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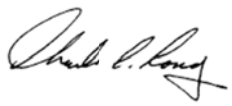
By Alameda County Environmental Health 10:09 am, Oct 06, 2016

October 4, 2016

Subject: Soil Management Plan
585 22nd Street
Oakland, California
Alameda County Department of Environmental Health
Case RO0003187

We declare, under penalty of perjury, that the information and/or recommendations contained in the attached Soil Management Plan are true and correct to the best of our knowledge.



Charles A. Long
Principal

Matt Ticknor
Principal

SOIL MANAGEMENT PLAN

585 22nd Street
Oakland, California
Alameda County Department of Environmental Health
Case RO0003187

AEC Project No. 16-046SD
October 4, 2016

Presented to:

Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6540

On Behalf Of:

585 22nd Street, LLC
2030 Manzanita Drive
Oakland, CA 94611

Prepared by:

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ADVANTAGE
ENVIRONMENTAL
CONSULTANTS, LLC.

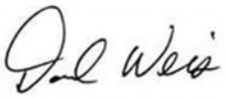
Soil Management Plan

585 22nd Street
Oakland, California
Alameda County Department of Environmental Health
Case RO0003187

Advantage Environmental Consultants, LLC has prepared this Soil Management Plan (SMP) for the above referenced property which is being submitted to the Alameda County Department of Environmental Health for review and approval. This report was completed in accordance with the standards of care exercised by environmental professionals in the industry.

PROJECT MANAGER CERTIFICATION

I certify that the information contained in or included with this submittal is accurate and complete. This submittal and all attachments were prepared at my direction and in accordance with protocols designed to assure that qualified personnel gathered and evaluated the information submitted in accordance with the standards of care exercised by environmental professionals in the industry.

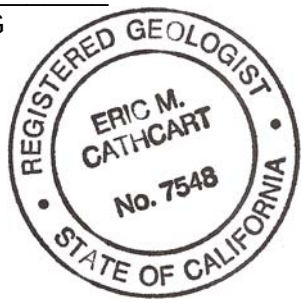


Daniel Weis, R.E.H.S.
Branch Manager

WORK PROGRAM CERTIFICATION

This report presents the technical approach of AEC to conduct soil management activities at proposed development project located at 585 22nd Street in Oakland, California. This report has been completed in accordance with the standards of care exercised by environmental professionals in the industry.

Eric Cathcart, MS, PG
Senior Geologist
California PG# 7548



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1.0 INTRODUCTION

This Soil Management Plan (SMP) has been prepared by Advantage Environmental Consultants, LLC (AEC) on behalf of 585 22nd Street, LLC for work to be completed as part of development activities for the proposed residential housing project located at 585 22nd Street in the City of Oakland, California (i.e. Site). The guidelines presented herein to provide technical and procedural steps to assist in achieving best practice environmental management for the grading and displacement of Site soils during construction. The guidelines have also been designed to assist with decision-making and provide greater certainty to construction contractors, local governments and the community for development of the SMP for the construction activities required for the project.

1.1 Project Location and Description

The Site is comprised of an approximately 23,000 square foot (0.53-acre) area located at the physical addresses of 600 21st Street, 572 21st Street and 585 22nd Street. The Site is further identified by Alameda County Assessor's Parcel Numbers 008-0647-014, 008-0647-013 and 008-0647-028-04. The current land uses at the Site are as follows:

- 600 21st Street - Law office and historical house to be relocated.
- 572 21st Street – Five-unit apartment building and historical house to be relocated
- 585 22nd Street – Asphalt paved lot used for the parking of United States Postal Service vehicles

A Vicinity Map depicting the general location of the Site is included as Figure 1. An aerial photograph of the Site is included as Figure 2.

Site development will require conventional grading (removal and recompaction of soil) to depths that are yet to be determined, but are expected to be less than five feet from existing grades. Following the completion of grading activities, there will be a reported 2,615 cubic yards of soil exported from the Site. Such soil will be derived from preparing subgrade for the future structural slab, footing excavations, excavations for future automobile stacker systems and excavations for future elevators and other utility vaults. Site development plans will include a residential development constructed on a concrete slab-on-grade foundation system. There will be 78 residential units constructed at the Site. None of the residential units will be located on the ground floor of the future structure. The ground floor of the future structure will include parking areas, utility/mechanical rooms and enclosures, storage rooms, trash enclosures, bicycle lockers a lobby and a leasing area/lounge. The three above referenced parcels will be merged into one single parcel (parcel number yet to be determined) prior to the start of construction. The future physical address of the development will be 570 21st Street. The two historical houses at 572 21st Street and 600 21st Street will be relocated to the adjacent property located at 610 21st prior to the start of construction of the 78 unit apartment building.

The future Site building will consist of four stories of wood frame construction over a 15 foot high ground floor concrete podium with a total building height of 55 feet. This is typically categorized as Type 5 construction over a podium. The ground floor podium will accommodate parking stalls, ground floor elevator entrances, lobbies and other common area spaces. The podium area is ventilated with an exhaust fan that takes air from the podium and exhausts it in a vent on the roof. The elevator shafts will require excavation to 5 feet 9 inches and will be lined

with a vapor barrier to prevent any residual volatile organic compounds (VOCs) at the Site from venting into the shaft. The project will be parked with 78 parking stalls configured in 26 stackers of three stalls each with the bottom three stalls of each stacker requiring pits to a depth of 5 feet 9 inches. A copy of the Site demolition plan and grading plan is included as Appendix A of this SMP.

1.2 Previous/Recent Assessment Work

AEC completed the following prior environmental documents pertaining to the Site, all which are in the possession of the Alameda County Department of Environmental Health (ACDEH):

- Phase II Environmental Site Assessment, 585 22nd Street, Oakland, California dated August 13, 2015

- Phase I Environmental Site Assessment, 585 22nd Street, Oakland, California dated August 14, 2015

- Site Investigation Report, 585 22nd Street, Oakland, California - Alameda County Department of Environmental Health Case RO0003187 dated February 17, 2016

During the course of the completion of the August 2015 Phase I ESA, it was revealed that the 585 22nd Street portion of the Site was occupied by an engraving/plating facility/business which reportedly ceased operations in the late 1970s to early 1980s. In addition, AEC corresponded with ACDEH regarding a former leaking underground storage tank (LUST) case that was associated with this portion of the Site and previously closed under commercial land use. The 572 21st Street and 600 21st Street portions of the Site were historical utilized for residential purposes and have sustained no land uses of potential environmental concern.

The LUST case pertained to the removal of a former underground storage tank (UST) that was previously operated by the United States Postal Service for the fueling of their delivery trucks. The Site reportedly started being used by the USPS in the early to mid 1980s. AEC was informed by ACDEH that if a change in land use of the Site from commercial to residential is proposed, that ACDEH would expect the Site owner, development proponent or other party to voluntarily work with the Department to have them review and approve the proposed change in land use relative to subsurface environmental conditions, and in particular related to potential vapor intrusion/human health risk based concerns that were not commonly evaluated during the closure of older LUST cases. As a result, a Voluntary Remedial Action Agreement was executed between 585 22nd Street, LLC and the ACDEH on September 25, 2015 and a Work Plan for Supplemental Investigation dated October 13, 2015 was submitted to the ACDEH for review. The primary objective of the Work Plan was to develop a program to further investigate the presence and spatial distribution of VOCs in vadose zone soil gas at the Site, and utilizing the data obtained, conduct an evaluation of the human health risks associated with potential soil gas exposures and vapor intrusion for the planned development. Additional soil sampling and analysis was also proposed to rule out various contaminants of potential concern at the Site.

The two phases of subsurface assessment at the Site conducted by AEC included the drilling of multiple soil borings and the sampling of soil, soil gas and groundwater. Conclusions of the assessments were as follows:

- VOCs, asbestos and metals were not considered to be contaminants of concern in soil at the Site.
- VOCs were not considered to be contaminants of concern in groundwater at the Site.
- VOC detections in soil gas were not considered to be significant relative to the users of the future planned Site development.
- No further action at the Site was considered to be warranted.

AEC and 585 22nd Street, LLC are currently in the process of working with ACDEH to finalize the closure process for the Site. One of the conditions of closure for the Site is the preparation and submittal of this SMP.

