

H. PUBLIC HEALTH AND HAZARDS

This section provides an overview of the potential presence of hazardous materials¹ and other hazards on and near the project site and assesses potential impacts to public health and safety that could result from the development of the project.

1. Setting

The following section describes hazardous materials issues at the project site as well as the regulatory agency framework and local policies that address those hazards.

a. Sources of Hazardous Materials Contamination at the Project Site. Potential hazardous materials issues at the project site were evaluated in a Phase I Environmental Site Assessment, conducted in 2002.² The scope of the Phase I included a site reconnaissance to visually check for hazardous materials use and contamination, review of historical land use information and available reports, review of regulatory agency databases regarding hazardous materials releases, and interviews with available individuals regarding current and historical land uses at the site.

A review of historical land use information indicated that the project site was sparsely developed with residential properties in 1902, the date of the first available records.³ By 1912, additional commercial and residential development had taken place at and near the project site. Between 1969 and 1977, a number of buildings at the project site were demolished to accommodate State Route 24, the BART tracks, and the MacArthur BART station and parking lot. Since that time, no significant changes in land use were noted at the project site.

The Phase I identified four potential sources of hazardous material contamination at the site:

(1) Vehicle Fueling and Repair Facilities. Three gasoline stations have been located at and adjacent to the project site: 3801 Telegraph Avenue, 3875 Telegraph Avenue, and

¹ The California Health and Safety Code defines a hazardous material as "...any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials, and any material which a handler or administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment." (Health and Safety Code Section 25501).

² Subsurface Consultants, Inc. (SCI), 2002, Phase I Environmental Site Assessment, MacArthur BART Transit Village Project, Oakland, California, July 17.

³ Ibid.

500 40th Street. In addition, a vehicle repair shop was previously located at 521-523 40th Street (currently the northern portion of the MacArthur BART parking lot), and an auto detailing shop is currently located at 3901 Telegraph Avenue. Additional automobile repair shops were noted near the project site on Telegraph Avenue, West MacArthur Boulevard, and Martin Luther King Jr. Way.⁴ Gasoline stations rely on underground storage tanks (USTs) to store gasoline, diesel, and waste oil. Over time, these USTs can leak and contaminate soil and groundwater. Vehicle repair and car wash businesses often use, store, and dispose of significant quantities of waste oil and other vehicle fluids, degreasers, and related chemicals. These petroleum compounds and related volatile organic compounds (VOCs) can contaminate soil and groundwater if these hazardous materials are not properly managed.

(2) Dry Cleaners. A dry-cleaning business was historically located on the project site, at 3915 Telegraph Avenue, and adjacent to the project site, at 524 40th Street.⁵ Dry cleaners use, store, and dispose of significant quantities of tetrachloroethylene (PCE), an industrial solvent. PCE and its breakdown products, such as trichloroethylene (TCE) and vinyl chloride, can contaminate soil and groundwater if the solvents are not properly stored and disposed of.

(3) Underground Fuel Oil Tanks. Although no records reviewed for the Phase I site assessment identified the presence of USTs at the project site, the Phase I concluded that previously unknown USTs used for heating oil could be present at the project site.⁶ Heating oil has been used for heat and hot water in residential and commercial buildings in the past, and could have been used at and near the project site. If the heating oil USTs were not removed, they could be present and a source of contamination to soils and groundwater.

(4) Hazardous Materials Demolition Issues. Those buildings at the project site constructed prior to the 1980s and located along Telegraph Avenue and West MacArthur Boulevard may have lead and asbestos present in some form.⁷ Prior to 1978, lead compounds were commonly used in interior and exterior paints. Prior to the 1980s, building materials often contained asbestos fibers, which were used to provide strength and fire resistance. Demolition of the project site buildings has the potential to release lead particles, asbestos fibers, and/or other hazardous materials to the air, where they may be inhaled by construction workers and the general public. In addition, other common items such as fluorescent lighting, thermostats, and electrical transformers can contain hazardous materials which may pose a health risk if not handled and disposed of properly.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

Fluorescent lighting tubes and ballasts and computer displays are regulated as “universal wastes” by the State of California.⁸ Universal waste regulations allow common, low-hazard wastes to be managed under less stringent requirements than other hazardous wastes. Pacific Gas and Electric (PG&E), the owner of the electrical transformers at the site, would be responsible for proper removal and disposal of the transformers, if required. Proper handling and disposal of other hazardous materials would be the responsibility of the owner of the project site, who would be considered the generator of the hazardous wastes that result from removal of these items.

