

3.11 Hazards and Hazardous Materials

This section describes the hazardous materials issues and other public health and safety issues associated with construction and operation of the Facebook Campus Expansion Project (Project). The public safety concerns discussed below include potential exposure to hazardous materials in the soil, soil gas, and groundwater; wildland fire hazards; emergency response and evacuation plans; and aviation hazards. The *Environmental Impacts* section defines the criteria of significance and identifies potential Project impacts and mitigation measures related to hazards and hazardous materials.

The term “hazardous material” is defined in this section 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 if released into the workplace or the environment.¹

The issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. The hazard-related issues that were identified in the NOP pertain to cleanup required as a result of the former manufacturing uses and emergency access response times due to increased traffic. These issues are addressed below.

Existing Conditions

Regulatory Setting

The proper management of hazardous materials is a common concern for all communities. Beginning in the 1970s, governments at the federal, state, and local levels became increasingly concerned about the effects of hazardous materials on human health and the environment. Numerous laws and regulations were developed to investigate and mitigate these effects. As a result, the storage, use, generation, transport, and disposal of hazardous materials are highly regulated by federal, state, and local agencies. These agencies, as well as the laws, regulations, and programs they administer, are summarized below.

Federal and State Regulations

Hazardous Materials Management. The U.S. Environmental Protection Agency (EPA) is the lead agency with responsibility for enforcing federal laws and regulations that govern hazardous materials that can affect public health or the environment. The major federal laws and regulations pertaining to the management of hazardous materials on the Project site are the Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA).

In 1976, RCRA was enacted to provide a general framework for EPA to regulate hazardous waste from the time it is generated until its ultimate disposal. In accordance with RCRA, facilities that generate, treat, store, or dispose of hazardous waste are required to ensure that the wastes are properly managed from “cradle to grave” by complying with the federal waste manifest system. In California, the Department of Toxic Substance Control (DTSC) administers the RCRA program. One of the requirements for an RCRA-permitted facility is to implement a “corrective action program” and investigate and remediate any releases of hazardous wastes at the facility under the supervision of DTSC. As a result, DTSC has supervised the investigation and cleanup of contaminated soil and groundwater at the Project site, which is discussed further in the *Environmental Setting*, below.

¹ Abbreviated from California Health and Safety Code Section 25501.

In 1976, the TSCA was enacted to provide EPA with the authority to regulate the production, importation, use, and disposal of chemicals that pose a risk to public health and the environment. The TSCA also gives EPA the authority to regulate the cleanup of sites that have been contaminated with polychlorinated biphenyls (PCBs), such as the Project site.

Worker Health and Safety

The Occupational Health and Safety Administration (OSHA) is the federal agency with responsibility for enforcing and implementing federal laws and regulations pertaining to worker health and safety. OSHA's Hazardous Waste Operations and Emergency Response regulations require training and medical supervision for workers at hazardous waste sites.² Additional regulations have been developed regarding exposure to lead³ and asbestos⁴ to protect construction workers.

State worker health and safety regulations related to construction activities are enforced by the California Division of Occupational Safety and Health (known as Cal/OSHA). These regulations include requirements for protective clothing, training, and limits on exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigation and abatement. These regulations equal or exceed their federal counterparts.

Hazardous Building Materials

Hazardous materials are commonly found in building materials that may be affected during demolition and renovation activities. The proper management of hazardous building materials, in accordance with various regulations, is described below.

Asbestos-Containing Materials. Exposure to asbestos, a state-recognized carcinogen, can result in lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), or asbestosis (scarring of lung tissues that results in constricted breathing). Asbestos-containing materials (ACMs), such as thermal system insulation, surfacing materials, and asphalt and vinyl flooring, may be present in buildings constructed prior to 1981.⁵ Therefore, workers who conduct asbestos abatement must be trained in accordance with state and federal OSHA requirements. The Bay Area Air Quality Management District (BAAQMD) oversees the removal of regulated ACMs. All friable (i.e., crushable by hand) ACMs or non-friable ACMs that may be damaged must be abated prior to demolition in accordance with applicable requirements. Friable ACMs must be disposed of as asbestos waste at an approved facility. Non-friable ACMs may be disposed of as non-hazardous waste at landfills that accept such wastes.