2.0 SITE PHYSICAL SETTING

2.1 Topography

According to the United States Geologic Survey topographic map for the Oakland West, California 7.5 minute quadrangle (1997), the Site is shown as being relatively level and located at an elevation of approximately 25 feet above mean sea level. Regional topography is shown as sloping to the south and southeast. No structures are depicted on-Site on the map. However, the Site and its adjacent properties are situated in an area that is shaded grey, indicating dense development. Streets/roadways bordering the Site are shown in their current configuration. Figure 1 (Vicinity Map) is a reproduction of the USGS topographic map.

2.2 Geology

The Site is situated in the Coast Ranges Geomorphic Province; one of 11 physiographic provinces in California recognized by defining features based on geology, faults, topography, and climate. The Coast Ranges are comprised of a series of long, northwest-trending mountain ranges separated by valleys, generally subparallel to faults of the San Andreas Fault system, which were created by extensive folding and faulting during a mountain-building episode beginning in the late Pliocene and culminating in the mid-Pleistocene. Summit elevations average between 2,000 to 4,000 feet above mean sea level (msl), with the highest elevation located in the northern part of the province (Solomon Peak) at approximately 8,000 feet above msl. The Coast Ranges province is also composed of thick Mesozoic and Cenozoic sedimentary strata. The Coast Ranges province is bound on the north by the Oregon state line, on the east by the South Fork Mountain and Coast Range thrusts bordering the Klamath Mountains and Great Valley provinces, on the south by the Santa Ynez fault and Transverse Ranges province, and on the west by the continental borderland. The area is seismically active, including the San Andreas fault which extends 600 miles from the north at Point Arena beyond the Coast Ranges to the south to the Gulf of California. More specifically, the Site is located in the central portion of the Coast Ranges province east of the San Francisco Bay. According to geologic map sources, the Site appears to be underlain by Quaternary older alluvium deposits. These deposits are characterized by partially consolidated sand, gravel, and clay. Artificial fill material is also present beneath the Site in the area of the former underground storage tank (UST).

2.3 Hydrology / Hydrogeology

According to the California Water Quality Control Plan for the San Francisco Bay Region (SF-RWQCB, 1995), the Site is situated within the East Bay Plain groundwater sub-basin of the Santa Clara Valley groundwater basin. Groundwater within the East Bay Plain sub-basin is listed with existing beneficial use designations for municipal, industrial, process supply, and agricultural purposes. Static groundwater beneath the Site is anticipated to be present at depths of 15 feet bgs or greater with an anticipated flow direct in a south to southeasterly direction. Groundwater will not be encountered during the proposed construction activities. As such, there are no provisions for groundwater management included in this plan.

3.0 SOIL MANAGEMENT ACTIVITIES

3.1 Primary Plan Objective and Specific Goals

The primary objective of this SMP is to support the uninterrupted construction at the Site while properly grading, excavating, handling, stockpiling, on-Site reuse or off-Site export of soil from areas planned for excavation. This SMP also provides contingency protocols for off-Site disposal of contaminated soil in the unlikely event such soil is discovered in previously unassessed areas that the Site. In addition, this SMP assists with the following:

- Facilitates construction operations and the project schedule by planning soil management in advance.
- Provides for soil management and disposal option in compliance with federal, state and/or local requirements, while minimizing liability.
- Establishes consistent guidelines for managing soil based upon constituent content.
- Minimizes handling and movement of soil.
- Affirms the protection of human health during the excavation activities.
- Ensures that proper waste characterization and management activities are conducted during Site work.

A pre-construction conference will be conducted at the Site prior to the start of work. Representatives from trades related to the excavation of soil and management of soil stockpiles shall attend the conference, along with City or ACDEH staff (at their discretion).

3.2 General Approach and Methodology

As stated previously, Site development will require conventional grading (removal and recompaction of soil) to depths that are yet to be determined, but are expected to be less than five feet from existing grades. Following the completion of grading activities, there will be a reported 2,615 cubic yards of soil exported from the Site. Such soil will be derived from preparing subgrade for the future structural slab, footing excavations, excavations for future automobile stacker systems and excavations for future elevators and other utility vaults. Grading and excavation activities will be conducted utilizing excavators, dozers, loaders and other conventional equipment.

At this time and based on the analytical data generated at the Site during prior assessment work, we expect that all soil to be exported from the Site will be suitable for reuse at receiving facilities to be designated by the selected excavation contractor without further sampling, testing and evaluation. Available analytical data pertaining to the Site will be provided by the Site owner to the potential receiving facilities. However, third-parties involved with the review and evaluation of analytical data pertaining to the Site will have the ability to complete additional sampling and analysis of Site soils at their discretion prior to it being imported to said receiving facility or facilities.

However, as a contingency plan, in the unlikely event that discoveries of unforeseen contaminated soil are made during the grading and excavation activities, provisions for appropriate segregation, sampling and laboratory analysis (discussed in later sections of this SMP) will be conducted and are presented herein. If deemed warranted, the contaminated soil would be removed using excavators, backhoes, loaders and/or other conventional equipment and placed onto trucks for off-Site disposal (if warranted) under appropriate manifesting protocol. If contaminated soil requires removal from the Site, potential receiving facilities will be discussed with the ACDEH in advance of the removal activities. The criteria for soil being further evaluated as potentially impacted during the course of the construction activities is as follows:

- Soil that exhibits significant hydrocarbon or other chemical staining and/or odors.
- Soil that contains a significant amount of burned debris or ash.
- Soil that when screened with a photoionization detector (PID) calibrated to 100 parts per million (ppm) of isobutylene exhibits a concentration of undifferentiated volatile organic compounds (VOCs) of five ppm sustained for at least 30 seconds.

Environmental professionals working under the oversight of California Professional Geologists will be present as-needed during on-Site grading and excavation activities conducted during the course of the project. Personnel responsible for and involved in the implementation of this SMP will be thoroughly knowledgeable and experienced in the various aspects of the work to be completed. This knowledge and experience will include, but not be limited to, familiarity with the Site geologic and hydrogeologic conditions, laboratory data review and verification, Site physical conditions and access, Site personnel and contacts and Site health and safety rules, procedures, and protocols. AEC Field personnel will have 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training and current 8-hour annual refresher training in accordance with 29 Code of Federal Regulations 1910.120 [Title 8 California Code of Regulations 5192]. Site field work will also be conducted in accordance with the Site-specific Worker Health and Safety Plan. In the unlikely event that soil is confirmed to be contaminated during the course of construction activities, a 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) trained supervisor will be present on-Site during all impacted soil grading operations. In addition, employees of the excavation contractor retained for this project that will be in contact with contaminated soil that is considered to be hazardous waste in the State of California (unlikely) will have the proper 40-hour HAZWOPER training. The excavation contractor handling such hazardous soil (if any) will also hold a Class A, Engineering Contractor's license with a Hazardous Substance Removal Certification (HAZ) issued by the State of California.

Worker and community health and safety monitoring would also be performed as-needed by AEC. The lead contractor and other consultants on the project, which may include testing and inspection, geotechnical, archeological, etc., may also rely on health and safety related monitoring data, although the contractor and other consultants will be ultimately responsible for the training and health and safety of their own workers and employees. If employees of such trades will be working in areas of soil that is deemed to be hazardous waste, they would also be required to have the proper 40-hour HAZWOPER training.

3.3 Soil Screening and Removal in Areas of Unexpected Impacts

During grading activities conducted during the project, if soil that exhibits significant hydrocarbon or other chemical staining and/or odors and/or soil that contains a significant amount of burned debris or ash is encountered, AEC will be notified and will mobilize to the Site immediately to assess the suspect soil in question. During such field screening activities, soil would also be screened using a PID. If concentrations of undifferentiated VOCs of five ppm sustained for at least 30 seconds are identified, this additional criteria will deem such soil potentially contaminated. Sample field and PID monitoring logs are included in Appendix B of this SMP.