b. Extent of Hazardous Materials Contamination at the Project Site. The nature and extent of subsurface contamination was evaluated in a Phase II Environmental site assessment, conducted in 2005.⁹ In February 2005, soil and groundwater samples were collected from 32 locations at the project site. In June 2005, soil gas samples were collected from 15 locations at the project site. Additional soil and groundwater sampling and a geophysical survey on the eastern section of the MacArthur BART parking lot were also performed in June 2005, near the areas of highest petroleum contamination identified during the February 2005 sampling.

The soil and groundwater samples were selectively analyzed for total petroleum hydrocarbons (TPH) in the gasoline, diesel, and motor oil ranges; VOCs, including benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE), VOCs associated with gasoline releases; polynuclear aromatic hydrocarbons (PAHs), a range of heavy hydrocarbons such as those found in coal tar; and heavy metals. The soil gas samples were analyzed for VOCs.

To evaluate potential health effects for residential land uses, concentrations in soils, groundwater, and soil gas were compared to Environmental Screening Levels (ESLs) and Preliminary Remediation Goals (PRGs). Data for groundwater samples were also compared to Maximum Contaminant Levels (MCLs) for drinking water standards. ESLs, developed by the San Francisco Bay Water Board (SFBWB), are conservative screening levels developed for use in identifying potential environmental concerns at a site. Exceedance of ESLs does not necessarily mean that materials at the site may pose a health risk, but may indicate that additional investigation and/or remediation of a site may be warranted.¹⁰ PRGs are human

⁸ Title 22, California Code of Regulations, Section 66273. Electrical switches containing mercury are proposed to be added to the universal waste list in 2006.

⁹ Ninyo & Moore, 2005, Limited Phase II Environmental Site Assessment, MacArthur BART Transit Station, Oakland, California, July 20.

¹⁰ San Francisco Bay Water Board (SFBWB), 2005. Screening For Environmental Concerns At Sites With Contaminated Soil and Groundwater, Interim Final. February

health-risk based levels developed by US EPA Region IX that are often selected as long-term targets during the evaluation and selection of remedial alternatives.¹¹

The Phase II assessment identified petroleum hydrocarbons and related compounds, VOCs associated with dry cleaning solvents, and metals that were above these screening levels. The magnitude and extent of those concentrations are detailed below.

(1) Petroleum Hydrocarbons and Related Compounds. Twenty-two of 25 groundwater samples contained TPH above the ESL of 0.1 mg/L, with the highest concentration of TPH as gasoline (280 mg/L) near the former gas station site at 3875 Telegraph Avenue, and the highest concentrations of TPH as diesel (530 mg/L) and as motor oil (39 mg/L) just north of 3875 Telegraph Avenue, near the current auto detailing shop at 3901 Telegraph Avenue. Nine of 64 soil samples contained TPH above ESLs, with the highest concentrations west and north of the 3875 Telegraph Avenue site.¹²

BTEX were identified above applicable ESLs in fifteen of 31 groundwater samples. The highest concentrations were identified immediately west of 3875 Telegraph Avenue: 47 mg/L for benzene, 48 mg/L for toluene, and 6.5 mg/L for ethylbenzene, and 25 mg/L for xylenes (above the ESLs of 0.001, 0.04, 0.03, and 0.02 mg/L respectively). In soil, only one sample, from a boring immediately west of the 3875 Telegraph Avenue site, contained BTEX above applicable residential ESLs.¹³

Naphthalene, a PAH associated with coal tar, was identified above the residential ESL in seven of 25 samples, all located near the 3875 Telegraph Avenue building. Naphthalene was not identified at concentrations above laboratory reporting limits in any of the soil samples.¹⁴

The highest concentrations of petroleum hydrocarbons and related compounds in soils and groundwater were located in the east-central area of the project site near 3875 Telegraph Avenue. Additional areas with soil and/or groundwater concentrations above ESLs were located in the northeastern corner of the project site, near the detailing shop at 3901 Telegraph Avenue and a former gasoline station at 500 40th Street, and in the southeastern corner, near a former gasoline station at 3801 Telegraph Avenue.

¹¹ United States Environmental Protection Agency Region IX, 2004. Preliminary Remediation Goals, updated October.

