WOOD
PARTNERS

23 May 2016
Project 731641601

Mr. Mark Detterman, PG, CEG
Senior Hazardous Materials Specialist
Alameda County Health Care Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Subject: Environment Health & Safety Plan and Perimeter Air Monitoring Plan
2302 Valdez Street
Oakland, California
Alameda County SCP Case No. RO0003149
Langan Project: 731641601

Dear Mr. Detterman:

As a legally authorized representative of CRP/WP Alta Waverly Owner, LLC, and on behalf of CRP/WP Alta Waverly Owner, LLC, I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document titled *Environment Health & Safety Plan and Perimeter Air Monitoring Plan, 2302 Valdez Street, Oakland, CA,* Alameda County SCP Case No. RO0003149, are true and correct to the best of my knowledge.

Sincerely yours,

Brian Pianca
Wood Partners

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Environmental Health & Safety Plan and
Perimeter Air Monitoring Plan

2302 Valdez Street
Oakland, California

Updated May, 2016

Prepared For:

Wood Partners
20 Sunnyside Avenue, Suite B
Mill Valley, CA 94941

Paul M. Spillane, CIH, CAC (May 20, 2016)

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Environmental Health and Safety Plan
2302 Valdez Street
Oakland, California

Updated May, 2016

1.0 Introduction

The purpose of this Environmental Health and Safety Plan (EHASP) is to provide Wood Partners (WP) of Mill Valley, California, the General Contractor, and sub-contractors with health and safety guidelines for handling of potentially contaminated soil that may be encountered during the 2302 Valdez Street project located in Oakland, Alameda County, California.

The overall project is to construct a 6-story building with retail and parking at grade. There will be one level below grade for parking. According to the project documents, the building will require minimal excavation except for utility corridors, elevator pits, and pile caps. Areas of the site that are not covered by the building food print will be landscaped, or have concrete or pavers that will act as a cap to reduce human health exposure.

Although this EHASP is directed toward site personnel whose work will require them to handle potentially contaminated soils, its provisions also apply to other personnel on site who may have occasion to enter contaminated work areas. This EHASP shall be available on site during all activities that require handling of contaminated soils.

This EHASP includes the overall general responsibilities of WP and all subcontractors, to meet minimum prescribed safety provisions in handling contaminated soils or materials. This EHASP is not intended to either replace work practices or substitute existing safe work practices as described in WP's and subcontractor's Illness and Injury Prevention Programs (IIPP) as required in 8CCR3203. These IIPPs are incorporated into this document by reference.

The scope of work generally consists of performing the all soils necessary work for a complete project. The activities covered by this EHASP consist of soils work necessary to complete the project. This work will involve excavation, grading, and shoring. Anticipated contaminants in soils and groundwater include heavy metals and total petroleum hydrocarbons (TPH). Site contaminants are further discussed in Section 3.2.

Documents reviewed for this EHASP include the following;

- Langan Treadwell Rollo. "Geotechnical Investigation, 23rd and Valdez, Oakland, California" February 2, 2015
- Langan Treadwell Rollo "Soil and Groundwater Management Plan, 2302 Valdez Street, Oakland, California" August 11, 2015

2.0 Project Organization

2.1 Project Manager

WP's Project Manager, Tony Galbo, has responsibility for overall management of health and safety for the project. Specific duties include:

- Ensure safety procedures comply with applicable federal, state, and local regulations
- Notification of all subcontractors of activities that could involve potential work with contaminated soils.
- Notify Cal-OSHA of excavation related work as needed.
- Investigate accident and incidents promptly
- Conduct periodic audits of the work area health and safety conditions
- Provide technical assistance to site safety personnel as required

WP's Project Manager shall follow the training guidelines as described in Section 6.0 of this EHASP. He shall be on-site as a minimum whenever unknown contaminated materials or subsurface structures are encountered.

2.2 Competent Person

WP's Project Competent Person, Brian Hughes (with the alternate to be determined), has primary responsibility for assuring that all its personnel, and applicable subcontractors, comply with relevant aspects of this EHASP. Specific duties of the WP Project Competent Person include the following:

- Ensure site has been cleared of underground utilities before excavation begins.
- Ensure personnel wear the appropriate protective equipment in the work areas (Section 5.0)
- Control access into contaminated areas and ensure that only trained and authorized personnel enter these areas.
- Ensure dust controls during soil disturbance.
- Ensure compliance with this EHASP.
- Provide regular pre-task health and safety briefings.
- Stop work if there is any reason to expect that the work cannot be completed safely

2.3 Site Health and Safety Officer

WP's Site Health and Safety Officer (HSO), to be determined, will be responsible for the following:

- Ensure that site personnel receive necessary training (Section 6.0)
- Ensure personal air monitoring is conducted (Section 7.0)
- Ensure employees and relevant subcontractors comply with the medical surveillance requirements (Section 14.0)
- Conduct periodic inspections of the work area health and safety conditions
- Assist the project manager with health and safety related responsibilities

3.0 Hazard Analysis

3.1 Routes of Exposure

In dealing with any hazardous or potentially hazardous substance, all routes of exposure should be protected as necessary. These routes and methods to minimize exposure are described below.

3.1.1 Inhalation

Inhalation is the most common route of occupational exposure to gases, vapors, mists, fumes or dusts. It may result in respiratory damage and/or may cause systemic illness. The risk of such adverse effects depends on the airborne concentration and on the nature of the contaminant(s). The California Division of Occupational Safety and Health (Cal-OSHA) has promulgated Permissible Exposure Levels (PELs) for airborne contaminants. PELs represent legally enforceable limits for airborne exposure to contaminants. Exposures that exceed current PELs require protective measures such as engineering and or administrative controls and or the use of respiratory protection. Cal-OSHA's PELs may be found in Title 8 of California Code of Regulations Section 5155 (8CCR5155).

Sections 5.0 and 13.0 discuss the selection of respiratory protection for this project. Section 7.0 describes when respirator use may be discontinued.

3.1.2 Skin Contact

Skin contact with certain materials may cause skin irritation and may also result in systemic absorption. The following precautions must be used when inspecting sites which may contain materials with the potential for dermal absorption:

1. Ensure that exposed skin is protected during site work;
2. Use proper procedures for removing contaminated clothing while still at the site;
3. Contaminated rags and other disposable items, such as gloves, should be bagged for proper disposal, avoiding skin contact;
4. Choose protective clothing suitable for anticipated materials.
5. If skin contact with hazardous materials occurs, immediately rinse area with water and seek medical attention.

Section 5.2 discusses the appropriate personal protective equipment suitable for this project.

3.1.3 Ingestion

The ingestion of hazardous material may occur when drinking, eating, or smoking in contaminated areas, or with contaminated hands. This can be avoided through the use of the prescribed protective clothing, through the restriction of eating, drinking, and smoking to uncontaminated areas, and through good personal hygiene practices. Eating, drinking and smoking are prohibited on-site until decontamination procedures have been completed and only then outside the exclusion area. The purpose of decontamination procedures described in Section 8.0 is to minimize the potential for accidental ingestion of toxic materials. First aid for ingestion of site materials is not considered to be necessary as the site materials are not an acute health risk.

