30	330	350	-	70	60	350	30	40	10	700	600	
Construction Worker ESL			150	10	61,000	100	150	-	-	-	39	10,000	300	-	27	1,500	6,100	1,000	1,000	3	1,500	33,000	

Notes:
Soil samples located above the future site grade elevation of 52 feet-e-ml

Shaded (upper 10 feet) light and deep (greater than 10 feet) light soil samples located below the proposed future site grade elevation of 52 feet-e-ml

Results for soil to be removed and shallow soil (0 to 10 feet below future grade) to remain in place were measured against TELs; shaded values exceed Residential ESLs.

Results for soil to be removed were screened against hazardous waste criteria; shaded values exceed hazardous waste criteria.

e-ml - above mean sea level

fgs - below ground surface

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

STC - California Statewide Threshold Limit Concentration

TCLP - Federal Toxicity Characteristic Leaching Procedure

TLC - Total Threshold Limit Concentration

WET - California waste extraction test

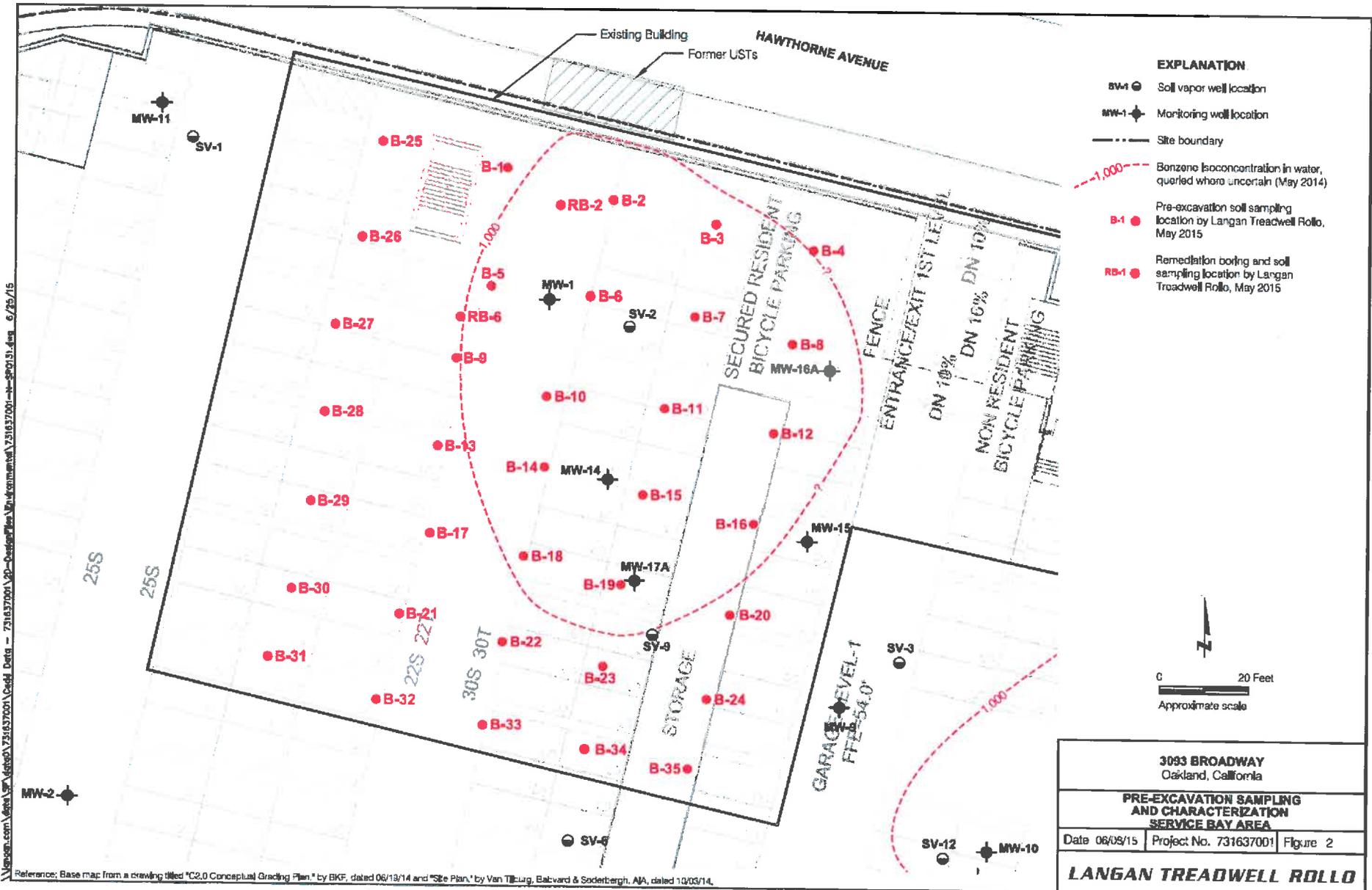
- not analyzed, no applicable criteria or criteria not established