Lead-Based Paint. Exposure to lead, a state-recognized carcinogen, can result in stomach and lung cancer and impair nervous, renal, cardiovascular, and reproductive systems. Although lead-based paint (LBP) in residential structures was banned in 1978, this restriction did not apply to commercial and industrial buildings; therefore, any commercial or industrial building, regardless of construction date, could have surfaces that have been coated with LBP.⁶ Loose and peeling LBP must be disposed of as a

² Code of Federal Regulations, Title 29, Labor, Section 1910.120, Hazardous Waste Operations and Emergency Response.

³ Code of Federal Regulations, Title 29, Labor, Section 1926.62, Lead.

⁴ Code of Federal Regulations, Title 29, Labor, Section 1926.1101, Asbestos.

⁵ California Code of Regulations, Title 8, Industrial Relations, Section 5208, Asbestos.

⁶ Department of Toxic Substances Control. 2006b. *Interim Guidance Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers*. June 9 (revised).

state and/or federal hazardous waste if the concentration of lead equals or exceeds applicable waste thresholds. State and federal OSHA regulations require a supervisor who is certified with respect to identifying existing and predictable lead hazards to oversee air monitoring and other protective measures during demolition activities in areas where LBP may be present. Special protective measures and notification of Cal/OSHA are required for highly hazardous construction tasks related to lead, such as manual demolition, abrasive blasting, welding, cutting, or torch burning of structures, where LBP is present.

Universal Wastes. Universal wastes include a wide variety of hazardous wastes that are commonly produced in households and businesses. For example, universal wastes include electrical transformers, fluorescent lighting, electrical switches, heating/cooling equipment, and thermostats that could contain hazardous materials such as PCBs, diethylhexyl phthalate, mercury, and other metals. The disposal of these materials is regulated under the California Universal Waste Rule, which is less stringent than most other federal and state hazardous waste regulations. To manage universal waste in accordance with the streamlined requirements for the state, generators must relinquish the waste to a universal waste transporter, another universal waste handler, or a universal waste destination facility.

Naturally Occurring Asbestos

The California Air Resources Board (CARB) has adopted the Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, which requires construction and grading projects to implement best available dust mitigation measures where naturally occurring asbestos rock is likely to be encountered. CARB defines “asbestos-containing material” as any material that has an asbestos content of 0.25 percent or greater. In accordance with Title 17 of the California Code of Regulations (CCR), Section 93105, construction projects greater than 1 acre in size must prepare and submit an Asbestos Dust Mitigation Plan (ADMP) to the BAAQMD for review and approval. The ADMP must indicate how construction and grading operations will minimize emissions and ensure that no equipment or operation will emit visible dust across the property line. Upon completion of construction activities, disturbed surfaces must be stabilized (e.g., with vegetative cover or pavement) to prevent visible emissions of asbestos-containing dust caused by wind speeds of 10 miles per hour or more. The BAAQMD must also be notified at least 14 days prior to any construction or grading in areas with naturally occurring asbestos rocks.

Hazardous Materials Release Sites

In California, EPA has granted most enforcement authority of federal hazardous materials regulations to the California Environmental Protection Agency (Cal/EPA). Under the authority of Cal/EPA, the State Water Resources Control Board (SWRCB) and DTSC are responsible for overseeing the remediation of contaminated soil and groundwater sites. The provisions of Government Code Section 65962.5 (also known as the Cortese List) require the SWRCB, DTSC, the California Department of Health Services, and the California Department of Resources Recycling and Recovery to submit information to Cal/EPA pertaining to sites that were associated with solid waste disposal, hazardous waste disposal, and/or hazardous materials releases.

Hazardous Materials Transportation

In 1990 and 1994, the federal Hazardous Material Transportation Act was amended to strengthen regulations for protecting life, property, and the environment from the inherent risks of transporting hazardous material. Furthermore, the U.S. Department of Transportation (USDOT) developed hazardous

materials regulations pertaining to classification, packaging, transport, and handling as well as regulations regarding employee training and incident reporting.⁷ The transport of hazardous materials is subject to both RCRA and USDOT regulations.