3.1.4 Eye Contact

The eyes are sensitive to damage from a number of solids, liquids, or vapors. Effects may range from mild irritation to severe damage. The actual effect depends on the material and on the quantity to which the eye may have been exposed. The following precautions to avoid eye injury must be taken when entering the site:

1. Wear safety glasses when performing the following work: cutting, torching grinding, or any other related activities;
2. Do not rub eyes;
3. Never wear contact lenses when working in areas where hazardous materials are likely to be encountered. Contact lenses cannot be worn when respirator use may be required.
4. If eye contact with hazardous materials occurs, immediately rinse eyes with water and seek medical attention.

3.2 Inhalation Hazards

The chemical inhalation hazards associated with this project are anticipated to be relatively low. Levels of metals were just above the detection limits. Tables 1 to 2 show highest levels of significant contaminants as reported in the project documents. These tables also provides an industrial hygiene evaluation of anticipated exposures while disturbing contaminated soil and ground water. Table 1's model is based on airborne dust, which generally becomes visible at concentrations of approximately 0.5 milligrams of dust per cubic meter of air (mg/m^3). This level of dust represents 5% of the current Cal-OSHA Permissible

Exposure Limit (PEL) for total dust. If just visible airborne dust were to contain the concentration of metal listed, then an airborne exposure can be estimated. Table 2 also provides an industrial hygiene evaluation of anticipated SVOC/VOC exposures while disturbing contaminated soil. This model is based continuous evaporation into a space of two cubic meters of a given chemical's soil concentration. This model conservatively assumes continuous evaporation and converts this to a part per million (ppm) exposure.

Tables 1 to 2 conservatively estimate these airborne exposures in micrograms per cubic meter ($\mu g/m^3$) or part per million (ppm) exposure compares them to the Cal-OSHA PELs based on an 8-hour time weighted average (8h-TWA). Therefore, to reach worst case projected exposures would require continuous emissions of just visible dust for an entire shift. Given that dust control is a project requirement, this is an unlikely scenario. Consequently, the airborne exposure is expected to be very low for work that disturbs soil/earth material on this project. With adequate dust control the model shows levels are about 100 times below the PEL.

Dermal exposure potential is also considered to be low due to the relatively low concentrations found on site. However, inadequate personal hygiene practices could lead to inadvertent ingestion of these materials.

3.3 Physical Hazards

The physical hazards of this project should be normal to WP and the subcontractors' activities and thus should already be addressed in their IIPPs. These are incorporated by reference into this EHASP and shall be available on site during fieldwork. However, the following safety issues should be considered during this project.

- Underground utility clearance before excavation.
- Compliance with Cal-OSHA's excavation safety orders if the work will require anyone to enter excavations deeper than five feet. These orders require a permit from Cal-OSHA as described in 8CCR1539.
- All trenches or excavations greater than 10 feet in depth or not open to the air shall be evaluated for methane accumulation prior to entry by personnel.

Other physical hazards typical of construction activities include working around heavy equipment, electrical work, noise, slips and falls, back strains from lifting, and cuts from jagged edges and protrusions. These hazards are already addressed in WP's IIPP, and should be discussed during routine tailgate safety meetings.

Work with and around heavy equipment will require adherence to the following general practices. The safe practices stated below are not intended to substitute existing IIPP requirements. They are reiterated below to serve as reminders for site employees:

- Use of reflective vests around moving equipment.
- Eye contact with equipment operator.
- Operators to be trained on the proper use and limitations of the equipment.
- Rated equipment capacity shall not be exceeded.
- Operators shall wear seat belts provided.
- Equipment guards shall be left in place except for routine maintenance and for repairs. Guards removed shall be replaced promptly.
- Manufacturer's recommended preventive maintenance procedures shall be followed.

- Personnel shall not work under suspended loads.
- Equipment shall be fitted with audible electronic back up alarms.
- Equipment shall be placed on firm stable ground before use.
- Operators and employees shall use seats provided only.
- Operators shall not get on or off equipment while it is in motion.

Work around equipment or noise sources that exceed 85 decibels on the A-weighted scale will require the use of either ear muffs or insert hearing protectors. Ear muffs shall be maintained in a clean and sanitary condition. Insert hearing protectors shall be disposed of after each use. Users of insert protectors shall ensure hands are clean before inserting plugs into ears.

There are no anticipated temperature hazards on this site. The WP IIPP will include precautions for prevention of heat stress, which will be implemented as needed should temperature extremes occur.

3.4 Overview of Safety Procedures

The hazards described above shall be controlled through a combination of engineering and administrative controls and through the use of personal protective equipment.

The engineering controls applicable to this project shall be to implement appropriate dust control measures to minimize visible airborne dust emissions. This shall consist of a water truck to be used regularly on contaminated soil so as to minimize dust emissions. If visible dust clouds are noticed at any time on site, the dust-producing work in that area will be required to be discontinued until dust control measures are effective at controlling visible dust emissions.

The administrative controls for this project shall consist of limiting access to contaminated areas to properly trained and equipped personnel. These individuals shall follow the required decontamination procedures when leaving the contaminated work areas. In addition, smoking and other sources of ignition will be prohibited from trench areas until they have been evaluated for methane accumulation.

The project Health and Safety Officer shall ensure the following activities are conducted to ensure that employees are properly protected when the work involves handling contaminated materials:

- Designate contaminated areas and establish site control;
- Provide the necessary equipment for decontamination;
- Conduct daily site inspections to verify the appropriate precautions are in effect;
- Conduct periodic air monitoring of excavations where unusual odors are encountered;
- Identify the nearest emergency facilities (if not already done);

These procedures are described in this EHASP.

4.0 Site Control

4.1 Contaminated Areas

Known site contaminants are present in low concentrations in most areas, with occasional pockets of higher concentrations. As explained in Section 3.2, it is unlikely that worker exposure will exceed applicable Cal-OSHA PELs. Therefore, exclusion zones as defined in 8CCR5192 will not be required. However, areas either known to be contaminated or areas where there is visible evidence of contamination (soil

discoloration, unusual odors etc.) shall be designated as contaminated areas if verified as such by a professional. These shall be delineated with cones, barricade tape, temporary or other visible means. Appropriate personal protective equipment shall be worn when working in this area as described below.

The absence of exclusion zones shall not relieve site workers from the requirement for personal hygiene before eating, drinking or smoking. Vehicle access into contaminated work areas shall be restricted only to the equipment required for the work, and to the water truck for dust control.

Access to the project site shall be restricted to authorized personnel only. Site visitors will be required to check in at the office trailer upon entry and exit. Visitors authorized to enter active work areas shall sign in an entry and exit log. Access to the site shall be locked outside working hours.

4.2 Decontamination Area

An upwind location from contaminated work areas shall be designated for the removal of protective clothing and for field washing. This decontamination zone shall include provisions for boot washing and rinsing. Contaminated water and rinsates shall be stored on site temporarily. This waste, if it exists, shall be sampled and analyzed to determine appropriate disposal.

5.0 Personal Protective Equipment

5.1 Selection Criteria

The EPA has classified personal protective equipment (PPE) ensembles into four categories for different levels of hazards. They are as follows.