¹² Ninyo & Moore, 2005, *op cit.*.

¹³ *Ibid.*

¹⁴ *Ibid.*

Soil gas samples were collected from fifteen locations at the site and analyzed for VOCs, to determine if soil gases may be a potential risk to future workers and residents at the site. Benzene was detected above the residential ESL for soil gases at three of fifteen locations. No other VOCs were identified above applicable ESLs.¹⁵

The Phase I investigation indicated that USTs had been removed from the 3875 Telegraph Avenue site in the 1980s, although no evidence of soil or groundwater sampling at the time of UST removal was noted in available records.¹⁶ The elevated soil and groundwater concentrations identified in this area during the February 2005 sampling suggested that an additional UST could be present, which might be a source for the contamination. Accordingly, in June 2005 a geophysical survey, using ground-penetrating radar and electromagnetic induction equipment, was performed near 3875 Telegraph Avenue to determine if an underground storage tank may be present. No indications of USTs were identified during the survey.¹⁷

The 3875 Telegraph site is currently being investigated under the oversight of Alameda County Department of Environmental Health (ACDEH). In August 2007, a work plan for additional investigation was submitted to ACDEH for review.¹⁸ The additional investigation proposes the collection of soil, soil gas, and groundwater samples to further delineate the horizontal and vertical extent of the contamination identified during the 2005 Phase II investigation. Based on the findings of the additional investigation, ACDEH may require additional investigation and/or remedial action at the 3875 Telegraph site.

(2) VOCs Associated with Dry Cleaning Solvents. Three of 25 groundwater samples contained PCE, and/or the breakdown products TCE and 1,2-dichloroethene (1,2-DCE), at concentrations above applicable ESLs.¹⁹ The locations of the samples exceeding ESLs were in the northwestern portion of the project site, near the former dry cleaners identified in the Phase I investigation. None of the soil or soil gas samples contained these solvents above applicable ESLs, suggesting that potential health risks from these compounds would be limited to direct contact and/or ingestion of the affected groundwater.

¹⁵ Ibid.

¹⁶ SCI, 2002, *op cit.*.

¹⁷ Ninyo & Moore, 2005, *op cit.*.

¹⁸ WEST Inc., 2007, Preliminary Site Assessment/Soil, Soil Gas And Groundwater Investigation Work Plan, Former Regal Station #120, LOP Case No. RO0002875, 3875 Telegraph Avenue, Oakland, California, August 14.

¹⁹ Ibid.

(3) **Metals.** Total arsenic was identified above the residential ESL of 5.5 mg/kg in 19 of 45 soil samples, with a maximum concentration of 25 mg/kg. Since soil samples containing arsenic above the ESL were located in all areas of the project site, and no potential sources of arsenic releases were identified in the Phase I report, the Phase II suggested that some or all of the arsenic in soils may be a result of naturally-occurring arsenic in site soils.²⁰ No other metals were identified in soils above ESLs.

Arsenic was identified above the groundwater ESL of 0.055 mg/L in eight of thirteen groundwater samples, with a maximum concentration of 0.028 mg/L, but all concentrations were below the drinking water MCL of 0.05 mg/L at the time of the Phase II investigation.²¹ Copper, lead, mercury, nickel, and vanadium were also identified above applicable groundwater ESLs in at least one groundwater sample, although none of the concentrations exceeded applicable MCLs.

c. **Regulatory Context.** The following section provides the federal, State, and local regulatory framework for hazardous materials and waste, building materials (e.g., lead, asbestos), and worker health and safety.

The use, storage, and disposal of hazardous materials, including management of contaminated soils and groundwater, is regulated by numerous local, State, and federal laws and regulations. The U.S. Environmental Protection Agency (U.S. EPA) is the federal agency that administers hazardous materials and hazardous waste regulations. State agencies include the California EPA (Cal/EPA), which includes the California Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (State Water Board), the California Air Resources Board (CARB), and other agencies. The San Francisco Bay Regional Water Quality Control Board (Water Board), the Bay Area Air Quality Management District (BAAQMD), ACDEH, and Oakland Fire Services Agency (OFSA) have jurisdiction on a regional or local level.

A description of each agency jurisdiction and involvement in the management of hazardous materials and wastes is provided below.

(1) **Federal.** The U.S. EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). The legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation, and Liability Act of

²⁰ Ibid.