cd.9 - Analyte was not detected at or above the laboratory reporting limit (5.0 mg/kg)

Residential ESL = Table A-1 - Environmental Screening Levels for Shallow Soil (<3 meters), Residential Land Use, where groundwater is a current or potential drinking water resource, as established by the San Francisco Regional Water Quality Control Board, December 2013

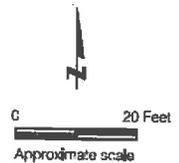
Commercial ESL = Table A-2 - Environmental Screening Levels for Shallow Soil (<3 meters), Commercial Land Use, where groundwater is a current or potential drinking water resource, as established by the San Francisco Regional Water Quality Control Board, December 2013

Construction Worker ESL = Table E-3 - Direct Exposure Soil Screening Levels, Construction/Truck Wash Exposure Scenario, as established by the San Francisco Regional Water Quality Control Board, December 2013.



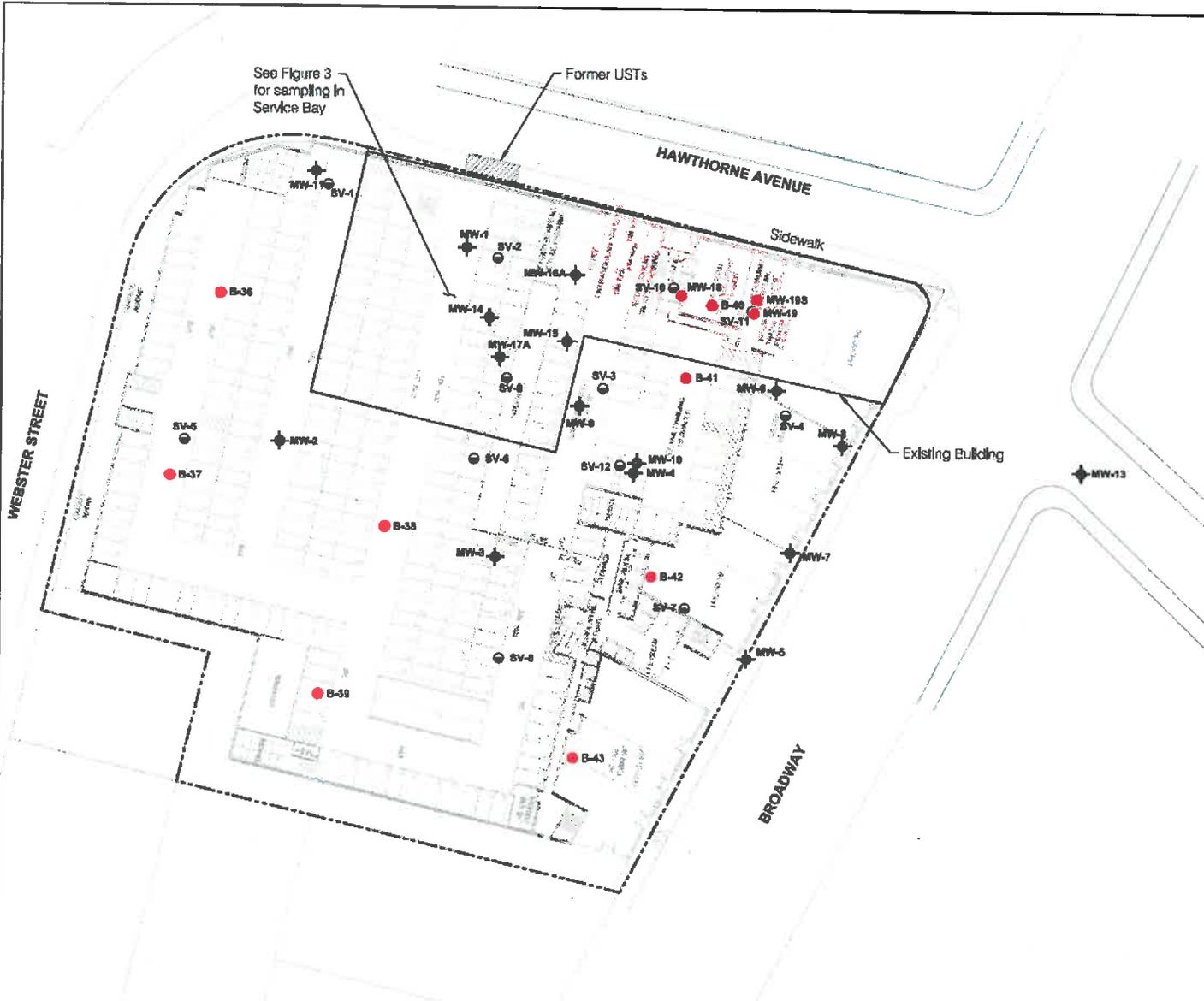
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 Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan" by BKF, dated 06/19/14 and "Site Plan" by Van Tilburg, Babvard & Soderbergh, AIA, dated 10/03/14.

- EXPLANATION**
- MW-1 Soil vapor well location
 - MW-1 Monitoring well location
 - Site boundary
 - - - - - 1,000 Bonzene Isoconcentration in water, queried where uncertain (May 2014)
 - B-1 Pre-excavation soil sampling location by Langan Treadwell Rollo, May 2015
 - RB-1 Remediation boring and soil sampling location by Langan Treadwell Rollo, May 2015



3093 BROADWAY Oakland, California		
PRE-EXCAVATION SAMPLING AND CHARACTERIZATION SERVICE BAY AREA		
Date 06/09/15	Project No. 731637001	Figure 2
LANGAN TREADWELL ROLLO		

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See Figure 3 for sampling in Service Bay

Former USTs

HAWTHORNE AVENUE

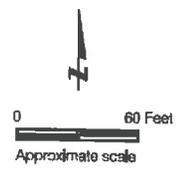
BROADWAY

Existing Building

EXPLANATION

- B-36** ● Pro-excavation soil sampling location by Langan Treadwell Rollo, May 2015
- SV-1** ⊙ Soil vapor well location
- MW-1** ◆ Monitoring well location
- Site boundary
- MW-18** ● Groundwater monitoring well and soil sampling location by Langan Treadwell Rollo, May 2015