In the event that unexpected impacted soils are encountered, AEC would direct the grading/excavation contractor to temporarily stockpile such suspect soil for subsequent analytical testing. The ACDEH would be notified immediately upon discovery of soil that is suspected to be potentially impacted. The lateral extent of soil to be stockpiled would be defined by AEC staff using PID screening, visual/olfactory observations and/or professional judgment but only within the limits of the area of disturbance required for the project. In addition, the vertical extent of excavation of potentially impacted soil would not extend beyond that which is required for grading per construction plans for the project. As such, over excavation of soil within the construction footprint for the purposes removing contaminated soil (if encountered) would not be conducted unless extraordinary circumstances relative to adverse soil conditions are discovered. Confirmation soil samples would be collected as needed at a samples frequency of one sample per 400 square feet of excavation bottom and at 20 foot lateral distances along excavation sidewalls.

Any potentially impacted soil that is stockpiled will be sampled at the following frequency at representative locations within the stockpiles and analyzed for appropriate contaminants of potential concern as required by the designated landfill facility.

- 0 to <500 cubic yards - 4 samples per 100 cubic yards
- 500 to <5,000 cubic yards - 1 additional sample per additional 500 cubic yards
- 5,000 cubic yards or more - 1 additional sample per additional 1,000 cubic yards

The location and depth of samples in each stockpile will be documented, as will the locations of stockpiles relative to Site boundaries and any sensitive areas (i.e. storm drains, etc.). Stockpiles will be protected from storm water run-on by fiber rolls, gravel bags or other appropriate methods. Soil stockpiles will be protected from wind erosion by application of water and by placing on and covering with plastic sheeting. Any soil samples obtained during the soil management activities will be collected using a stainless-steel hand trowel or auger. Statistical analysis of analytical data set pertaining to soil to be exported from the Site may also be conducted in accordance with receiving facility guidelines to include the 80, 90 or 95 percent upper confidence limits of the arithmetic mean. A myriad of analytical tests may be completed on any discovered suspect impacted soil as described in Section 3.5 below.

During the course of the soil management activities, construction stakes with pertinent information notated on such stakes will be used to designate stockpiles as noticeably non-impacted from soil that is potentially impacted. Soil that is noticeably non-impacted will not be sampled prior to reuse. In the event that suspect impacted soil is confirmed to be contaminated by way of analytical laboratory testing, it will be considered to be a regulated waste at that time. The California Water Code and Titles 23 and 27 of the California Code of Regulations dictate that soil with detectable concentrations of hazardous substances or petroleum products are

considered to be "waste" following excavation. Any waste is required to be transported to an appropriate waste management facility and be treated, stored, or disposed, and/or reused on-Site or off-Site in accordance with applicable local, state, and federal regulations. On-Site reuses or off-Site reuse of impacted soil at a non-regulated receiving facility is not proposed for this project in the event that such soil is discovered. During the implementation of this SMP, any confirmed contaminated soil will be segregated and shipped to regulated receiving facilities. All laboratory results of any sampling and analysis conducted during the course of the project will be forwarded to the ACDEH for review.

3.4 Soil Import

Soil import is not proposed for the project. However, in the unlikely event that import soil is deemed warranted at a later time, the general contractor will be responsible for identifying suitable import soil for the Site that is free of organic and inorganic contaminants. When a potential source of clean import soil is identified, AEC would be provided with any environmental and/or geotechnical related documents pertaining to the property in question that would assist AEC in evaluating the historical and current uses of any proposed properties in which import soil would be delivered from. Using contractor provided and supplemental research to be completed by AEC (i.e. regulatory and historical research, etc.) analytical testing of the proposed import soil would be conducted. The frequency of sampling and analytical methods to be used to evaluate the import soil for use at the Site would be in accordance with the California Department of Toxic Substances Control (DTSC) Information Advisory for Clean Imported Fill Material. A copy of the DTSC advisory is included as Appendix C of this SMP. When suitable sources of import soil are identified, AEC would observe the import operations (as-needed) to ensure that no suspect conditions are noted in such soil as it is delivered to the Site and placed as fill.

3.5 Analytical Laboratory Methods

A list of analytical laboratory methods to be used (as required) during waste profiling and soil management activities during the course of the project is as follows:

- Single element total metal by United States Environmental Protection Agency (EPA) test Method 6010B or 7471A (mercury);
- Title 22 Metals by EPA test Methods 6010B and 7471A;
- Single element soluble metal – Soluble Threshold Limit Concentration (STLC);
- Single element soluble metal – Toxicity Characteristic Leaching Procedure (TCLP);
- STLC 17 metals;
- TCLP 8 metals;
- Total petroleum hydrocarbons by EPA test Method 8015B;
- VOCs by EPA test Method 8260B;
- Semi-volatile organic compounds by EPA test Method 8270C;
- PAHs by EPA test Method 8270C with Select Ion Monitoring;
- Polychlorinated biphenyls by EPA test Method 8082; and

3.6 Unexpected Discoveries During Soil Management

Due to the uncertainty associated with soil management, especially during grading activities completed in urban areas of the San Francisco Bay Area, potential contaminant conditions may vary from what is described in this SMP. Following discovery of an unexpected condition that

requires modification to the methods and protocols described in this SMP, the ACDEH will be informed and plan amendments will be submitted for review and approval. If any undocumented USTs are encountered during the remediation activities, the ACDEH and the City of Oakland will be notified and the UST(s) will be removed under a proper permit and in accordance with regulatory agency guidelines. Upon such a discovery, work in the vicinity of the UST(s) will stop, the area will be cordoned off with caution tape and the agencies will be notified immediately.

3.7 Record Keeping

3.7.1 Chain-Of-Custody and Sample Tracking

Chain-of-custody procedures will be followed to establish a written record of sample handling and movement between the Site and the analytical laboratories. All soil samples will be delivered to the analytical laboratories on ice to maintain the samples at a target temperature of 4°C +/- 2°C. The chain-of-custodies will contain the following information:

- Project Location;
- Sample identification number;
- Date and time of collection;
- Sample collector's printed name and signature;
- Sample matrix;
- Analyses requested; and
- Signatures of individuals involved in the chain of possession.

3.7.2 Waste Manifesting

Any soil transported to off-Site regulated landfill or treatment facilities will be done so under proper manifesting protocol to track the movement of soil from the point of generation to the final disposal point. In the unlikely event that contaminated soil is removed from the Site to regulated receiving facilities, it is anticipated to be profiled as a non-hazardous waste. Such soil would be tracked under a non-hazardous waste manifest. In the highly unlikely event that hazardous waste is identified at the Site, such soil would be removed and tracked via the uniform hazardous waste manifest. The excavation contractor would maintain one copy of all waste manifests on-Site and a copy to be submitted to the ACDEH. All manifests would be provided by the designated receiving facilities or transporter subcontractor and would be signed by the land owner as generator.

3.7.3 Field Reports

In order to provide complete documentation of the fieldwork activities, detailed records will be maintained by field personnel. At a minimum, these records will include the following information:

- Site name and address;
- Date;
- Name of field log recorder;
- Team members present on-Site and associated duties;
- Other persons on-Site (i.e. subcontractors, regulatory personnel, etc.);
- A brief summary of meeting(s) held at the Site;

- Weather conditions;
- Calibration readings for field monitoring equipment (if used);
- PID readings (if applicable);
- Maps showing the locations of excavations and descriptions of observations relative to such areas;
- Any other relevant information.

3.7.4 Equipment Decontamination and Calibration

Any non-dedicated sampling equipment will be decontaminated between uses by washing with a non-phosphate detergent solution followed by successive rinses in deionized water. Disposable field equipment will not be decontaminated but will be placed into plastic trash bags for proper disposal. As stated previously, an organic vapor monitor MiniRAE® 2000 PID or equivalent will be used as-needed during the fieldwork activities for the field screening of soil. Field instruments used during the field sampling/screening activities will be calibrated at least once per day in accordance with manufacturer's guidelines.

4.0 WORKER HEALTH AND SAFETY

As stated previously, no contaminated soil is anticipated to be encountered during the course of the project. Regardless, potential health risks to construction workers and the public resulting from the soil management activities will be addressed by developing and implementing a project health and safety program. The general contractor will be responsible for maintaining proper health and safety procedures to minimize potential worker and public exposures during the course of Site construction activities. The general contractor will be responsible for providing all Site information (including this SMP) to its employees and subcontractors. A Site specific Worker Health and Safety Plan will be prepared for the Site and a Site Health and Safety Officer will be designated by the general contractor. The Site Health and Safety Officer will be present on-Site during soil management activities to oversee implementation of the health and safety plan. The Site Health and Safety Officer will also have authority to direct and stop construction activities to maintain compliance with the health and safety plan.