- *Level A* This type of protection should be worn when the highest level of respiratory, skin, eye and mucus membrane protection is needed.
- *Level B* Level B protection should be selected when the highest level of respiratory protection is needed, but a lesser level of skin and eye protection.
- *Level C* This level protection should be selected when the actual or potential airborne substance(s) is known, the concentration(s) is measured, the criteria for using air-purifying respirators are met, and skin and eye exposure is unlikely. Periodic air monitoring is necessary.
- *Level D* Level D is primarily work clothing.

The PPE selection criteria for unexpected toxic hazards that may be encountered are based on two major parameters:

- Type(s) and measured concentration(s) of the chemical substance(s) in the atmosphere, with its (their) associated toxicity
- Potential for exposure to high air concentrations of volatile substance, splashes of liquids, or other types of direct contact with material due to work functions being performed

PPE for activities where the identity of contaminants is available requires consideration of the following.

- Identity of either known or suspected contaminant
- Actual or potential airborne concentration
- Skin toxicity data
- Potential for skin or eye contact

5.2 Contaminated Area PPE Requirements

As stated in Section 3.2 of this EHASP anticipated exposures by all occupationally relevant routes is not expected to be significant. Therefore, the following (EPA level D) personal protective equipment shall be worn in contaminated areas:

- Hardhat.
- Work boots.
- Safety glasses with side shields.

All personnel who may come into direct skin contact with contaminated materials shall wear the above described PPE clothing, in addition to the following as necessary to prevent contact with the site materials:

- Nitrile gloves (when handling contaminated soils and equipment).
- Tyvek or equivalent disposable coveralls.
- Chemical splash goggles (to prevent splash into the eyes).

Unnecessary contact with potentially contaminated residues shall be avoided as much as possible.

Should air monitoring results (as discussed in Section 7.0 of this EHASP) warrant the use of respirators, protective equipment shall be upgraded to Level C. The Level C ensemble for this project shall consist of the following:

- Hardhat;
- Nitrile gloves (when handling contaminated soils and equipment);
- Tyvek or equivalent disposable coveralls;
- Safety glasses with side shields or chemical splash goggles (to prevent splash into the eyes);
- Chemical-resistant work boots; and,
- NIOSH approved half face air purifying respirator fitted with combination HEPA (either N-100 or P-100) filter with organic vapor cartridges.

5.3 Clean Area PPE Requirements

Work outside contaminated areas shall require the use of EPA level D protective equipment normal to the construction industry. Typically, this consists of hard hats, safety footwear, normal work clothing, and safety glasses as necessary.

6.0 Employee Training

As discussed in Section 3.0 of this EHASP, it is unlikely that site activities will result in exposure to health hazards other than those associated with construction activities. As a precaution, the Project Manager, Competent Person, and/or Health and Safety Officer will be familiar with this HSP, and will periodically review site safety procedures and site conditions.

Should conditions that are suspected of posing a potential increase in health & safety hazards (e.g. unusual odors, stained soil, buried drums, abandoned fuel tanks, etc.), work shall cease in the affected area(s), and the WP's representative shall be contacted for further hazard evaluation. If it is determined that resumption of the work will result in increased health & safety hazards that would require the use of respirators and other personal protective equipment, employees required to work in the area shall be current in Hazardous Waste Training, as described below:

- 40 hours hazardous waste and emergency response training;
- 3 days of documented supervised hazardous waste operations on the job training;
- 8 hour refresher course if initial training was completed more than 12 months previously, or equivalent documented work experience demonstrating a knowledge of health and safety experience, or;
- A combination of prior training and documented work experience, sufficient to satisfy the 40 hour minimum training requirement and have completed 3 days of documented supervised hazardous waste operations on the job training.

Alternatively, the contractor can hire qualified abatement professionals to remedy any areas deemed to require respirators. Once an area is remediated, employees may re-enter the area without any precautions.

Furthermore all site personnel shall be familiar with the contents and requirements of this EHASP. This information shall be presented at a project start-up tailgate safety meeting mandatory for all site personnel. The Health and Safety Officer will conduct this meeting. Table 3 shows an outline for the site specific tailgate safety meeting in this EHASP which shall include a brief discussion on the hazards of hydrocarbon exposure. Table 6 is a sign in form that may be used for the training session.

Additionally, employees required to enter trenches shall receive confined space awareness training that will include a discussion of emergency procedures. This training shall be consistent with WP confined space entry program.

During field work, tail-gate meetings will be held at the start of each work week to discuss the planned activities and any health and safety-related issues. Additional meetings may be needed after events such as procedure changes, PPE level adjustments, accidents, or additions to this EHASP. These meetings will be arranged by the HSO.

All subcontractor personnel who may disturb contaminated soil will be required to complete the same level of training as described above, and shall attend all safety briefings. Employee attendance shall also be documented in training attendance records (sign-in sheets).

This training is additional to the training required under WP's IIPP. Additional training may be required should project conditions change or warrant it. This includes respiratory protection training if air monitoring shows respirators are needed.

Prior to commencing work each day, either the Health and Safety Officer or Project Manager will ensure that the following tasks are performed:

1. Safety briefing, as scheduled, for all site personnel to discuss the activities to be performed during the day, as well as any anticipated safety or health issues. A weekly safety briefing will also emphasize proper emergency procedures, and will identify any health and safety related changes from this EHASP.
2. A site inspection to identify and eliminate or control physical hazards that may exist on the project site (moving ground, tripping hazards, slipping hazards, sharp objects, etc.).
3. Proper delineation of contaminated work areas with barricades or barrier tape as needed.
4. Scheduling of personnel so that only the personnel necessary to complete the day's work are allowed to work in contaminated work areas.

7.0 Air Monitoring

This section describes the air monitoring equipment used to evaluate airborne exposures during work at the site. As discussed in Section 3.2, airborne exposures to metals and VOCs are not expected to exceed the current California Department of Occupational Safety and Health (Cal-OSHA) Permissible Exposure Limits (PELs). This shall be verified through personal exposure monitoring during the initial phase of excavation in the contaminated zones or if hydrocarbon odors are perceived.

Real-time hydrocarbon monitoring shall also be performed during trenching operations and both prior-to and during trench entry. This will consist of pre-entry trench monitoring and periodic breathing zone monitoring with a photo-ionization detector (PID). The real-time monitoring will be conducted prior to trench entry over 1 to 5 minute durations and if hydrocarbon odors are perceived.

Monitoring for combustible gases, including methane, and oxygen levels will also be conducted for all trenches greater than 10 feet in depth or not open to the air into which personnel will enter, prior to their entry. This monitoring will be conducted utilizing a calibrated combustible gas/oxygen meter. If combustible gas readings in excess of 10% LEL are encountered, personnel will not enter the trench until readings are consistently below 10% LEL (five minutes). In addition, if LEL readings are encountered above 10%, soil conditions will be evaluated for the presence of unknown contaminants, and the appropriate actions taken if either unusual soil staining or unusual odors are noticed.

All air monitoring results, if necessary, shall be recorded on daily logs. The air monitoring equipment shall be calibrated in accordance with the manufacturer's recommendations. Calibration records shall also be maintained in daily logs, if necessary.

The HSO or designated qualified competent person shall conduct project air monitoring with technical guidance from Paul M. Spillane, CIH, as necessary.