²¹ In January 2006, a more stringent federal MCL of 0.01 mg/L for arsenic was established. Two of the thirteen groundwater samples exceeded this updated MCL.

1980 (CERCLA). The U.S. EPA provides oversight for site investigation and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

(2) **State.** Three State agencies, described below, regulate hazardous materials and waste applicable to the proposed project.

Department of Toxic Substances Control. In California, DTSC is authorized by U.S. EPA to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health, and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels. DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

State Water Resources Control Board. The State Water Board enforces regulations on how to implement underground storage tank (UST) programs. It also allocates monies to eligible parties who request reimbursement of funds to clean up soil and groundwater pollution from UST leaks. The State Water Board also enforces the Porter-Cologne Water Quality Act through its nine regional boards, including the San Francisco Bay Regional Water Board, described below.

California Air Resources Board. This agency is responsible for coordination and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards, and is responsible for monitoring air quality in conjunction with the local air districts.

(3) **Regional and Local Agencies.** The following regional and local agencies have regulatory authority over the proposed project's management of hazardous materials and waste on the site.

San Francisco Bay Water Board. The project site is located within the jurisdiction of SFBWB. SFBWB provides for protection of State waters in accordance with the Porter-Cologne Water Quality Act of 1969. SFBWB can act as lead agency to provide oversight for sites where the quality of groundwater or surface waters is threatened, and has the authority to require investigations and remedial actions.

Bay Area Air Quality Management District. The BAAQMD has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products

(which is the responsibility of U.S. EPA and CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary sources, and the issuing of permits for activities including asbestos demolition/renovation activities (District Regulation 11, Rule 2).

Alameda County Department of Environmental Health and Oakland Fire Services Agency. ACDEH and OFSA are the primary agencies responsible for local enforcement of State and federal laws pertaining to hazardous materials management and for oversight of hazardous materials investigations and remediation in Alameda County.

In Oakland, OFSA has been granted responsibility for implementation and enforcement of many hazardous materials regulations at the project site under the Certified Unified Program Agency (CUPA) Program (California Health and Safety Code Chapter 6.11). The CUPA programs include coordination of the local hazardous waste generator program, underground and aboveground storage tank management, and investigation of leaking underground storage tank sites. OFSA also implements the City of Oakland Hazardous Materials Assessment and Reporting Program, pursuant to City Ordinance No. 12323, which requires notification of hazardous materials storage, use and handling, and an assessment as to whether this storage, use and handling would cause a public health hazard to nearby sensitive receptors including schools, hospitals or other sensitive receptors.

The Oakland Office of Emergency Services (part of OFSA), provides emergency response to fire emergencies and hazardous materials incidents within the City of Oakland, and conducts vegetation management inspections for wildfire reduction. Oakland has entered into agreements with adjoining jurisdictions for cooperative response to fires.²²

Urban Land Redevelopment (ULR) Program. The ULR program is a collaborative effort by the City of Oakland and the principal agencies charged with enforcing environmental regulations (DTSC, Water Board, and ACDEH) to facilitate the cleanup and redevelopment of contaminated properties in Oakland. The program is coordinated by the City and is specific to Oakland sites. The ULR Program clarifies environmental investigation requirements, and establishes Oakland-specific, risk-based corrective action (RBCA) standards for qualifying sites. RBCA standards are criteria that, when met, adequately address risk posed by contamination to human health. The RBCA standards were first submitted in 1999, and are planned for revision this year.²³

(4) Worker Health and Safety. Worker health and safety is regulated at the federal level by the U.S. Department of Labor, Occupational Safety and Health Administration

²² City of Oakland, General Plan, Safety Element, Fire Hazards (Chapter 4), November 2004.

²³ Mark Gomez, City of Oakland Public Works Agency, Environmental Services Division, personal communication with J. Pettijohn of Baseline, January 2007.

(OSHA). The Federal Occupational Safety and Health Act of 1970 authorizes states (including California) to establish their own safety and health programs with OSHA approval; implementation of worker health and safety in California is regulated by the California Department of Industrial Relations (DIR). The DIR includes the Division of Occupational Safety and Health (DOSH), which acts to protect workers from safety hazards through its California OSHA (Cal/OSHA) program and provides consultative assistance to employers. California standards for workers dealing with hazardous materials are contained in CCR Title 8 and include practices for all industries (General Industrial Safety Orders), specific practices for construction, and other industries.