The purpose of the health and safety plan will be to establish procedures to address potential chemical and physical hazards to field personnel and off-Site receptors that may result from soil management activities conducted at the Site. The plan will include numerous components including general health and safety requirements, establishment of work zone controls, conducting health and safety meetings, use of proper personal protective equipment, personal hygiene guidelines, equipment decontamination procedures and emergency response procedures. The general contractor will be responsible for verifying that project personnel have read and will comply with the procedures established in the health and safety plan. A copy of the plan will be kept on-Site at all times and will be reviewed and updated as necessary during implementation of the soil management activities. Before demolition and earthwork activities begin at the Site, a pre-construction meeting will be held on-Site with AEC, the general contractor and its subcontractors who will be displacing soil during the course of the project to review this SMP and the worker health and safety plan.

5.0 COMMUNITY HEALTH AND SAFETY

The implementation of the SMP will be conducted in a manner that will promote a safe work environment relative to the public by reducing the potential for community exposures to potential hazards and nuisances from the work required for the project. The protection of human and public health during the course of the project is of the utmost importance. There are no significant public health hazards and exposure pathways expected to result from the forthcoming construction work. However, for contingency related purposes, potential public hazards and exposures resulting from vapors, dust, noise and physical hazards are evaluated herein as there is always that potential for previously unforeseen conditions to arise during the course of construction project.

5.1 Identification of Potential Hazards

Exposure to metals in ambient dust and petroleum hydrocarbon vapors (while highly unlikely to occur during the project) are discussed herein as potential chemical hazards. The above referenced substances can enter the unprotected body by skin absorption, eye contact and/or inadvertent ingestion. Chemical exposures are generally divided into two categories: acute and chronic. Symptoms resulting from an acute exposure usually occur during or shortly after exposure to a sufficiently high concentration. Symptoms resulting from a chronic exposure generally occur following prolonged or repeated exposures to lower concentrations. The concentrations required to produce symptoms of exposure depend upon the medium in which the compounds occur, the duration of exposure, and the number of exposures. Generally, symptoms resulting from an exposure to metal and petroleum hydrocarbon dusts and petroleum hydrocarbon vapors include, but are not limited to, irritation of mucous membranes and pharynx, nasal perforation, irritation of the eyes and/or skin.

Potential physical hazards to the public associated with soil displacement include explosion, fire, electrical shock, and noise exposure.

- **Fugitive dust** can arise during construction activities. While contaminated soil is not expected to be encountered during the course of the proposed construction activities, dust will still require proper suppression and there will be a zero dust policy in force during the course of the project.

- **Explosions and fires** often arise spontaneously. However, they more commonly result from activities where an ignition source (such as a spark from equipment) is introduced to an explosive or flammable environment. Workers will use spark resistant equipment and tools (when feasible), and fire extinguishers will be made available during the Site activities to assist in preventing such a situation.

- **Electrical hazards** include buried cables which pose a danger of shock or electrocution if workers or equipment contact or sever them during site operations. In accordance with State law, Underground Service Alert will be notified at least 48 hours prior to any demolition or excavation activities. A private utility locating company will also likely be retained by the general contractor as part of the construction activities.

- **Noise hazards** can be created by equipment that generates noise in excess of auditory capacity thresholds. Noise in excess human auditory thresholds can result in physical damage to the ear.

5.2 General Control Methods

Control measures for the potential hazards are as follows:

- **Site Security.** To assist in excluding the public from the Site, an exclusion zone (using signs, delineators, temporary fencing, caution tape and/or other acceptable methods) around areas subject to construction activity will be established. Perimeter fencing will also serve as a barrier to prevent unauthorized entry to the site.

- **Vapors.** Engineering and construction practices will be used to reduce vapor emissions including covering off-gassing excavations or temporary stockpiles, misting excavations or stockpiles with water or other vapor suppressing agents, locating stockpiles away from and/or downwind of public receptors and stopping work until mitigation measures are in place.

- **Dust Control.** Dust control methods will be taken to minimize potential public exposure to dust generated as a result of the planned construction activities. Dust suppression measures to be employed include, covering stockpiled soil with 8-mil plastic sheeting, reducing the pace of the excavation as required until effective mitigation measures are in place, and/or maintaining levels of soil moisture by means of continuous moistening/watering. A source of water will be available on-Site.

- **Noise.** Noise is considered to be a potential public nuisance for the project, but not a significant community health and safety concern. As such, noise monitoring is not proposed for the project. The contractor will however make best efforts to minimize noise during the course of the project. Work hours for the project will vary, but are not anticipated to occur outside of the days of Monday through Saturday, between 7:00AM and 7:00PM.

- **Open Excavations.** Any open excavations will be secured from public access by placing barricades or fencing at the perimeter of the excavations and securing an open excavations (if applicable) at the conclusion of each work shift's field activities. In accordance with 29 Code of Federal Regulations 1926.652, the walls and faces of excavations and trenches over four feet deep will be guarded by a shoring system, sloping of the ground, or some other equivalent means, such as trench boxes, shields, or other approved movable shoring systems. Trenches less than four feet deep where hazardous ground movement is likely will also require protection. Any area to be subjected to excavation will be secured with fencing or other appropriate barrier. The barrier will be placed at such a distance from the excavation so as to inhibit viewing in the excavation, and thus reduce the potential for public and transient curiosity. A competent person will make daily inspections of trenches and excavations to assure adequate slopes, shoring, and bracing, and to check for evidence of potential slides or cave-ins. More frequent inspections may be necessary after a rain event.

- **Stockpiled Soil.** Displaced soil will be temporarily stockpiled and covered with 8-mil plastic sheeting to reduce the potential for vapor migration, odors and runoff.

5.3 Stormwater Monitoring and Drainage

All construction activities will be conducted in accordance with a project Stormwater Pollution Prevention Plan or equivalent document. Stockpiles will be protected from storm water run-on by fiber rolls, gravel bags, or other appropriate methods. Soil stockpiles will be protected from wind erosion by application of water and by placing on and covering with 8-mil plastic sheeting.

5.4 Air Monitoring

In the unlikely event that soil impacted with petroleum hydrocarbons or other organic contaminants is encountered during the construction activities, air monitoring will be performed utilizing a hand-held PID and benzene meter to assess potential levels of organic vapors possibly resulting from diesel/gasoline vapors releasing from excavated soil. Fugitive organic chemical vapors would be monitored continuously by qualified field personnel along the perimeter of the exclusion zone throughout each work day in which such soil were encountered and being managed. All monitoring equipment would be field calibrated on a daily basis according to the manufacturer's instructions, and will be recorded on an instrument calibration log. AEC does not propose conducting dust monitoring utilizing field instruments during the course of the project. There is a zero dust policy for the project in place and soil will be continuously moistened to minimize dust generated during construction activities.

The following are action levels to be utilized (if required) during the community health and safety related monitoring to be conducted during the course of the project

Instrument or Visual/Olfactory Action Level	Action to be Taken
Undifferentiated VOCs >1 ppm for 30 seconds along the perimeter of the exclusion zone	Test the air for the presence of benzene with a benzene meter.
Benzene >0.5 ppm benzene with a benzene meter along the perimeter of the exclusion zone	Stop work immediately and increase or modify control measures within the work zone/source area as needed until suitable benzene levels are achieved and sustained.
Dust Any visible dust (pertains primarily to potential lead exposure/migration)	Stop work immediately and increase or modify control measures within the work zone/source area as needed until no visible dust if noted.