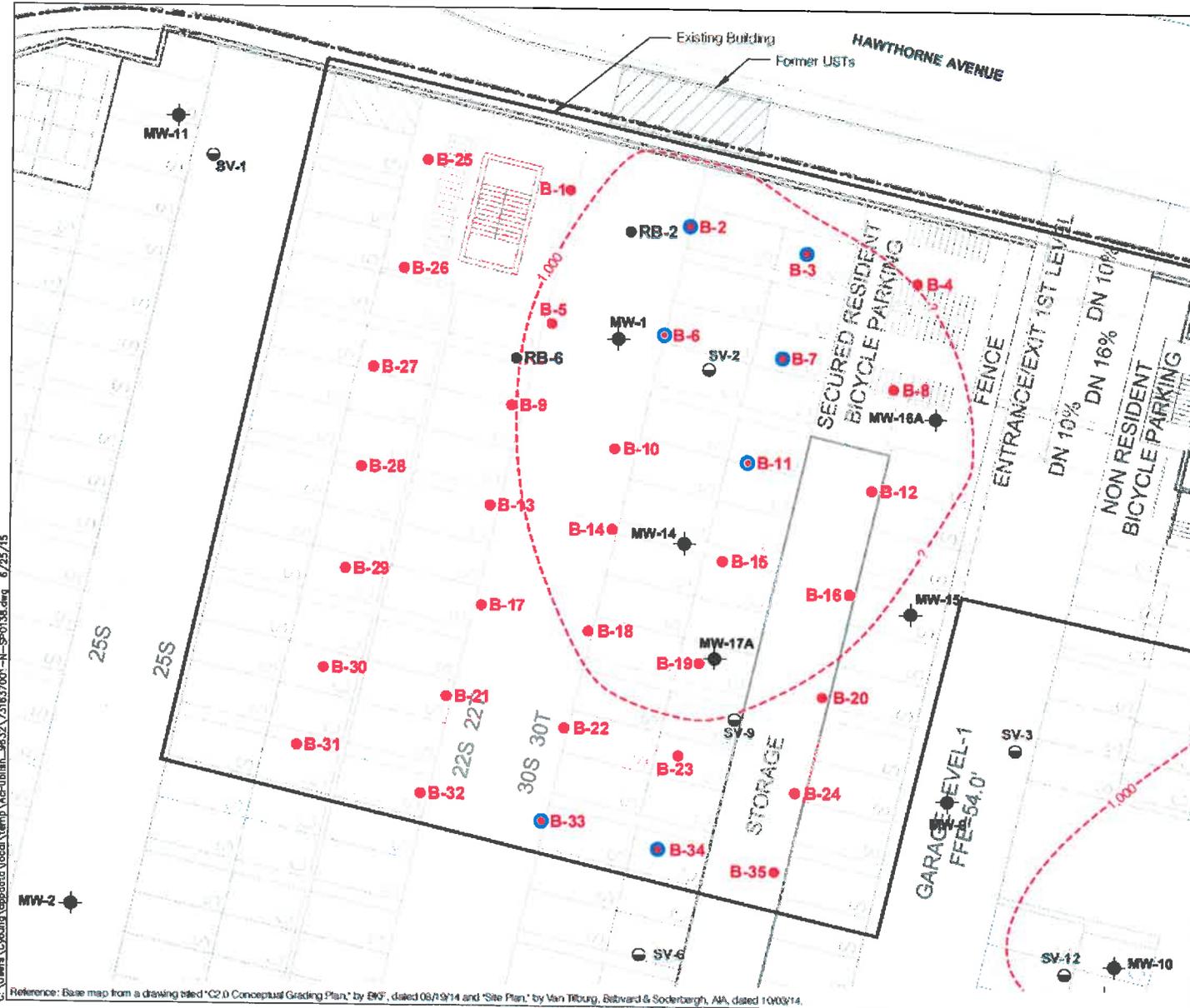
Note:
 1. Soil sampling frequency of minimum of 1 sample every 1/2 acre in general accordance with DTSC's Information advisory for clean imported fill material (2001)



3093 BROADWAY Oakland, California		
PRE-EXCAVATION SAMPLING AND CHARACTERIZATION AREAS OUTSIDE OF SERVICE BAY		
Date 06/09/15	Project No. 731637000	Figure 3
LANGAN TREADWELL ROLLO		

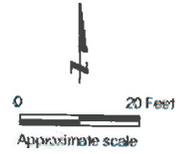
Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan" by BKF, dated 06/19/14 and "First Floor Plan" by Van Tilburg, Babward & Soederbergh, AIA, dated 10/05/14.