8.0 Decontamination

The use of personal protective equipment (PPE) to protect against chemical hazards associated with contaminated materials on site will require decontamination and/or proper disposal at the conclusion of each day's activities.

8.1 Personnel Decontamination

Personnel leaving contaminated areas shall pass through and utilize a decontamination area to be installed at the exit to the work area. Employees must decontaminate equipment and wash their hands and face before eating, drinking or smoking. This decontamination area shall consist of:

- Personal equipment wash station where boots and gloves may be scrubbed. Footwear shall be cleaned of mud, dirt and other debris at the end of each day before leaving the work site.
- Temporary disposal containers for disposable protective equipment, consisting of trash cans or drums with liners. When full, the liners are to be removed, secured, and placed with the other contaminated materials for proper disposal.
- Hand and face washing facilities, which provide running water, soap, and paper towels. Employees should wash their hands thoroughly with soap and rinse with copious amounts of water prior to drying.

The sequence for employees to use when decontaminating follows:

1. Scrub boots.

2. Remove protective equipment.
3. Wash hands and face with soap and water.

Boots and gloves may be reused provided contaminated residues have been removed. Otherwise they shall be replaced as necessary. Respirators, if used, shall be cleaned and stored in accordance with WP's respiratory protection program.

If unknown contaminated materials are encountered on site, decontamination procedures will be adjusted so as to prevent the spread of contaminated materials outside of the work site.

8.2 Equipment Decontamination

At the end of each day any contaminated tools and other contaminated small equipment will be cleaned in the same manner as personal protective equipment.

Contaminated heavy equipment shall be decontaminated by cleaning off visible residues and placing them either back into the excavations or onto spoils piles. Visibly clean equipment shall be considered decontaminated. Contaminated equipment shall not be removed from the regulated area until it has been cleaned.

Rinsate and water shall be collected and handled in the same manner as other water collected on site. This may include reuse as dust control on site, or discharge to the sanitary sewer. Disposal of all contaminated liquids will be performed only after obtaining the appropriate permission.

9.0 Emergency Response

Table 4 contains emergency response telephone numbers to be used in emergencies. Normal on site communications shall consist of two way radios and cell phones.

9.1 Employee Injury or Illness

The affected employee shall be removed (if it can be done safely and without aggravating conditions) and transported to the emergency facility. Emergency telephone numbers are listed on Table 4. Only individuals currently trained in first aid or CPR shall render this type of assistance. Table 5 contains directions to the emergency facility.

9.2 Emergency Equipment

Emergency equipment available on-site consists of:

- First aid kits (to be used by trained personnel only).
- Fire extinguishers Group (10 A,B,C ratings). Fire extinguishers shall be available at the jobsite trailer, and in each supervisor vehicle. Fire extinguishers shall be inspected annually, and during each job site inspection they are re-charged as necessary.

9.3 Emergency Decontamination

As project related chemical hazards are expected to be low, it is unlikely that employee contamination can present a life threatening condition. Therefore, emergency employee decontamination shall consist of removing protective clothing and washing with soap and water as necessary. If necessary, protective clothing shall be cut away and removed before transportation to an emergency facility.

9.4 Emergency Evacuation

In the unlikely event of site evacuation, an air horn will be used to sound the alarm. Reasons for emergency evacuation include trench collapse, fires and explosions.

Employees shall report to the Project Competent Person's vehicle without delay where the Competent Person shall conduct a head count.

9.5 Unusual Conditions

Site employees shall be instructed to cease work, and immediately report to the supervisor should they encounter unusual conditions such as strange and unusual odors or liquids. The Competent Person shall assess conditions, and shall consult with WPs Representatives and Mr. Paul M. Spillane, CIH as needed. If necessary, work shall be temporarily suspended until the situation can be properly addressed.

10.0 Spills

Contaminated soils spills onto uncontaminated areas shall be handled by prompt response that will include restricting the immediate area to authorized personnel only. The soil shall then be picked up, removed, and placed either in an appropriate spoils pile or in the excavation. Personnel handling contaminated soil shall be current in the training specified in Section 6.0 of this EHASP.

11.0 General Safe Work Practices

The project operations shall be conducted with the following minimum safety requirements employed:

- Personnel on-site are to be thoroughly briefed on the anticipated hazards, equipment requirements, safety practices, emergency procedures and communication methods, initially and in daily briefings.
- Dust control measures to minimize airborne dust emissions.
- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand to mouth transfer and ingestion of materials is prohibited in all areas of soil work.
- Removal of materials from protective clothing or equipment by blowing, shaking, or any other means that may disperse materials into the air is prohibited.
- Personnel should be cautioned to inform each other and their supervisor of subjective symptoms of chemical exposure such as headache, dizziness, nausea, and irritation of the respiratory tract.
- Contact with contaminated soil shall be minimized.
- Legible and understandable precautionary labels shall be prominently affixed to containers of raw materials, intermediates, products, mixtures, scrap, waste, debris, and contaminated clothing.
- Open excavations shall be covered, as feasible, if rain is expected, to minimize the accumulation of storm water.
- Spoils piles shall be covered with polyethylene that shall be weighed down so as to prevent contaminated soil emissions from wind and rain.
- Wherever possible, spoils shall be placed back into the excavation after work is completed. Waste soils to be transported off site shall be characterized for appropriate waste disposal.

12.0 Sanitation

WP shall provide the proper sanitary facilities for use by all personnel assigned to the project. These shall include temporary toilets that shall be serviced at least weekly and self-contained washing facilities that shall include a clean water supply, soap dispenser, and disposable towels.

13.0 Respiratory Protection

WP shall provide employees with appropriate respirators if air monitoring as described in Section 7.0 indicates their use is necessary. Respirator use shall be consistent with the requirements of 8CCR 1519 (Cal-OSHA's Respiratory Protection Standard for the construction industry). WP shall provide respirators that are applicable and suitable for the purpose intended. The appropriate respiratory protection for this project if the criteria in Section 7.0 are exceeded is a half face respirator fitted with organic vapor filters and HEPA pre-filters. These respirators (NIOSH approved half face) have a rated protection factor of 10.

As described in Section 14.0 of this EHASP, all employees required to wear respiratory protection shall be required to undergo annual medical evaluations

WP's respiratory protection policy shall not permit respirator use when conditions prevent a proper facepiece-to-face seal. Such conditions as facial hair, scars, wrinkles, facial diseases, denture removal, or other disorders which could prevent a proper facepiece-to-face seal. Contact lenses may not be worn when using any respirator.

WP supervisors and employees shall be current in the respiratory protection training including the proper selection and use of respirators and their limitations. All training is documented with records retained in the employee's training files.

14.0 Medical Surveillance

It is the intent of WP to hire qualified professionals to work with any contaminated or hazardous materials above the OSHA PEL limits.

If any WP personnel and subcontractors engaged in project operations are involved in work requiring a respirator during work with contaminated materials or with subsurface structures which may be contaminated above the PEL limits, they shall participate in an annual medical surveillance program, and shall be cleared by the examining physician(s) to wear respiratory protection devices and protective clothing for work with hazardous materials as required by 8 CCR 5192 prior to field assignment.