The following are additional protocols for the air monitoring and associated mitigating activities:

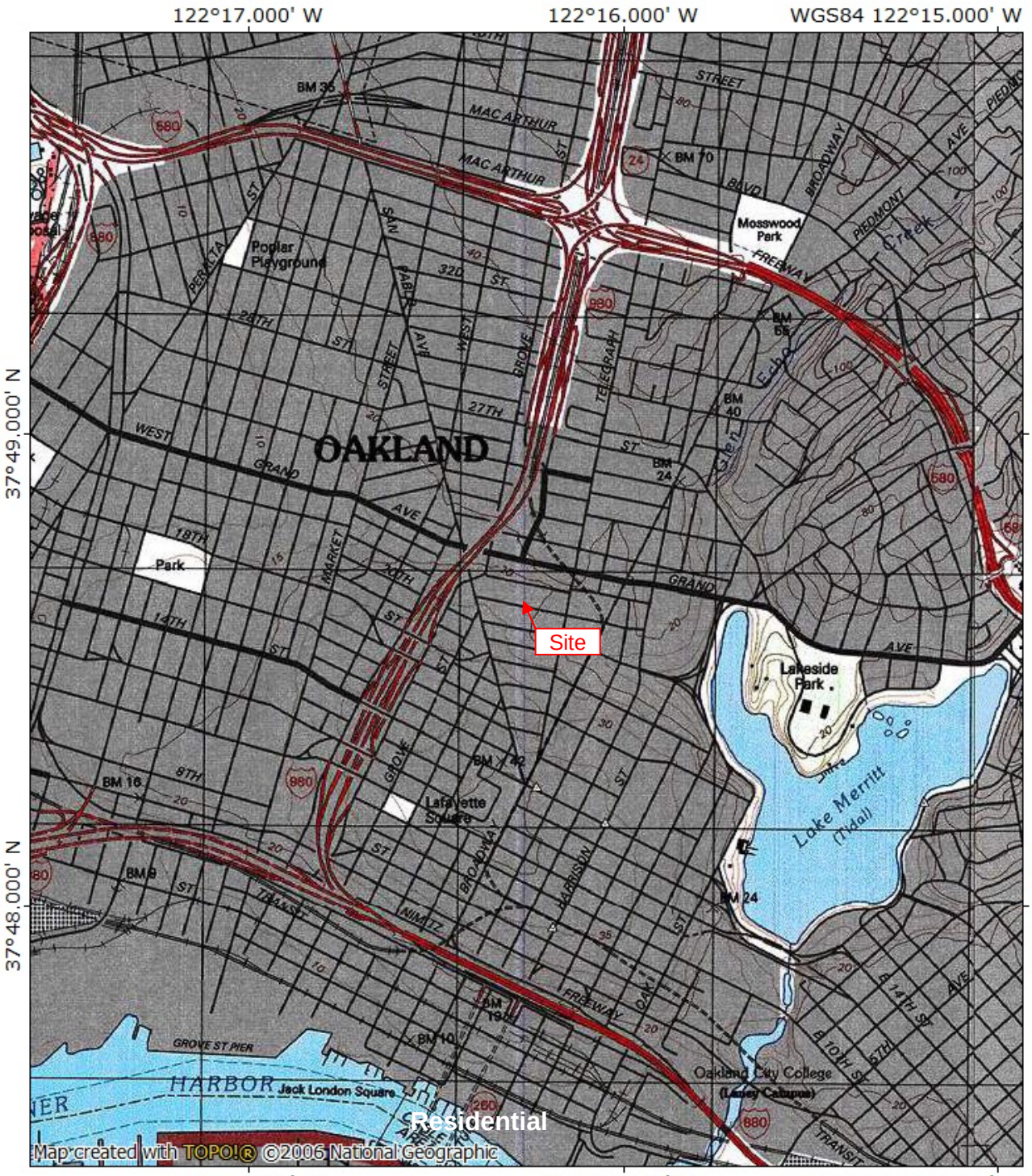
- Upwind PID and benzene readings could be recorded if potential off-site sources of volatile organic compounds are suspected.
- The time and range of concentrations and the locations of each instrument reading would be recorded.
- The frequency of the readings would be determined by the nature of the construction activities conducted on a given day/shift and could be modified at the discretion of the site safety manager.
- The location of the point sources of impacted soils will be identified and the generation of vapors and/or dust would be minimized using any or all of the methods described in this plan.

- A source of water will be kept on-site at all times.
- Dust emissions will be controlled by spraying soil with water to reduce dust emissions, and by keeping stockpiles covered as much as possible.

6.0 REPORTING

Following completion of Site grading and excavation activities, a summary report of the soil management activities will be prepared and submitted to the ACDEH. The report will be signed by a State of California licensed Professional Geologist. If no discoveries of suspect soil are made during the course of construction, the documentation will consist of a simple letter stating as such. If discoveries of contaminated soil are made, the summary report will be more comprehensive and would include the results of any waste profiling, stockpile and confirmation soil sampling and laboratory results, and documentation of the disposition of any contaminated soil that is exported from the Site. The report would also include plans that depict the locations of select soil samples, in addition to cross-section diagrams (as-needed), that would demonstrate that contaminated soil was adequately removed from the Site. Other supporting documentation would include copies of analytical laboratory reports and chain-of-custody documentation, copies of weight ticket reports and manifests from the regulated facilities receiving contaminated soil that is exported from the Site, copies of bills of lading for clean soil that is exported from the Site and other information as deemed warranted. The final report (regardless of whether contaminated soil discoveries are made or not) will include conclusions and recommendations regarding the Site.

FIGURES



USGS Topographic Quadrangle Map
Oakland West, CA (1997)