(5) City of Oakland Policies. Relevant policies and conditions from the City's General Plan, Municipal Code and Standard Conditions of Approval are described below.

City of Oakland General Plan. The November 2004 Safety Element of the Oakland General Plan²⁴ contains the following policies regarding hazards and hazardous materials and emergency response that may apply to this project. Relevant policies from other General Plan elements are also described.

- **Policy HM-1:** Minimize the potential risks to human and environmental health and safety associated with past and present use, handling, storage and disposal of hazardous materials.
- **Policy HM-2:** Reduce the public's exposure to toxic air contaminants through appropriate land use and transportation strategies.
- **Policy HM-3:** Seek to prevent industrial and transportation accidents involving hazardous materials and enhance the city's capabilities to response to such incidents.
- **Policy PS-1:** Maintain and enhance the city's capacity to prepare for, mitigate, respond to, and recover from disasters and emergencies.

The following policy statements from the Open Space, Conservation and Recreation (OSCAR) Element of the General Plan²⁵ regarding hazards and hazardous materials may apply to the proposed project:

- **Policy CO-1.2:** Soil contamination and hazards. Minimize hazards associated with soil contamination through the appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.
- **Policy REC-4.2:** Encourage maintenance practices which conserve energy and water, promote recycling, and minimize harmful side effects on the environment. Ensure that any application of chemical pesticides and herbicides is managed to avoid pollution of ground and surface waters.

²⁴ City of Oakland, General Plan, Safety Element, Hazardous Materials (Chapter 5), November 2004.

²⁵ City of Oakland, General Plan, Safety Element, Appendix A, November 2004.

City of Oakland Municipal Code. The City of Oakland Municipal Code includes regulations for the handling of hazardous materials in the City. Title 8, Chapter 8.12 of the Oakland Municipal Code adopts California Health and Safety Code laws (Health and Safety Code Section 25500 et seq.) related to hazardous materials. City Ordinance No. 12323 regarding hazardous materials reporting is previously described requires notification of hazardous materials storage, use and handling, and an assessment as to whether this storage, use and handling would cause a public health hazard to nearby sensitive receptors including schools, hospitals or other sensitive receptors.

City of Oakland's Standard Conditions of Approval. The City's Standard Conditions of Approval relevant to this impact topic are listed below for reference. The conditions of approval will be adopted as requirements of the proposed project if the project is approved by the City to help ensure no significant impacts (for the applicable topic) occur, as a result they are not listed as mitigation measures.

COA HAZ-1: Hazards Best Management Practices. *Prior to issuance of a demolition, grading, or building permit.* The project applicant and construction contractor shall ensure that construction best management practices are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

- a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;
- b) Avoid overtopping construction equipment fuel gas tanks;
- c) During routine maintenance of construction equipment, properly contain and remove grease and oils;
- d) Properly dispose of discarded containers of fuels and other chemicals.
- e) Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.
- f) If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the Standard Conditions of Approval (see COA HAZ-3 and HAZ-5 on page 357) as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

COA HAZ-2: Asbestos Removal in Structures. *Prior to issuance of a demolition permit.* If asbestos is found to be present in building materials to be removed, demolition and disposal is required to be conducted in accordance with procedures specified by Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing) of Bay Area Air Quality Management District (BAAQMD) regulations, as may be amended.

COA HAZ-3: Phase I and/or Phase II Reports. *Prior to issuance of a demolition, grading, or building permit.* Prior to issuance of demolition, grading, or building permits the project applicant shall submit to the Fire Prevention Bureau, Hazardous Materials Unit, a Phase I environmental site assessment report, and a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

COA HAZ-4: Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment. *Prior to issuance of a demolition, grading, or building permit.* The project applicant shall submit a comprehensive assessment report, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACM), lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.

COA HAZ-5: Environmental Site Assessment Reports Remediation. *Prior to issuance of a demolition, grading, or building permit.* If the environmental site assessment reports recommend remedial action, the project applicant shall:

- a) Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.
- b) Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.
- c) Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.

COA HAZ-6: Lead-Based Paint Remediation. *Prior to issuance of a demolition, grading, or building permit.* If lead-based paint is present, the project applicant shall submit specifications signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.

COA HAZ-7: Asbestos Remediation. *Prior to issuance of a demolition, grading, or building permit.* If asbestos-containing materials (ACM) are present, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or

enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.