As stated in 8CCR5192(f)(3)(A)1 through 8CCR5192(f)(3)(A)5, the medical surveillance program shall include:

- Medical and work history with emphasis on symptoms related to hazardous substance handling and health hazards, and fitness for duty including the ability to wear the required personal protective equipment under conditions expected at the site.
- Medical examination, the content of which shall be determined by the examining physician. This may include pulmonary, liver and kidney function tests, as well as hematological and neurological tests.

These examinations shall be provided without either cost to employees or loss of pay to said employees, at a reasonable time and place. A licensed physician, preferably one knowledgeable in occupational medicine, shall be retained to provide the required medical examinations. In addition, medical examinations shall be provided at least once every twelve months (unless the attending physician believes a longer interval (not greater than biennially) is appropriate).

Medical examinations shall also be provided for employees who may have been injured, received a health impairment, or developed signs or symptoms which may have resulted from exposure to hazardous substances above applicable PELs without the necessary personal protective equipment. Such exams shall

be provided as soon as possible after the incident, or the development of signs or symptoms, and at additional times as determined by the examining physician.

Medical records associated with this program are maintained in a manner consistent with the requirements of 8CCR3204. This regulation stipulates that medical records be maintained confidentially for at least 30 years following the termination of a participant in this program.

15.0 Proposition 65

Several site contaminants are substances known to the State of California to be either reproductively toxic or carcinogenic. Consequently, it is necessary to comply with the requirements of Proposition 65 (Safe Drinking Water and Toxics Enforcement Act of 1986) during the project. This will require the posting of Proposition 65 warning notices at all entrances to the site, and inclusion of the Proposition 65 notice in the site-specific training.

16.0 Standard Operating Procedures

Section 8.0 of this EHASP contains standard operating procedures (SOPs) for decontamination. Other SOPs relevant to site construction work are included in WP's and subcontractors' IIPPs which are incorporated into this EHASP by reference. They will be available on site for review during field work.

Table 1

Industrial Hygiene Evaluation
Metal Contaminants in Soil

2302 Valdez Street
Oakland, California

Updated May, 2016

Contaminant	Soil Conc.[1]	Air Conc.[2]	PEL[3]	%PEL[4]
Antimony	1.80	0.001	500	0.000%
Arsenic*	6.70	0.003	10	0.034%
Barium	600.00	0.300	500	0.060%
Beryllium*	0.75	0.000	2	0.019%
Cadmium*	0.53	0.000	5	0.005%
Chromium*	60.00	0.030	50	0.060%
Cobalt	17.00	0.009	50	0.017%
Copper	52.00	0.026	1,000	0.003%
Lead*	2,600.00	1.300	50	2.600%
Mercury	0.34	0.000	10	0.002%
Molybdenum	0.71	0.000	5,000	0.000%
Nickel*	110.00	0.055	100	0.055%
Vanadium	52.00	0.026	50	0.052%
Zinc	330.00	0.165	1,000	0.017%

Footnotes

1. Soil Conc. indicates 95% upper confidence level (UCL) reported soil concentration. These concentrations are presented in milligrams of contaminant per kilogram of soil (mg/Kg) unless otherwise indicated.
2. Air Conc. indicates predicted airborne concentration based on continuous emissions of just visible dust (500 micrograms of dust per cubic meter of air or $\mu g/m^3$). Predicted airborne concentrations are expressed in $\mu g/m^3$.
3. PEL indicates current Cal-OSHA Permissible Exposure Limit (PEL) currently promulgated in Title 8 of California Code of Regulations, or Threshold Limit Value as given by the American Conference of Governmental Industrial Hygienists. PELs are given in $\mu g/m^3$. Where more than one PEL has been promulgated, the lowest value is given. The PEL used for total chromium assumed worse-case, and the PEL for CrVI was used.
4. %PEL indicates air concentrations shown in column 3 as a percentage of the applicable PEL.

* Indicates California Proposition 65 substance.

Table 2

Industrial Hygiene Evaluation
Non-Metal Contaminants in Soil

2302 Valdez Street
Oakland, California

Updated May, 2016

Contaminant	Soil Conc.[1]	Air Conc.[2]	PEL[3]	%PEL[4]
TPH-Gasoline	2.9	0.032	300	0.011%
TPH-Diesel	290.0	1.611	-	-
Total-Motor Oil	660.0	0.000	-	-

Footnotes

1. Soil Conc. indicates 95% upper confidence level (UCL) reported soil concentration. These concentrations are presented in per part per million (ppm) exposure otherwise indicated.
2. Air Conc. indicates predicted airborne concentration based on continuous evaporation into a space of two cubic meters of a given chemical's soil concentration. This model conservatively assumes continuous evaporation and converts this to a part per million (ppm) exposure.
3. PEL indicates current Cal-OSHA Permissible Exposure Limit (PEL) currently promulgated in Title 8 of California Code of Regulations, or Threshold Limit Value as given by the American Conference of Governmental Industrial Hygienists. PELs are given in $\mu g/m^3$. Where more than one PEL has been promulgated, the lowest value is given.
4. %PEL indicates air concentrations shown in column 3 as a percentage of the applicable PEL.
5. Coal tar pitch volatiles have a PEL of 200 $\mu g/m^3$

* Indicates California Proposition 65 substance.

Table 3

Tailgate Safety Meeting Outline

2302 Valdez Street
Oakland, California

Updated May, 2016

- Introduction
- Summary of Work
- Review of Hazards
  - Chemical
    - Metals (lead)
    - Gasoline
    - Anticipated exposures
  - Physical
    - Work around heavy equipment
    - Noise
    - Underground utilities
    - Excavation
- Hazard Control Methods
  - Engineering
    - Use of water truck to mitigate dust
  - Administrative
    - Contaminated areas
    - Decontamination requirements
  - Personal Protective Equipment
    - Level D
  - Upgrade to level C based on air monitoring
- Air Monitoring
  - Use of Combustible Gas Indicators in trenches
  - Industrial Hygiene monitoring, If Odors are detected.
- Employee Decontamination
  - Boot wash
  - Personal Hygiene Practices
- Emergency Procedures
  - Nearest emergency facility
  - Site Evacuation
  - Emergency Decontamination

Table 4

Emergency Contact Telephone Numbers

2302 Valdez Street
Oakland, California

Updated May, 2016

Injury/Illness	
Direct Urgent Care	(510) 686-3621
Sutter Alta Bates Summit Medical Center	(510) 655-4000
Ambulance	9-1-1
Police	9-1-1
Fire	9-1-1
Poison Control Center	(800) 222-1222
Health & Safety	
Paul M. Spillane (Acumen Industrial Hygiene, Inc.)	(415) 242-6060 office (415) 254-6651 mobile
Police/Fire/Ambulance (emergency)	9-1-1
Underground Services Alert	8-1-1
Oakland Emergency Management Services	(510) 238-3856
Utility Locate Service	(800) 642-2444
Pacific Gas & Electric	(800) 743-5000
Oakland Public Works Agency	(510) 615-5566
Regulatory Agencies	
California State Office of Emergency Service	(800) 852-7550
Chemtrec	(800) 424-9300
Department of Toxic Substances Control	(800) 728-6942
Department of Fish and Game	(800) 334-2258
Regional Water Quality Control Board	(510) 622-2300
Wood Partners	
Tony Galbo, Project Manager	(949) 372-0243
Brian Hughes, Project Competent Person	(_ _ _) _ _ _-_ _ _ _
To Be Determined, Alternate Project Competent Person	(_ _ _) _ _ _-_ _ _ _
To Be Determined, Project Health and Safety Officer	(_ _ _) _ _ _-_ _ _ _