Advantage Environmental Consultants, LLC

145 Vallecitos De Oro, Suite 201
San Marcos, CA 92069
Phone: 760-744-3363 Fax: 760-744-3383

Figure 1
Vicinity Map
585 22nd Street
Oakland, California

Work Order No.:	Report Date:	Drawn By:
16-046SD	September 2016	SS

Site Boundary

N

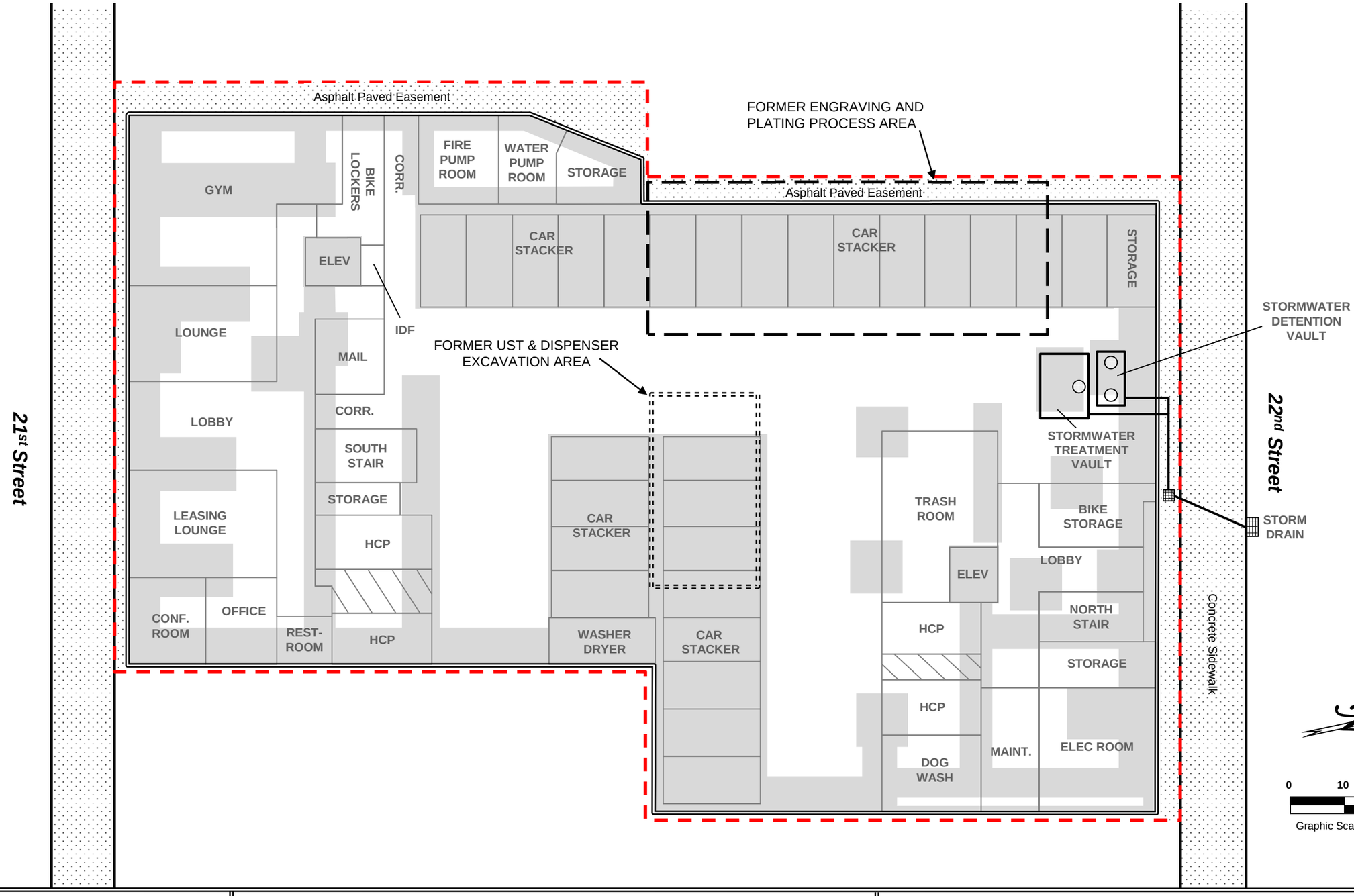
Not To Scale

Advantage Environmental Consultants, LLC

145 Vallecitos De Oro, Suite 201
San Marcos, CA 92069
Phone: 760-744-3363 Fax: 760-744-3383

Figure 2
Aerial Photograph
585 22nd Street
Oakland, California

Work Order No.:	Report Date:	Drawn By:
16-046SD	September 2016	SS



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145 Vallecitos De Oro, Suite 201
San Marcos, CA 92069

Phone: 760-744-3363
Fax: 760-744-3383

Site Boundary

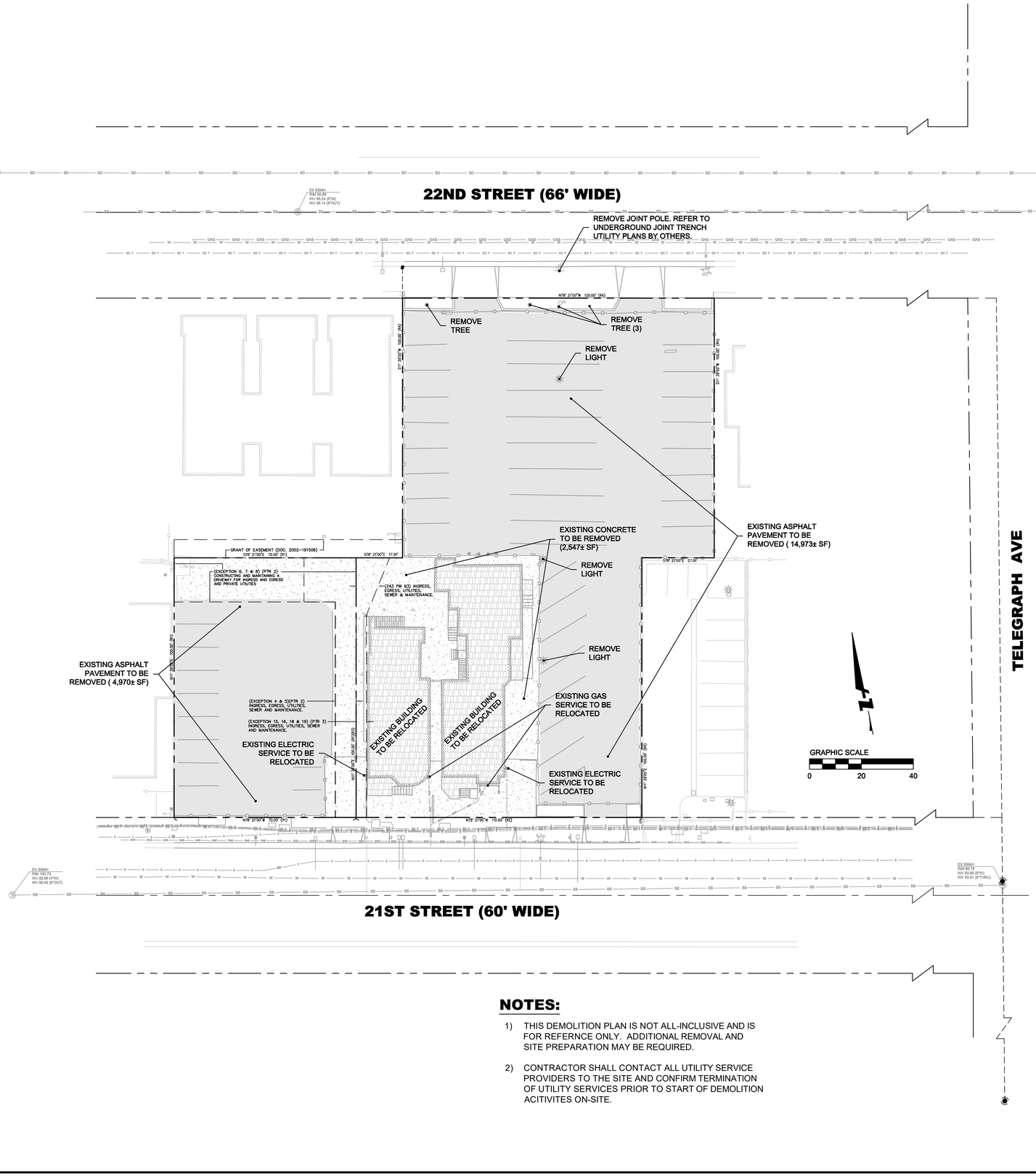
Footings

FIGURE 3
Site Plan – Ground Floor
585 22nd Street
Oakland, CA 94612

AEC Project No.:	Figure Date:	Drawn By:
16-046SD	September 2016	TJ

APPENDIX A

SITE DEMOLITION AND GRADING PLAN



NOTES:

1) THIS DEMOLITION PLAN IS NOT ALL-INCLUSIVE AND IS FOR REFERNCE ONLY. ADDITIONAL REMOVAL AND SITE PREPARATION MAY BE REQUIRED.

2) CONTRACTOR SHALL CONTACT ALL UTILITY SERVICE PROVIDERS TO THE SITE AND CONFIRM TERMINATION OF UTILITY SERVICES PRIOR TO START OF DEMOLITION ACITIVITES ON-SITE.

HATCH LEGEND

- ASPHALT PAVEMENT
- CONCRETE
- BUILDING ROOF
- LANDSCAPE

TALUS
ENGINEERING | PLANNING | DEVELOPMENT

IMPROVEMENT PLANS
570, 572 & 600 21ST STREET
EXISTING CONDITIONS AND DEMOLITION PLAN

CITY OF OAKLAND
ALAMEDA COUNTY
CALIFORNIA

Revisions

No.	

Stamp:

REGISTERED PROFESSIONAL ENGINEER
EASTON C. McALLISTER
No. 61148
EXP. 12/31/16
CIVIL
STATE OF CALIFORNIA

Date	08/19/16
Scale	1" = 20'
Job No.	2015-07

Drawing Number:
C.03
3 OF 10

ON-SITE SUBMITTAL REVIEW SET

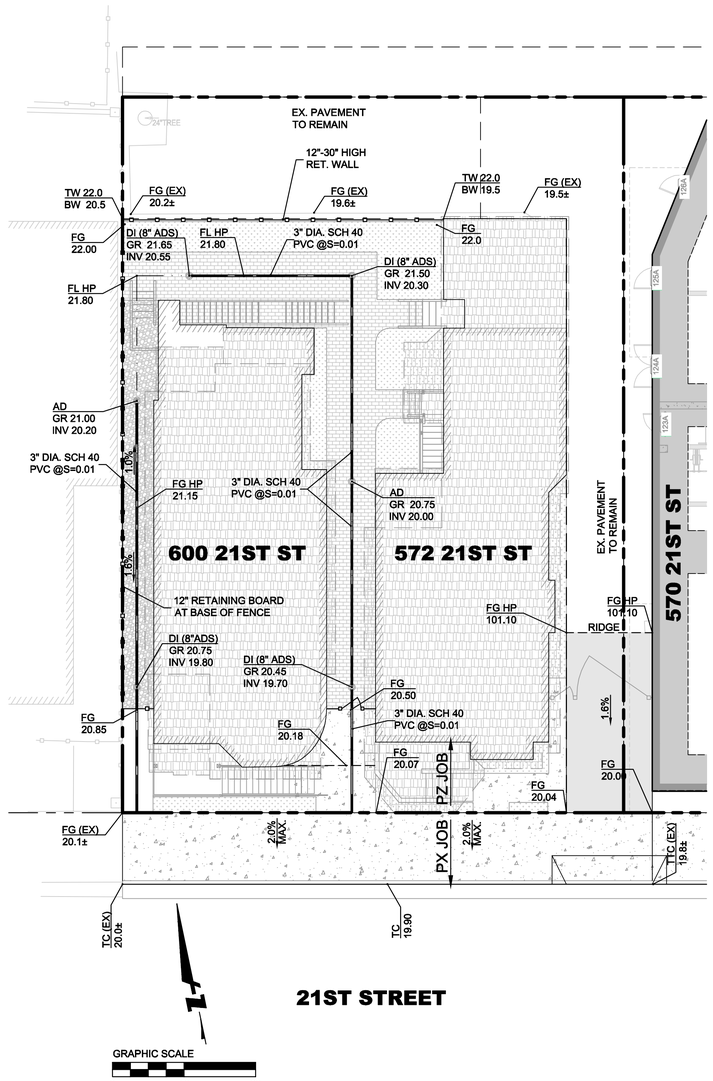
DRAWING NAME: C:\Talus\15-07 22nd Street\CD\03_OKCDEX.dwg
PLOT DATE: 08-19-16 PLOTTED BY: Easton

HATCH LEGEND

- BUILDING ROOF
- LANDSCAPE
- PERVIOUS PAVERS
- GRAVEL

EARTHWORKS:

195 C.Y. EXPORT



572 & 600 21ST STREET - ON-SITE GRADING
SCALE: 1" = 10'

HATCH LEGEND

- ELEVATOR / CAR STACKER PIT
- FOUNDATION FOOTING

EARTHWORKS:

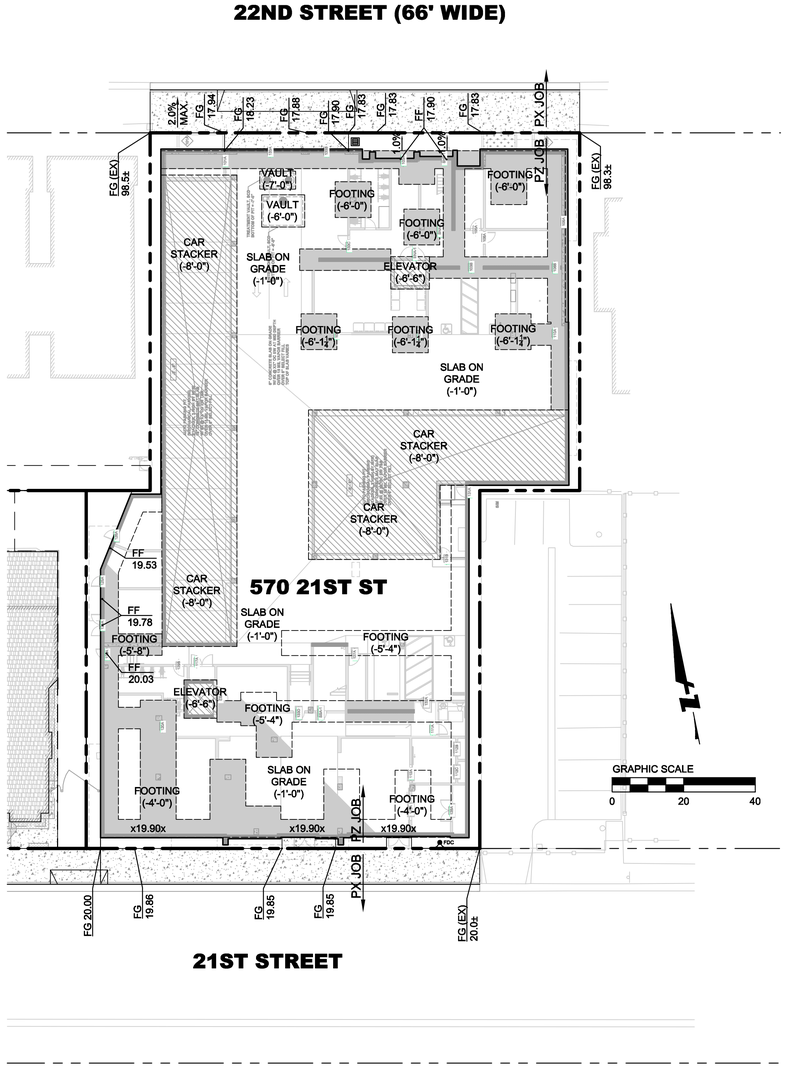
2,615 C.Y. EXPORT

FOR REFERENCE ONLY:

THIS BUILDING FOUNDATION GRADING PLAN IS PROVIDED FOR BONDING AND PERMITTING REFERENCE ONLY.

CONTRACTOR TO REFER TO STRUCTURAL PLANS FOR ADDITIONAL DETAIL ON FOUNDATION DESIGN AND STRUCTURAL COMPONENTS.

CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR RECOMMENDATION ON EXCAVATION AND SUBGRADE PREPARATION.



570 21ST STREET - ON-SITE GRADING
SCALE: 1" = 20'

TALUS
ENGINEERING | PLANNING | DEVELOPMENT

IMPROVEMENT PLANS
570, 572 & 600 21ST STREET
ON-SITE GRADING PLAN

ALAMEDA COUNTY
CALIFORNIA

CITY OF OAKLAND

Revisions

No.

Stamp:
REGISTERED PROFESSIONAL ENGINEER
EASTON C. McALLISTER
No. 61148
EXP. 12/31/16
CIVIL
STATE OF CALIFORNIA

Date	08/19/16
Scale	AS SHOWN
Job No.	2015-07

Drawing Number:
C.06
6 OF 10

ON-SITE SUBMITTAL REVIEW SET

DRAWING NAME: C:\Talus\15-07 22nd Street\CD\06_OKCDGD.dwg
PLOT DATE: 08-19-16 PLOTTED BY: Easton

APPENDIX B
FIELD LOGS

Daily Log Completed By (print/signature):	Advantage Environmental Consultants, LLC
Project Name: 585 22nd Street	Project No.:
Location: Oakland, CA	Date:
Contractor/Subcontractors:	Start Time:
	Finish Time:
Field Personnel and PPE	Meteorological Conditions

Notes:

*Other possible content - Calibration readings, meetings summary, sampling IDs/locations, photo log, deviations

Advantage Environmental Consultants, LLC

PHOTO-IONIZATION DETECTOR (PID) MONITORING FORM

Project Name: 585 22nd Street
Project Activity:
Location: Oakland, CA
Date:
Wind Direction:

Onsite Environmental Scientist:
PID Calibration Date:
PID Calibration Gas:

Excavation Monitoring (soil)			***Ambient Air Monitoring***		
Time	***Reading in ppm***	***Notes/Observations***	***Time***	***Reading in ppm***	***Notes/Observations***
7:00 a.m.			***7:00 a.m.***		
7:15			7:15		
7:30			7:30		
7:45			7:45		
8:00			8:00		
8:15			8:15		
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4:15			4:15		
4:30			4:30		
4:45			4:45		
5:00			5:00		
5:15			5:15		

APPENDIX C

DTSC CLEAN FILL ADVISORY

Information Advisory
Clean Imported Fill Material

October 2001

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

It is DTSC's mission to restore, protect and enhance the environment, to ensure public health, environmental quality and economic vitality, by regulating hazardous waste, conducting and overseeing cleanups, and developing and promoting pollution prevention.

State of California

California Environmental Protection Agency

Executive Summary

This fact sheet has been prepared to ensure that inappropriate fill material is not introduced onto sensitive land use properties under the oversight of the DTSC or applicable regulatory authorities. Sensitive land use properties include those that contain facilities such as hospitals, homes, day care centers, and schools. This document only focuses on human health concerns and ecological issues are not addressed. It identifies those types of land use activities that may be appropriate when determining whether a site may be used as a fill material source area. It also provides guidelines for the appropriate types of analyses that should be performed relative to the former land use, and for the number of samples that should be collected and analyzed based on the estimated volume of fill material that will need to be used. The information provided in this fact sheet is not regulatory in nature, rather is to be used as a guide, and in most situations the final decision as to the acceptability of fill material for a sensitive land use property is made on a case-by-case basis by the appropriate regulatory agency.