COA HAZ-8: Other Materials Classified as Hazardous Waste. *Prior to issuance of a demolition, grading, or building permit.* If other building materials or stored materials classified as hazardous waste by State or federal law is present, the project applicant shall submit written confirmation that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.

COA HAZ-9: Health and Safety Plan per Assessment. *Prior to issuance of a demolition, grading, or building permit.* If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.

COA HAZ-10: Fire Safety Phasing Plan. *Prior to issuance of a demolition, grading, or building permit and concurrent with any p-job submittal permit.* The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

COA HAZ-11: Fire Safety. *Prior to and ongoing throughout demolition, grading, and/or construction.* The project applicant and construction contractor will ensure that during project construction, all construction vehicles and equipment will be fitted with spark arrestors to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

2. Impacts and Mitigation Measures

This section outlines potential impacts related to public health and safety and recommends mitigation measures. Criteria of significance for public health and hazards are listed first. Less-than-significant impacts are then discussed, followed by potentially significant impacts.

a. Criteria of Significance. A significant hazardous material or public health and safety impact would occur if the project would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area.
- Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

b. Less-than-Significant Impacts. Less-than-significant impacts related to public health and hazards are discussed below.

(1) Routine Use, Storage, and Disposal of Hazardous Materials. Implementation of the proposed project would result in the development of residences, commercial and parking space. It is not anticipated that large quantities of hazardous materials would be permanently stored or used within the project site following development. Similarly, the project would not emit hazardous emissions or handle hazardous materials. Small quantities of common hazardous materials (e.g., paint, maintenance supplies) would be routinely used within the project site for maintenance and cleaning. However, these materials would not be used in sufficient volume to create a substantial risk of fire or explosion, or otherwise pose a substantial risk to human or environmental health. Therefore, implementation of the proposed project would not create a permanent significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

(2) Hazardous Materials in Building Materials. Due to the age of the buildings at the project site, lead, asbestos, and other hazardous materials are likely present. During demolition, these hazardous materials could be dispersed and adversely affect construction workers and nearby members of the general public. A lead-based paint, asbestos-containing material, and PCB survey would be performed at the structure by a qualified environmental professional in accordance with the City's Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment Standard Condition of Approval (see COA HAZ-4 on page 357). Based on the findings of the survey, all identified lead-based paint, asbestos and/or PCB

hazards will be abated by a certified contractor in accordance with local, State, and federal requirements, including the requirements of the Bay Area Air Quality Management District for asbestos (Regulation 11, Rule 2). The findings of the survey will be documented by a qualified environmental professional, a plan for remediation of the hazardous building materials, and documentation of the remediation will be prepared by the City in accordance with the City's Other Materials Classified as Hazardous Waste; Asbestos Remediation; Lead-Based Paint Remediation and Asbestos Removal in Structures Standard Conditions of Approval (see COAs HAZ-2, HAZ- 6, HAZ-7 and HAZ-8 on pages 357 and 358). Implementation of these conditions of approval and compliance with existing local, State, and federal requirements would reduce the potential impacts from hazardous materials in building materials to a less-than-significant level.

(3) Hazardous Materials in Soils and Groundwater from Historic Hazardous Materials. Development of the project site could expose construction workers, the general public, and future workers and residents to hazardous materials in soil, groundwater, and soil gases.

After the 2005 Phase II investigation for the project site was completed, the 3875 Telegraph Avenue property was listed on the State Leaking Underground Storage Tank database, one of the databases referenced in Government Code Section 65962.5.²⁶ ACDEH is the lead regulatory agency in charge of oversight of investigation and remediation of this release.

Releases of petroleum hydrocarbons and related compounds at this location could potentially pose a health risk to construction workers, who will come into direct contact with contaminated soils and groundwater during construction, and/or to future workers and residents at the site, who could come into contact with contaminated materials during maintenance activities, and who may be affected by contaminants in soil gases migrating from contaminated soils and groundwater into indoor air.

In addition to petroleum-related contaminants near 3875 Telegraph Avenue, the 2005 Phase II investigation identified heavy metals and solvents in soils and groundwater above screening thresholds. The Phase II investigation recommended that a site-specific Human Health Risk Assessment (HHRA) be performed to develop specific remedies for the site.