Table 5

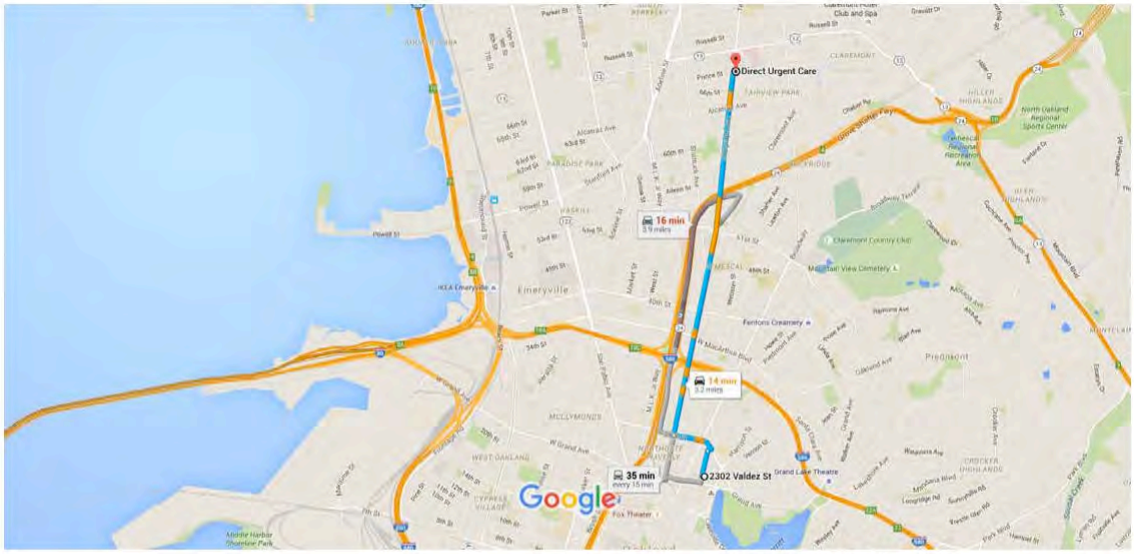
Medical Office Route

2302 Valdez Street
Oakland, California

Updated May, 2016

Medical Clinic Direct Urgent Care
3095 Telegraph Avenue, Berkeley, CA 94705
(510) 686-3621
directurgentcare.com
9:00 am – 7:00 pm

Google Maps **2302 Valdez St, Oakland, CA 94612 to Direct Urgent Care** Drive 3.2 miles, 14 min

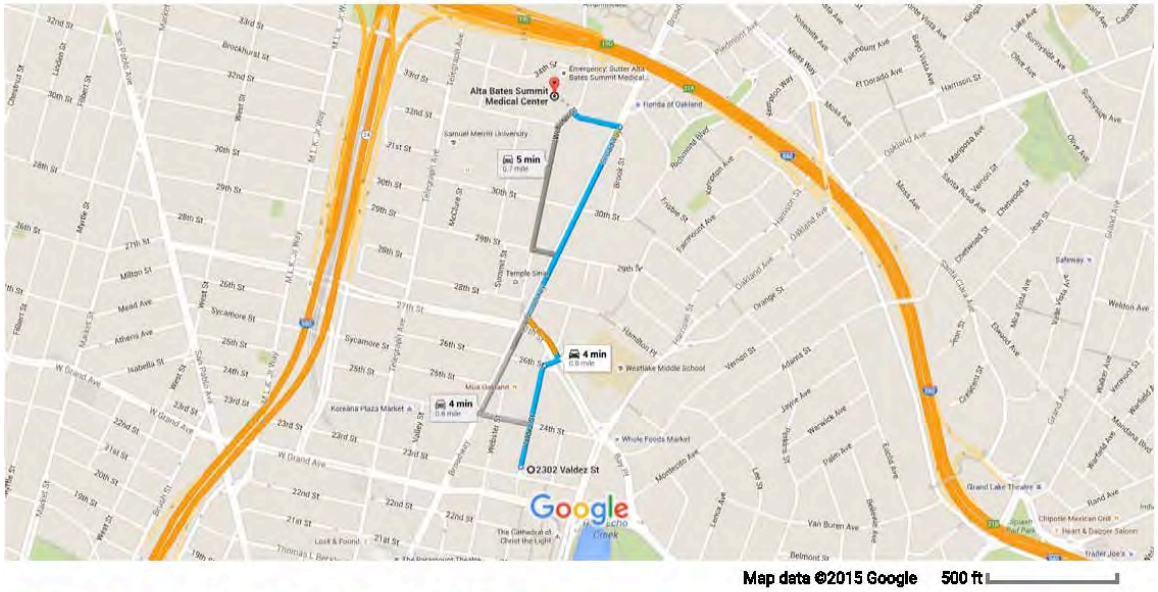


1. Head north on Valdez St toward 24th St — 0.2 mi
2. Turn left at the 2nd cross street onto 27th St — 0.3 mi
3. Turn right onto Telegraph Ave — 2.6 mi
   Destination will be on the right

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Emergency Room: Sutter Alta Bates Summit Medical Center
350 Hawthorne Avenue, Oakland, CA 64609
(510) 655-4000
altabatessummit.org

Google Maps **2302 Valdez St, Oakland, CA 94612 to Alta Bates Summit Medical Center** Drive 0.8 mile, 4 min



1. Head north on Valdez St toward 24th St — 0.2 mi
2. Turn left at the 2nd cross street onto 27th St — 0.1 mi
3. Turn right onto Broadway — 0.4 mi
4. Turn left onto Hawthorne Ave — 479 ft
   Destination will be on the left

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Table 6

Environmental Health and Safety Plan Compliance Agreement Form

2302 Valdez Street
Oakland, California

Updated May, 2016

COMPLIANCE AGREEMENT FORM		
We, the undersigned, have individually read the health and safety guidelines presented in the Environmental Health and Safety Plan and will follow them while working onsite.		
Name / Title / Organization	Print Name	Date
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
16.		
17.		
19.		
20.		

APPENDIX A
Perimeter Air Monitoring Plan

Prepared For:

Wood Partners
20 Sunnyside Avenue, Suite B
Mill Valley, CA 94941

ACUMEN
INDUSTRIAL HYGIENE INC
1032 IRVING ST. #922 SAN FRANCISCO CA 94122
TEL 415 242 6060 FAX 415 242 6006
WWW.ACUMEN-IH.COM

Perimeter Air Monitoring Plan
for
Soil Excavation and Site Preparation

2302 Valdez Street
Oakland, CA

April 2016

Acumen Project No. WDP 1502 A

Prepared For:

Wood Partners
20 Sunnyside Avenue, Suite B
Mill Valley, CA 94941

Paul M. Spillane, CIH (April 22, 2016)

Air Monitoring Plan
Soil Excavation and Site Preparation

2302 Valdez Street
Oakland, CA

April 2016

1.0 Introduction

The purpose of this Perimeter Air Monitoring Plan (PAMP) is to provide the consulting team (Wood Partners), the general contractor, and their subcontractors ("Companies") with guidelines for monitoring of offsite dust emission of potentially contaminated soil (and non-contaminated soil) found at the 2302 Valdez Street project ("Site") located in Oakland, Alameda County, California.