The California Highway Patrol, the California Department of Transportation (Caltrans), and DTSC are responsible for enforcing federal and state regulations pertaining to the transport of hazardous materials. If a discharge or spill of hazardous materials occurs during transportation, the transporter is required to take appropriate immediate action to protect human health and the environment (e.g., notify local authorities and contain the spill); the transporter is also responsible for cleanup.⁸

Sources of Drinking Water

According to SWRCB's Source of Drinking Water Policy (Resolution 88-63), all groundwater in the state is considered to be suitable, or potentially suitable, for municipal or domestic water supplies, except under the following conditions:

- Total dissolved solids (TDS) exceed 3,000 milligrams per liter (mg/L), and the Regional Water Quality Control Boards (RWQCBs)⁹ do not reasonably expect the water source to supply a public water system; or
- There is contamination, either by natural processes or by human activity (unrelated to the specific pollution incident), that cannot reasonably be treated using either best management practices or best economically achievable treatment practices; or
- The water source does not provide enough water to supply a single well that would be capable of producing an average sustained yield of 200 gallons per day.

Wildland Fire Protection

In accordance with California Public Resource Code Sections 4201–4204 and Government Code Sections 51175–51189, the California Department of Forestry and Fire Protection (CAL FIRE) has mapped areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones, represent the risks associated with wildland fires. Fire Hazard Severity Zones mapped by CAL FIRE for state and local responsibility areas are classified as either “medium,” “high,” or “very high” based on fire hazards; however, the law requires only identification of Very High Fire Hazard Severity Zones in local responsibility areas. Wildland-Urban Interface Areas designated by local agencies are also classified as Fire Hazard Severity Zones.

Local

Hazardous and Acutely Hazardous Emissions

The BAAQMD oversees the protection of air quality in the San Francisco Bay Area Air Basin, which includes the Project site. Hazardous and acutely hazardous emissions during construction (e.g., demolition of buildings containing asbestos) and facility operations (e.g., emissions from diesel generators) are subject to health risk assessment regulations and permitted conditions of operation to protect nearby sensitive receptors.

⁷ Code of Federal Regulation, Title 49, Transportation, Parts 171–180.

⁸ California Code of Regulations, Title 22, Social Security, Section 66260.10 et seq.

⁹ There are nine RWQCBs that enforce the SWRCB's statewide policies.

Hazardous Materials Management

In California, hazardous waste and materials handling are regulated under the Unified Program. The Unified Program consolidates the administrative requirements, permits, inspections, and enforcement activities for the following existing programs, as established by five different state agencies:

- Hazardous Waste Generator and Tiered Permitting Program (Health and Safety Code [H&SC] Chapter 6.5)
- Underground Storage Tank Program (H&SC Chapter 6.7)
- Aboveground Petroleum Storage Tank Program (H&SC Chapter 6.67)
- California Accidental Release Prevention Program (H&SC Chapter 6.95)
- Hazardous Materials Release Response Plan and Inventory Program (H&SC Chapter 6.95)
- Hazardous Material Management Plan and Hazardous Material Inventory Statement Program (California Fire Code and H&SC Chapter 1)

The Unified Program requires facilities to properly manage hazardous materials and disclose information regarding such materials to minimize the risk of a hazardous materials release and improve emergency response actions in the event of a release. Although Cal/EPA oversees the entire program, local government agencies, known as Certified Unified Program Agencies (CUPAs), implement and enforce the elements of the Unified Program. In the city of Menlo Park, the San Mateo County Department of Environmental Health is the CUPA with responsibility for administering the Unified Program.

Emergency Response and Evacuation

In 2011, the City of Menlo Park (City) adopted the Annex to 2010 Association of Bay Area Governments Local Hazard Mitigation Plan: Taming Natural Disasters (Hazard Mitigation Plan) and an update to the City's Emergency Operation Plan. The Hazard Mitigation Plan assesses a full range of natural disasters and the City's response through disaster planning.¹⁰ The City developed the Emergency Operation Plan to better prepare for responses to emergency situations that could result from natural disasters and technological incidents.¹¹ The Menlo Park Police Department (MPPD) is the City's primary agency for establishing emergency evacuation routes, which generally consist of the city's major arterial streets (US 101, Interstate 280 [I-280], State Route [SR] 82, and SR 84).¹²

City of Menlo Park General Plan

City of Menlo Park General Plan. The following policies and programs from the Open Space/Conservation, Noise, and Safety Elements of the City's General Plan apply to the Project:

Goal S1: Assure a Safe Community. Minimize risk to life and damage to the environment and property from natural and human-caused hazards and assure community emergency preparedness and a high level of public safety services and facilities.