Specific measures that would be required for the project will rely on the findings of a site-specific HHRA and the requirements of regulatory oversight agencies. Depending on HHRA findings and regulatory requirements, health effects for construction workers may be mitigated through implementation of health and safety measures during construction. Health effects for future residents and workers may be addressed either through remedial activities, such as excavation of contaminated soils and treatment of contaminated

²⁶ State Water Resources Control Board, 2007, Geotracker Database, accessed July 26.

groundwater, or may be addressed through institutional controls and engineering controls (IC/EC). For example, potential health risks from groundwater ingestion may be eliminated through a deed restriction prohibiting deep excavations and groundwater use. Potential health risks from direct contact with site soils may be eliminated through installation and maintenance of building foundations, parking lots, and other barriers to contaminated soils. Potential health risks from soil gases may be addressed by use of vapor barriers on site buildings or active ventilation of ground floor interiors.

Construction at the project site will require the use and transport of hazardous materials. These materials will include fuels, oils, and other chemicals used during construction activities. Improper use and transportation of hazardous materials could result in accidental releases or spills, potentially posing health risks to workers, the public, and environment.

Construction contractors will be required to implement construction best management practices to prevent misuse of hazardous materials in accordance with the construction RMP required by COA HAZ-1, above. All use, storage, transport, and disposal of hazardous materials during construction activities will be subject to existing local, State, and federal hazardous materials regulations.

Implementation of the City's Standard Condition, COA HAZ-5, as modified to include site specific recommendations from the completed studies would reduce this potential impact to less than significant.

COA HAZ-5: Environmental Site Assessment Reports Remediation. *Prior to issuance of a demolition, grading, or building permit.* If the environmental site assessment reports recommend remedial action, the project applicant shall:

- a) Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.
- b) Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.
- c) Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.
- d) Prior to issuing any permits for construction at the project site, a Construction-Phase Risk Management Plan (RMP) shall be prepared for the project. The RMP shall include any health and safety measures determined necessary in the HHRA to protect the health of construction workers and nearby public during construction activities. These measures may potentially include dust control, air monitoring, and/or the use of personal protective equipment during

construction activities. Action levels for contaminants of concern shall be established, with detailed descriptions of corrective actions to be taken in the event that the action levels are reached during monitoring. The RMP shall also include safety and emergency response measures included in the City's Standard Conditions HAZ-1 and HAZ-2. The RMP shall be reviewed and approved by the City of Oakland or designated regulatory oversight agency.

- e) Implementation of COA HAZ-5 would require a Remediation Action Plan (RAP). Required remedial actions shall include measures to ensure that any potential added health risks to future site users as a result of hazardous materials are reduced to a cumulative human health risk of less than 1×10^{-6} (one in one million) for carcinogens and a cumulative hazard index of 1.0 for non-carcinogens, or other site-specific goals established by regulatory oversight agencies. The potential risks to human health in excess of these goals may be reduced either by remediation of the contaminated soils or groundwater (e.g., excavation and off-site disposal of soils and treatment of groundwater) and/or implementation of institutional controls and engineering controls (IC/EC). IC/EC may include the use of hardscape (buildings and pavements), importation of clean soil in landscaped areas to eliminate exposure pathways, and deed restrictions. Specific remedies would depend on the findings of the site-specific HHRA and the requirements of the regulatory agencies.

(4) School Sites. Several schools are located in the project vicinity. Campuses for St. Martin De Porres Catholic School, at 675 41st Street, and Park Day School, at 370 43rd Street, are located approximately ¼-mile from the project site. However, as the proposed project would not emit hazardous emissions of significant risk or handle significant quantities of hazardous materials, substances, or waste, there would be no significant impact to existing or proposed school facilities.

(5) Airport/Airfield Hazards. No airports or private air strips are located in the project vicinity, and the project site is not located within an airport land use plan.

(6) Emergency Response/Emergency Evacuation. The City of Oakland has adopted the Standard Emergency Management System (SEMS), a framework for standardizing emergency response procedures in California. The Oakland Office of Emergency Services' SEMS emergency plan describes how City agencies would respond to declared emergencies in the City. The Plan must be routinely updated in accordance with Action PS-1.2 of the City General Plan. Designated evacuation routes in the project vicinity include Telegraph Avenue, MacArthur Boulevard, and Martin Luther King Jr. Way.²⁷ Development of the project would not impede vehicular or pedestrian traffic on these evacuation routes. Regular updating of the City of Oakland's SEMS emergency plan, as required by the General Plan, would also ensure that the project would not impair implementation or physically impair the City's emergency response and evacuation plans.