Introduction

The use of imported fill material has recently come under scrutiny because of the instances where contaminated soil has been brought onto an otherwise clean site. However, there are currently no established standards in the statutes or regulations that address environmental requirements for imported fill material. Therefore, the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) has prepared this fact sheet to identify procedures that can be used to minimize the possibility of introducing contaminated soil onto a site that requires imported fill material. Such sites include those that are undergoing site remediation, corrective action, and closure activities overseen by DTSC or the appropriate regulatory agency. These procedures may also apply to construction projects that will result in sensitive land uses. The intent of this fact sheet is to protect people who live on or otherwise use a sensitive land use property. By using this fact sheet as a guide, the reader will minimize the chance of introducing fill material that may result in potential risk to human health or the environment at some future time.

Overview

Both natural and manmade fill materials are used for a variety of purposes. Fill material properties are commonly controlled to meet the necessary site specific engineering specifications. Because most sites requiring fill material are located in or near urban areas, the fill materials are often obtained from construction projects that generate an excess of soil, and from demolition debris (asphalt, broken concrete, etc.). However, materials from those types of sites may or may not be appropriate, depending on the proposed use of the fill, and the quality of the assessment and/or mitigation measures, if necessary. Therefore, unless material from construction projects can be demonstrated to be free of contamination and/or appropriate for the proposed use, the use of that material as fill should be avoided.

Selecting Fill Material

In general, the fill source area should be located in nonindustrial areas, and not from sites undergoing an environmental cleanup. Nonindustrial sites include those that were previously undeveloped, or used solely for residential or agricultural purposes. If the source is from an agricultural area, care should be taken to insure that the fill does not include former agricultural waste process byproducts such as manure or other decomposed organic material. Undesirable sources of fill material include industrial and/or commercial sites where hazardous ma-

Potential Contaminants Based on the Fill Source Area

Fill Source:	Target Compounds
Land near to an existing freeway	Lead (EPA methods 6010B or 7471A), PAHs (EPA method 8310)
Land near a mining area or rock quarry	Heavy Metals (EPA methods 6010B and 7471A), asbestos (polarized light microscopy), pH
Agricultural land	Pesticides (Organochlorine Pesticides: EPA method 8081A or 8080A; Organophosphorus Pesticides: EPA method 8141A; Chlorinated Herbicides: EPA method 8151A), heavy metals (EPA methods 6010B and 7471A)
Residential/acceptable commercial land	VOCs (EPA method 8021 or 8260B, as appropriate and combined with collection by EPA Method 5035), semi-VOCs (EPA method 8270C), TPH (modified EPA method 8015), PCBs (EPA method 8082 or 8080A), heavy metals including lead (EPA methods 6010B and 7471A), asbestos (OSHA Method ID-191)

**The recommended analyses should be performed in accordance with USEPA SW-846 methods (1996). Other possible analyses include Hexavalent Chromium: EPA method 7199*

Recommended Fill Material Sampling Schedule

Area of Individual Borrow Area	Sampling Requirements
2 acres or less	Minimum of 4 samples
2 to 4 acres	Minimum of 1 sample every 1/2 acre
4 to 10 acres	Minimum of 8 samples
Greater than 10 acres	Minimum of 8 locations with 4 subsamples per location
Volume of Borrow Area Stockpile	**Samples per Volume**
Up to 1,000 cubic yards	1 sample per 250 cubic yards
1,000 to 5,000 cubic yards	4 samples for first 1000 cubic yards +1 sample per each additional 500 cubic yards
Greater than 5,000 cubic yards	12 samples for first 5,000 cubic yards + 1 sample per each additional 1,000 cubic yards

terials were used, handled or stored as part of the business operations, or unpaved parking areas where petroleum hydrocarbons could have been spilled or leaked into the soil. Undesirable commercial sites include former gasoline service stations, retail strip malls that contained dry cleaners or photographic processing facilities, paint stores, auto repair and/or painting facilities. Undesirable industrial facilities include metal processing shops, manufacturing facilities, aerospace facilities, oil refineries, waste treatment plants, etc. Alternatives to using fill from construction sites include the use of fill material obtained from a commercial supplier of fill material or from soil pits in rural or suburban areas. However, care should be taken to ensure that those materials are also uncontaminated.

Documentation and Analysis

In order to minimize the potential of introducing contaminated fill material onto a site, it is necessary to verify through documentation that the fill source is appropriate and/or to have the fill material analyzed for potential contaminants based on the location and history of the source area. Fill documentation should include detailed information on the previous use of the land from where the fill is taken, whether an environmental site assessment was performed and its findings, and the results of any testing performed. It is recommended that any such documentation should be signed by an appropriately licensed (CA-registered) individual. If such documentation is not available or is inadequate, samples of the fill material should be chemically analyzed. Analysis of the fill material should be based on the source of the fill and knowledge of the prior land use.

Detectable amounts of compounds of concern within the fill material should be evaluated for risk in accordance with the DTSC Preliminary Endangerment Assessment (PEA) Guidance Manual. If

metal analyses are performed, only those metals (CAM 17 / Title 22) to which risk levels have been assigned need to be evaluated. At present, the DTSC is working to establish California Screening Levels (CSL) to determine whether some compounds of concern pose a risk. Until such time as these CSL values are established, DTSC recommends that the DTSC PEA Guidance Manual or an equivalent process be referenced. This guidance may include the Regional Water Quality Control Board's (RWQCB) guidelines for reuse of non-hazardous petroleum hydrocarbon contaminated soil as applied to Total Petroleum Hydrocarbons (TPH) only. The RWQCB guidelines should not be used for volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCS). In addition, a standard laboratory data package, including a summary of the QA/QC (Quality Assurance/Quality Control) sample results should also accompany all analytical reports.

When possible, representative samples should be collected at the borrow area while the potential fill material is still in place, and analyzed prior to removal from the borrow area. In addition to performing the appropriate analyses of the fill material, an appropriate number of samples should also be determined based on the approximate volume or area of soil to be used as fill material. The table above can be used as a guide to determine the number of samples needed to adequately characterize the fill material when sampled at the borrow site.

Alternative Sampling

A Phase I or PEA may be conducted prior to sampling to determine whether the borrow area may have been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with DTSC or appropriate regulatory agency. However, if it is not possible to analyze the fill material at the borrow area or determine that it is appropriate for use via a Phase I or PEA, it is recommended that one (1) sample per truckload be collected and analyzed for all compounds of concern to ensure that the imported soil is uncontaminated and acceptable. (See chart on Potential Contaminants Based on the Fill Source Area for appropriate analyses). This sampling frequency may be modified upon consultation with the DTSC or appropriate regulatory agency if all of the fill material is derived from a common borrow area. However, fill material that is not characterized at the borrow area will need to be stockpiled either on or off-site until the analyses have been completed. In addition, should contaminants exceeding acceptance criteria be identified in the stockpiled fill material, that material will be deemed unacceptable and new fill material will need to be obtained, sampled and analyzed. Therefore, the DTSC recommends that all sampling and analyses should be completed prior to delivery to the site to ensure the soil is free of contamination, and to eliminate unnecessary transportation charges for unacceptable fill material.

Composite sampling for fill material characterization may or may not be appropriate, depending on quality and homogeneity of source/borrow area, and compounds of concern. Compositing samples for volatile and semivolatile constituents is not acceptable. Composite sampling for heavy metals, pesticides, herbicides or PAH's from unanalyzed stockpiled soil is also unacceptable, unless it is stockpiled at the borrow area and originates from the same source area. In addition, if samples are composited, they should be from the same soil layer, and not from different soil layers.

When very large volumes of fill material are anticipated, or when larger areas are being considered as borrow areas, the DTSC recommends that a Phase I or PEA be conducted on the area to ensure that the borrow area has not been impacted by previous activities on the property. After the property has been evaluated, any sampling that may be required can be determined during a meeting with the DTSC.

For further information, call Richard Coffman, Ph.D., R.G., at (818) 551-2175.