The overall project is to construct a 6-story building. with retail and parking at grade. There will be 1 level below grade for parking that will require excavation of 14 feet below the existing street grade.

According to the project documents, the building will require minimal excavation except for utility corridors, elevator pits, and pile caps. Areas of the site that are not covered by the building food print will be landscaped, or have concrete or pavers that will act as a cap to reduce human health exposure.

Monitoring for dust will be conducted at two stations, for the first four weeks of earthwork at the Site. This is expected to occur following the demolition and removal of the building slabs. If measured 8-hour TWA dust concentrations are consistently below the Action Level of 0.58 mg/m^3 (Section 2.0) during this four-week period, air monitoring for dust at the Site will be discontinued. If the Action Level is consistently exceeded during this period, air monitoring for dust will continue and it's termination will be evaluated in consultation with the Alameda County Department of Environmental Health.

If the selected contractor (the Companies) proposes to deviate from the procedures specified in this plan, the Contractor will be required to prepare a letter for the Companies approval that will be attached to this Plan. If phasing of the construction occurs and occupied buildings will remain on parcels where remediation is occurring, the PAMP will be modified to ensure that occupied buildings have appropriate dust monitoring. This may include modifying dust monitor locations and/or adding dust monitors. The Contractor will implement the procedures documented in this Plan and any additional addendum to this Plan. The Companies' and their representative will verify that the Contractor implements this Plan and the Contractor's addendum to this Plan.

1.1 Site Location and Physical Description

The Site is encompassed by 23rd, Valdez, Waverly, and 24th Streets and includes the addresses of 2302-2342 Valdez Street and 2321-2335 Waverly Street. The Site is bound by Valdez Street on the west, Waverly Street on the east, 23rd Street and an existing 9-story parking garage on the south, and residential buildings and parking lots to the north. The Site is T-shaped, measuring approximately 350 feet along Valdez Street, 115 feet along 23rd Street, and 100 feet along Waverly Street.

The Site is occupied by two buildings and asphalt-paved parking. The Site slopes down to the east; the drop in elevation from the west (Valdez Street side) to the east (Waverly Street side) is approximately 12 feet.

The proposed development includes demolition of the existing structures within the Site and construction of a mixed-use development with a structural footprint to cover the entire property. The proposed structure is a seven-story, mixed-use (retail and residential) building over a partially below-grade parking level. Residential parking will be below grade along Valdez Street, with an at-grade entrance along Waverly Street.

1.2 Site History

The Site is currently or has been previously occupied by a warehouse type building, at-grade parking lot (with a gasoline dispensing pump within), automotive repair facilities, electoral companies, automotive detailing company, and residential structures.

1.3 Soil Contamination

Based on the observed COCs, lead is likely the compound driving the remediation at the Site based on exposure risks. Therefore, Action Levels that are protective of receptors for exposure to lead are also expected to be protective of exposure to other chemicals in soils at the site. The California Air Resources Board (CARB) has set Ambient Air Quality Standard (AAQS) of 1.5 $\mu g/m^3$ for lead over a 30-day average. Respirable Particulate Matter (PM10), CARB has a 24 hour AAQS of 50 $\mu g/m^3$. Note that Bay Area is considered a non-attainment zone for PM10.

2.0 Action Limits for Offsite Emission

Given a maximum soil concentration of 2,600 milligrams/kilogram (Max lead concentration for Site), we propose an action limit of 0.58 mg/m^3 net total dust (downwind average subtracted from upwind).

Using a dust model equation this will assure that lead concentration will not exceed 1.5 $\mu g/m^3$ (the CARB AAQS):

$$X\ mg/kg \div 10^6 mg/kg \times 0.58\ mg/m^3 \times 1{,}000\ \mu g/mg = Y\ \mu g/m^3$$

$$2{,}600\ mg/kg \div 10^6 mg/kg \times 0.58\ mg/m^3 \times 1{,}000\ \mu g/mg = 1.5\ \mu g/m^3$$

Where X is soil concentration of contaminant of concern (COC, i.e. lead), and Y is predicted airborne concentration of COC, not to exceed 1.5 $\mu g/m^3$. A Site maximum daily 8-hour dust limit of 0.58 mg/m^3 level will not be exceeded.

To account for short-term variations in dust emissions, an equivalent 5-minute average of approximately 1 mg/m^3 is recommended as an airborne Action Level to re-assess Site activities and increase dust suppression efforts. It is noted that 1 mg/m^3 of dust generally corresponds to the presence of visible airborne soil particulates.

The environmental consultant will report levels daily to the owner's representative and contractor including prevailing wind direction and average wind speed. At the end of dust monitoring, data will be downloaded, presented and discussed in a formal report.

3.0 Air Monitoring and Record Keeping

A perimeter dust-monitoring program will be established for the Site, and conducted by the environmental consultant for at least four weeks and until at least one entire work-week with no exceedances of the dust action level has occurred. The air monitoring will be performed for three (3) days prior to site activities to establish a background. Air monitoring will then be conducted during major soil disturbing activities, during initial excavation, clearing and off-haul. The consultant will use a wind-vane digital recorder to be used for tracking wind speed.

The consultant will collect daily samples for respirable dust (PM10). The purpose of the air monitoring will be to provide real time information that will be used to evaluate effectiveness of dust control procedures being implemented by the contractor using ambient dust air levels at the perimeter fence line. Two (2) perimeter dust monitoring locations will be established and the consultant will collect approximately 8-hour (full shift) samples, using two (2) Thermo Scientific MIE ADR-1500 (or equivalent). The consultant will calibrate each device in accordance with the manufacturer's instruction.

The samplers will be placed at the property perimeters in the following locations: One will be placed on south end, one on the north end of site (Figure 3).

Time Average	**Total Dust**	**Action**
5-minute average	1.0 mg/m^3	Increase Dust Control
8-hour average	0.58 mg/m^3	Contractor stop work and conduct tail-gate dust control meeting with all involved.

The consultant will report levels daily to the owner's representative and contractor including 1) 5 minute average dust levels and 2) daily average 3) prevailing wind direction and average wind speed. At the end of dust monitoring, data will be downloaded, presented and discussed in a formal report.

The contractor will ensure visual observation at the Site for visible dust during active work. Dust management "best management practices" are to be verified at the end of each day. Any occurrence of observed visible dust on-site shall lead to more aggressive application of dust control measures. Persistent visible dust from work activities for greater than one hour will require that work cease. Any occurrence of visible dust from active work crossing the Site boundary for greater than five minutes shall require that the work cease until effective dust control measures are applied. If visible dust is noted, the contractor shall apply additional dust control as required.

4.0 Signage and Notifications

As required by state law, the contractor shall post the Proposition 65 warning sign at entrances to the Site.

PROPOSITION 65 WARNING!