¹⁰ City of Menlo Park. 2011a. *Annex to 2010 Association of Bay Area Governments Local Hazard Mitigation Plan, Taming Natural Disasters*. October 11.

¹¹ City of Menlo Park. 2011b. *Emergency Operations Plan*. V2. January.

¹² City of Menlo Park. 2012. *City of Menlo Park General Plan*. Adopted May 21.

Policy S1.10: Safety Review of Development Projects. Continue to require hazard mitigation, crime prevention, fire prevention, and adequate access for emergency vehicles in new development.

Policy S1.18: Potential Hazardous Materials Conditions Investigation. Continue to require developers to conduct an investigation of soils, groundwater, and buildings affected by hazardous material potentially released from prior land uses in areas historically used for commercial or industrial uses and identify and implement mitigation measures to avoid adversely affecting the environment or the health and safety of residents or new uses.

ConnectMenlo General Plan Update. The City General Plan (Land Use and Circulation Elements) and M-2 Area Zoning Update, also known as ConnectMenlo, is under way. Although not yet adopted, the following draft policy in ConnectMenlo pertains to the Project and is identified for informational purposes.

Policy LU-7.7: Hazards. Avoid development in areas with seismic, flood, fire, and other hazards to life or property when potential impacts cannot be mitigated.

Environmental Setting

Subsurface Hazardous Materials

Site History and Corrective Actions

The Project site was historically marshland associated with San Francisco Bay. In the mid-1960s, the Raychem Corporation (now part of TE Connectivity) purchased the Project site and adjacent property to the east (collectively referred to as the "Raychem site") to develop offices and manufacturing facilities. Most products manufactured on the Raychem site were based on a technology that involved radiation crosslinking, a process by which certain polymers are exposed to radiation and cross linked to produce characteristics such as toughness, abrasion resistance, cut-through resistance, solvent and chemical resistance, improved high-temperature performance, and elastic memory. Radiation crosslinking of polymer molecules used high-energy electron beam radiation. From 1968 to 1978, a Pilot Plant, located on the central portion of the Project site between Buildings 305 and 307, contained manufacturing facilities for polymers, antioxidants, paints, adhesives, epoxies, mastics, PCBs, coatings, and gels. The Pilot Plant was demolished in 1984.¹³

From 1983 to 1988, Raychem stored and treated hazardous wastes generated onsite in accordance with a RCRA Hazardous Waste Facility permit issued by the California Department of Health Services (predecessor of DTSC). In 1989, the California Department of Health Services conducted an RCRA Facility Assessment (RFA) on the Raychem site to identify known or potential releases of hazardous materials that require further investigation. The RFA identified 11 Solid Waste Management Units (SWMUs)¹⁴ on the Project site where known and/or suspected releases of hazardous materials occurred. The RFA also identified the former Pilot Plant area on the Project site as an "Area of Concern"¹⁵ because of known

¹³ Cornerstone Earth Group. 2014a. *Phase I Environmental Site Assessment and Preliminary Soil and Soil Vapor Quality Investigation, 300 to 309 Constitution Drive, Menlo Park, California*. July 31.

¹⁴ "SWMU" means "any discernible unit at which solid wastes have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous wastes. Such units include any area at a facility at which solid wastes have been routinely and systematically released."

¹⁵ "Area of Concern" means "any area of a facility under the control or ownership of an owner or operator where a release to the environment of hazardous wastes or hazardous constituents has occurred, is suspected to have occurred, or may occur, regardless of the frequency or duration."

releases of PCB oil and suspected releases of other hazardous materials (e.g., solvents and mixing media containing metals). A total of seven SWMUs and one Area of Concern (a chemical plant) were identified as part of the Raychem site, on the property east of the Project site. The California Department of Health Services made the following statement following their inspection of the Raychem site in 1989:¹⁶

The facility has a history of poor housekeeping practices. There are numerous documented reports of accidental spills from process areas, leaking tanks, and drums and one case of improper onsite disposal of hazardous waste.