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- EXPLANATION**
- SV-1 ● Soil vapor well location
 - MW-1 ● Monitoring well location
 - Site boundary
 - - - - - 1,000 Benzene concentration in groundwater, queried where uncertain (May 2014)
 - B-1 ● Pre-excavation soil sampling location by Langan Treadwell Rollo, May 2015
 - RB-1 ● Remediation boring and soil sampling location by Langan Treadwell Rollo, May 2015
 - B-2 ● One or more detected concentrations in future shallow soil are projected to exceed the Residential Environmental Screening Level (ESL)

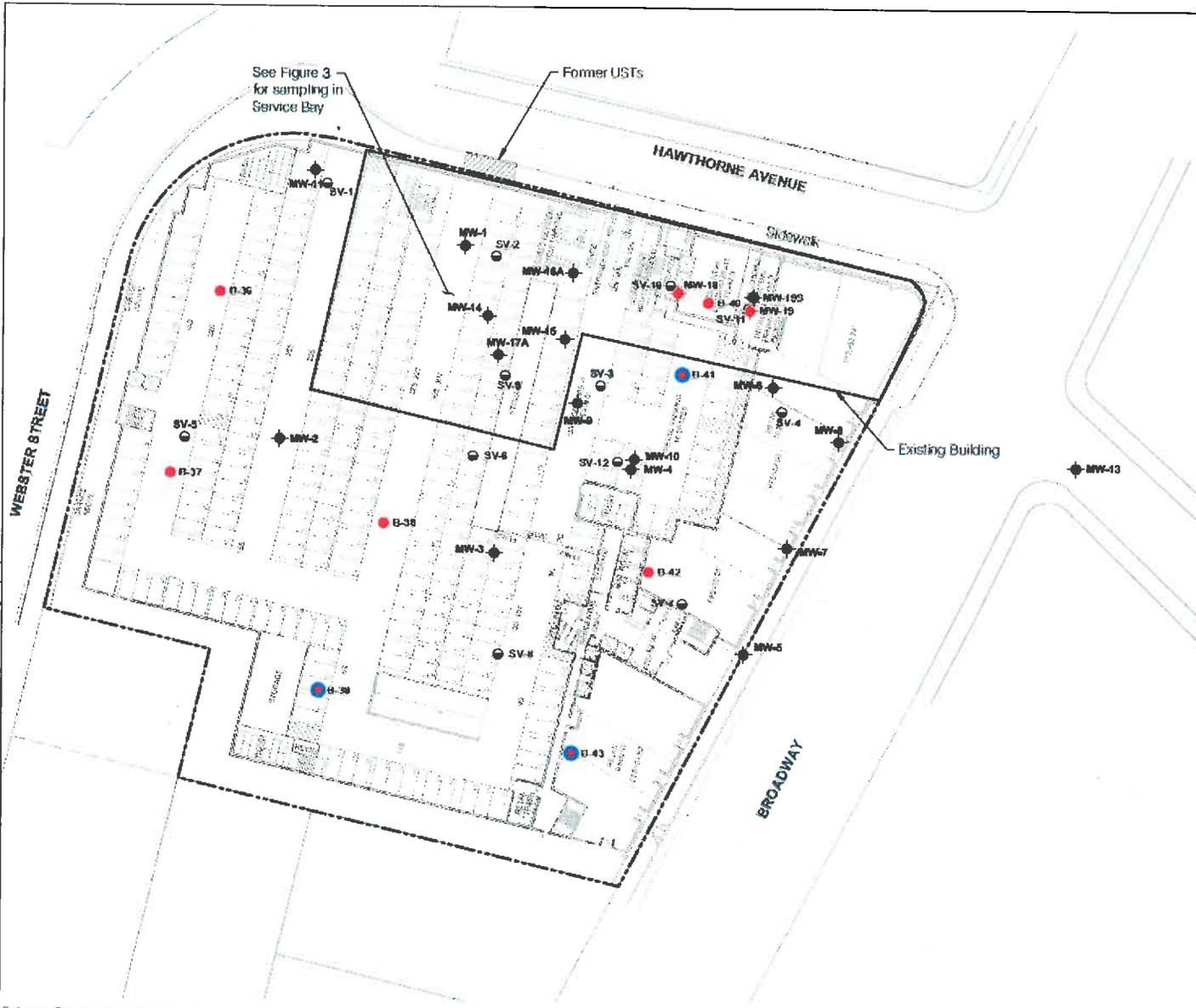
- Notes:**
1. Future shallow soil was analyzed for Total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, TPH as motor oil, benzene, toluene, ethylbenzene, xylenes (BTEX), and polycyclic aromatic hydrocarbons (PAHs).
 2. Residential ESLs for soil are from Table A-1 - Environmental Screening Levels for Shallow Soil (<3 meters), Residential Land Use, where groundwater is a current or potential drinking water resource, San Francisco Regional Water Quality Control Board, December 2013.
 3. Future site grade is planned to be 52 feet above Mean Sea Level (MSL), so soil samples collected at elevations between 42 and 52 feet above MSL are projected to be from future shallow soil.
 4. Arsenic is not included in the screening shown on this figure because naturally occurring arsenic exceeds the Residential ESL. Arsenic concentrations detected in site soil were within the range of anticipated naturally occurring arsenic concentrations.