**WARNING: This Site Contains Chemicals
Known to the State of California to Cause Cancer or Birth Defects**

These notifications should be large enough to read from 20 feet away. The contractor shall also make the Dust Control known to subcontractors entering the Site until soils are capped. This Dust Control Plan shall be provided to them, if their work would likely disturb soils, or if requested.

5.0 References

Information reviewed and referenced in this report includes the following document(s):

- Langan Treadwell Rollo "Soil and Groundwater Management Plan, 2302 Valdez Street" August 11, 2015
- Langan Treadwell Rollo "Geotechnical Investigation, 23rd and Valdez" February 2, 2015

Figures

2302 Valdez Street
Oakland, CA

Acumen Project No. WDP 1502 A

Prepared For:

Wood Partners
20 Sunnyside Avenue, Suite B
Mill Valley, CA 94941

Figure 1

Location Map
2302 Valdez Street

April 2016

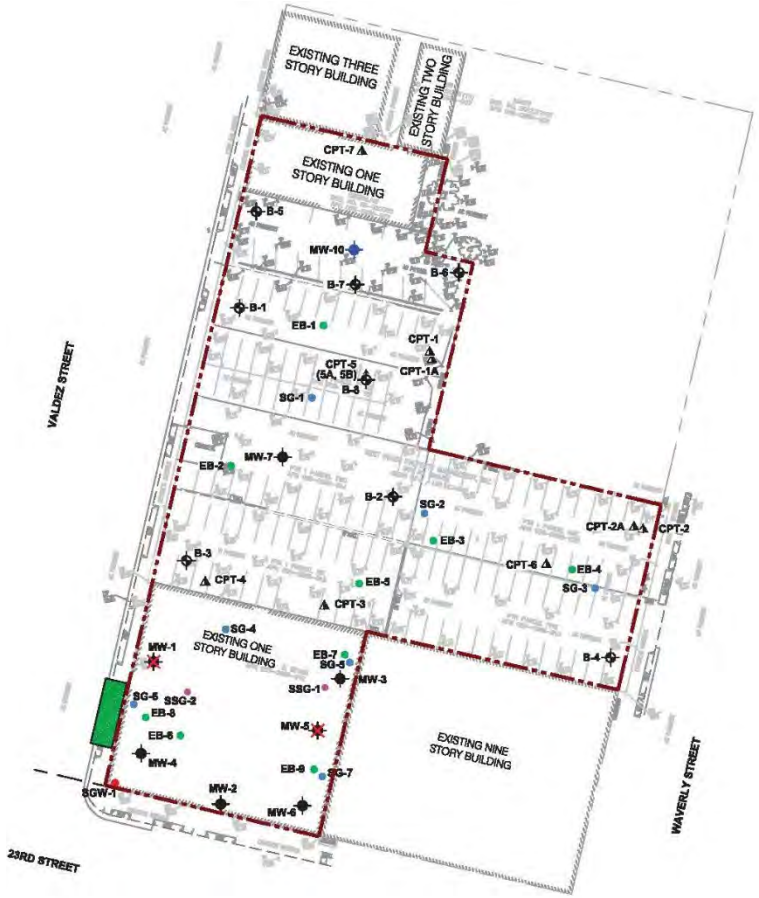
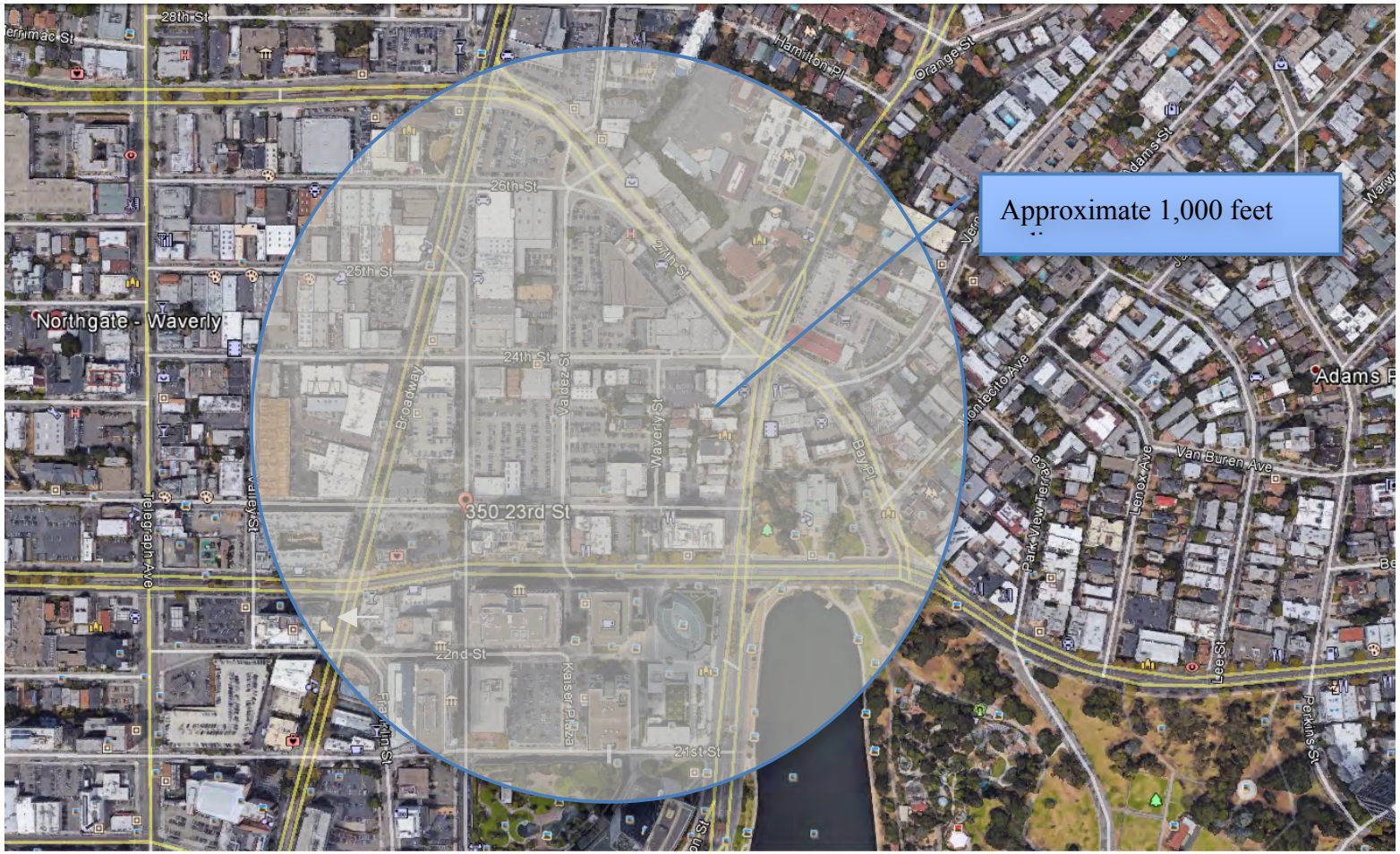


Figure 2

Site Map Indicating Sensitive Receptors
2302 Valdez Street

April 2016



* Note that the prevailing wind direction is generally from the west.

Figure 3

Air Sample Location Map
2302 Valdez Street

April 2016