Subsequent inspection reports prepared by the San Mateo County Department of Environmental Health between 2006 and 2010 also noted violations pertaining to the improper storage and handling of hazardous materials by TE Connectivity on the Raychem site.¹⁷

Since 1981, more than 20 environmental assessments and investigations have been performed on the Raychem site.¹⁸ On the Project site, several soil excavations were performed in the early 1980s to remove contaminated soil associated with the former Pilot Plant area, an evaporation trench south of Building 309, and a former diesel underground storage tank south of Building 307.¹⁹ In 1996, Raychem entered into a Corrective Action Consent Agreement²⁰ with DTSC to perform RCRA Facility Investigation (RFI) activities on the Raychem site. Between 1999 and 2003, RFI activities were conducted on the Raychem site to evaluate the quality of soil and groundwater associated with the SWMUs, Areas of Concern, and other potential sources (e.g., pits, sumps, former petroleum underground storage tank). The RFI identified local areas where soil and groundwater have been contaminated by past releases of hazardous materials. Elevated levels of volatile organic compounds (VOCs), semi-volatile organic compounds, metals, petroleum hydrocarbons, PCBs, and polychlorinated dioxins and dibenzofurans were documented at numerous locations across the Raychem site. The RFI determined that the groundwater contamination was limited to the Raychem site and VOC concentrations would naturally attenuate (i.e., reduce) over time. Subsequent groundwater modeling also predicted minimal movement of PCB concentrations in groundwater over time.²¹

Tyco Electronics merged with Raychem in 1999 (Tyco changed its name to TE Connectivity in 2011). In 2000, Tyco Electronics entered into another Corrective Action Consent Agreement with DTSC to implement Interim Remedial Measures (IRMs) and prepare a Corrective Measures Study and Implementation Plan (CMS/IP) for the Raychem site.²² Between 2000 and 2007, IRMs were performed on the Raychem site, resulting in source removal of contaminated soils. On the Project site, the IRMs included excavation and offsite disposal of PCB-contaminated soil along an easement and a landscaped area south of Building 305 and PCB-contaminated sediments from four drainage inlets at the former Pilot Plant area.

¹⁶ California Department of Health Services Toxic Substances Control Program. 1989. *RCRA Facility Assessment, Raychem Corporation, 300 Constitution Drive, Menlo Park, CA*. September.

¹⁷ Cornerstone Earth Group. 2014a. *op. cit.*

¹⁸ Cornerstone Earth Group. 2014a. *op. cit.*

¹⁹ GRA Associates Inc. 2002. *RFI Report – Soil Investigation (Final), Volume I (Text), Raychem/Tyco Facility – Areas 1 through 5 (Western and Central Portions of Site), 300 Constitution Drive, Menlo Park, California 94025, EPA ID No. CAD009125527*. June.

²⁰ A Corrective Action Consent Agreement is a voluntary agreement between a lead agency and responsible party in which the company commits to investigate the nature and extent of contamination at and surrounding a site governed by RCRA and implement corrective actions (i.e., cleanup) as necessary.

²¹ GRA Associates Inc. 2002. *op. cit.*

²² Department of Toxic Substances Control. 2006a. *Statement of Basis, Proposed Remedy Selection for Contaminated Soil and Groundwater at Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, California 94025, San Mateo County*. EPA ID #CAD 009 125 527. July.

Given the findings of the RFI and results of the IRMs conducted on the Project site, a risk assessment was conducted in 2005 to evaluate the potential health risks from exposure to residual contaminants of potential concern in soil and groundwater at the Project site (a separate risk assessment was prepared for the property east of the Project site). The risk assessment concluded that subsurface contamination on the Project site would not pose a significant threat to human health if the site continued to be used as a commercial/industrial property.²³

In 2006, a CMS/IP was prepared for the Raychem site to evaluate corrective action measures (i.e., remedial strategies) pertaining to residual hazardous materials in soil and groundwater. The final corrective action measures selected by DTSC, after consideration of the CMS/IP, for the Raychem site that would apply to the Project site (i.e., the western portion of the Raychem site) include the following:

- Enter into a Land Use Covenant (LUC) to restrict future use of the Raychem site to commercial and/or industrial uses only;
- Monitor the existing groundwater monitoring wells annually for water level, pH, temperature, conductivity, salinity, and TDS for a total of 20 years;
- Monitor the existing groundwater monitoring wells every 5 years for VOCs and 20 years for PCBs;
- If chemical concentrations increase at a well, confirm the change or revise the groundwater model; and
- Inspect the integrity of monitoring wells annually and repair, if necessary.