3093 BROADWAY Oakland, California	
COMPARISON OF SHALLOW (0 - 10 FEET BGS) SOIL RESULTS TO RESIDENTIAL ESLs SERVICE BAY AREA	
Date 05/08/15	Project No. 731637001 Figure 4
LANGAN TREADWELL ROLLO	

Reference: Base map from a drawing titled "C2.0 Conceptual Grading Plan" by BWS, dated 06/19/14 and "Site Plan" by Van Tilburg, Sitward & Soderbergh, AA, dated 10/09/14.

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EXPLANATION

- B-36 Pre-excavation soil sampling location by Langan Treadwell Rollo, May 2015
- SV-1 Soil vapor well location
- ◆ MW-1 Monitoring well location
- Site boundary
- ◆ MW-18 Analysis of future shallow soil samples from locations MW-18 and MW-19 included TPH as gasoline, TPH as diesel, TPH as motor oil, 1,2-dichloroethane, MTBE, BTEX, and naphthalene
- B-41 One or more detected concentrations in shallow soil exceed the Residential Environmental Screening Level (ESL)

- Notes:
1. Future shallow soil was analyzed for Total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, TPH as motor oil, and poly aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), PCBs, pesticides, and CAM-17 Metals.
 2. Residential ESLs for soil are from Table A-1 - Environmental Screening Levels for Shallow Soil (<3 meters), Residential Land Use, where groundwater is a current or potential drinking water resource, San Francisco Regional Water Quality Control Board, December 2013.
 3. Future site grade is planned to be 52 feet above Mean Sea Level (MSL), so soil samples collected at elevations between 42 and 52 feet above MSL are projected to be from future shallow soil.
 4. Arsenic is not included in the screening shown on this figure because naturally occurring arsenic exceeds the Residential ESL. Arsenic concentrations detected in site soil were within the range of anticipated naturally occurring arsenic concentrations.



3093 BROADWAY Oakland, California		
COMPARISON OF SHALLOW (0 - 10 FEET BGS) SOIL RESULTS TO RESIDENTIAL ESLs AREAS OUTSIDE OF SERVICE BAY		
Date 06/08/15	Project No. 731837001	Figure 5
LANGAN TREADWELL ROLLO		

Reference: Base map from a drawing titled 'C2.0 Conceptual Grading Plan,' by BKF, dated 05/19/14 and 'First Floor Plan,' by Van Tilburg, Bayard & Soderbergh, AIA, dated 10/08/14.