²⁷ City of Oakland General Plan Safety Element, 2004. Figure 2.1, Public Safety.

(7) **Wildland Fire Hazards.** The project site is not in or adjacent to an area mapped as containing a wildland fire hazard²⁸ and is not located within the City of Oakland Wildfire Prevention Assessment District area of wildfire hazard areas.²⁹

(8) **Electromagnetic Fields.** Electromagnetic fields (EMF) are generated by man-made sources, including electrical transmission and distribution lines, building wiring, and electrical appliances, as well as from natural phenomena such as lightning or static electricity. There is a low, but measurable “background” level of EMF in the environment that is not related to any particular man-made source. There has been significant public concern about the potential health effects associated with EMF from manmade sources, although scientific studies attempting to identify these health effects have been inconclusive.

The California EMF Program, developed by the California Public Utilities Commission (PUC), California Department of Health Services (DHS), and the Public Health Institute, completed a risk evaluation of EMF in June 2002. Three DHS scientists evaluated existing EMF study data, in coordination with DHS toxicologists, physicians, and epidemiologists. Due to the lack of clear association between EMF and health risks in the available data, the California EMF Program did not identify any specific policy measures to address potential risks of EMF, and DHS is making no policy recommendations at this time.³⁰

In the project vicinity, the adjoining BART tracks and station represent an additional source of EMF. However, modeling performed for BART projects indicates that EMF generated from BART activities attenuates quickly with distance. Measurements at the Lake Merritt and Pleasanton/Dublin stations indicate that EMF is at “background” levels at distances greater than 15 meters (49.2 feet) from the BART tracks.³¹ As the proposed project is located outside the area where increased EMF fields from BART operations can be measured, future workers and residents at the project site would not be exposed to increased levels of EMF due to the adjoining BART facilities.

²⁸ California Department of Forestry and Fire Protection (CDF), 2000, Alameda County Natural Hazards Disclosure (Fire), Map ID NHD-01, January 6.

²⁹ City of Oakland Fire Department, Fire Prevention Bureau, 2006, Annual Vegetation Management Plan for the Wildfire Prevention Assessment District – 2006, April 6.

³⁰ California EMF Program, 2002, An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations, and Appliances, Final Report, June.

³¹ Santa Clara Valley Transportation Authority, 2004. *Final Environmental Impact Report, Silicon Valley Rapid Transit Corridor, Chapter 4.7-Electromagnetic Fields*, November.

c. Significant Public Health and Hazards Impacts. The proposed project would not result in significant public health and hazard impacts.

d. Cumulative Public Health and Hazards Impacts. The geographic area considered for potential public health or hazards cumulative impacts consists of an area within ¼-mile of the project site, and the area along transportation routes used during demolition and construction activities associated with projects within this radius. Hazards and hazardous materials impacts are generally site-specific and/or have limited mobility, and would not be expected to have cumulatively considerable effects beyond this distance.

Development activities in this area could increase the exposure of persons to hazardous materials, including contaminated soil, soil gas, groundwater, hazardous construction materials, and lead and asbestos. However, the use, storage, and disposal of hazardous materials has been increasingly regulated by local, State, and federal law and regulations. The historical trend within the regulatory community has been to strengthen the standards regarding the use, handling, and transport of hazardous materials, therefore minimizing the risk to public health, safety, and welfare. Many past projects have been, all present projects are, and all future projects, including the proposed project, will be subject to these more rigorous controls for site remediation and development. The current and future handling of hazardous materials within the geographic area will be subject to these escalating regulations and the City's Standard Conditions of Approval and as a result the cumulative hazardous materials risks will not be significant. Moreover, it is unlikely that any potential hazardous materials exposure from the construction activities would combine with other surrounding activities that may involve hazardous material exposure because there is no evidence that other construction activities will be occurring in the immediate area surrounding the site at the time of project construction that could potentially combine with the project. Additionally, compliance with the strict regulatory requirements associated with handling of hazardous materials would reduce the potential for any cumulatively considerable contribution from the project to any potential cumulative impact. Therefore, implementation of the proposed project together with the impact of past, present, existing, current and reasonably foreseeable future development would not result in any significant cumulative public health or hazards impacts.