Additional corrective action measures were selected by DTSC for the property east of the Project site, including the installation of new monitoring wells and annual inspections of an engineered cap over the chemical plant area.²⁴ In 2006, an Operation, Maintenance, and Monitoring Plan (OMMP) was prepared and approved by DTSC for the Raychem site. The OMMP identifies actions that must be implemented to ensure that the long-term remedial objectives described in the CMS/IP are satisfied. On the Project site, the OMMP describes groundwater monitoring requirements and contingency measures that must be taken in the event that odorous or discolored soils are encountered during subsurface work. These contingency measures, which are designed to protect construction workers, include action levels for air monitoring, soil sampling, and soil disposal.²⁵

In 2007, Tyco Electronics and DTSC entered into an LUC to protect present and future site users and the environment from hazardous materials that remain in soil and groundwater on the Raychem site. The LUC restricts use of the Raychem site (including the Project site) to commercial and industrial land uses and outlines several requirements that pertain to development and future operation and maintenance of the site. In particular, the LUC prohibits use of groundwater as a drinking water source and requires that any activities that disturb the soil (e.g., through excavation and grading) be permitted only pursuant to a Soil Management Plan and a Health and Safety Plan approved by DTSC.²⁶

²³ SCS Engineers. 2005. *Baseline Health Risk Assessment, Western Portion of Site (Areas 1 through 5), Tyco Electronics (Former Raychem) Facility, 300 Constitution Drive, Menlo Park, California*. April (revised July 2005).

²⁴ Department of Toxic Substances Control. 2006a. *op. cit.*

²⁵ SCS Engineers. 2006. *Operation, Monitoring and Maintenance Plan, Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, California*. Appendix G of the Corrective Measures Study/Implementation Plan. 14 July.

²⁶ Department of Toxic Substances Control. 2007. *Covenant to Restrict Use of Property, Environmental Restriction, Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, California, County Assessor's Parcel Nos. 055260150, 055260140, 055260130, 055260110, 055260080 and 050244101*. 19 January.

Groundwater Quality

In accordance with the CMS/IP, the July 2013 groundwater monitoring event at the former Raychem site, which encompasses the Project site, included the collection and analysis of groundwater samples. Elevated concentrations of chlorinated solvents (tetrachloroethylene [PCE] and trichloroethylene [TCE] and their daughter products), chlorobenzene, and Freon 113 from former industrial activities were reported on the Project site. Two VOC plumes, generally oriented from west to east, appear to cover a large portion of the Project site. One plume is located in the northeast portion of the Project site and extends beneath Building 301, and the other plume extends beneath Buildings 305–309.²⁷ Relative to previous monitoring events, the VOC plumes appear to be stable (i.e., not increasing) and/or reducing over time. PCBs were not reported above the laboratory reporting limits in any of the groundwater samples collected on the Project site.

According to a Phase I Environmental Site Assessment (ESA) prepared in 2014, it does not appear that any offsite sources of groundwater contamination have migrated onto the Project site. Groundwater depth ranges from about 6 to 9 feet below ground surface (bgs) and generally flows to the east and north.²⁸ Therefore, existing groundwater contamination on the adjacent property east of the Project site (also part of the Raychem site) is hydraulically downgradient and does not pose a risk of migrating onto the Project site.

Because of the high concentrations of TDS (above the SWRCB's threshold of 3,000 mg/L) in the shallow water-bearing zone beneath the Project site, under the SWRCB's Source of Drinking Water Policy (Resolution 88-63), groundwater is not considered a potential source of drinking water. Furthermore, the LUC that was recorded for the former Raychem site prohibits the use of groundwater as a source of drinking water. Therefore, ingestion of contaminated groundwater is not considered as a potential exposure pathway on the Project site.²⁹

Vapor intrusion from groundwater to outdoor and indoor air represents a potential pathway for human exposure to VOCs on the Project site. Because of the potential accumulation of gases, the inhalation of VOCs in indoor air poses a greater health risk than the risk associated with outdoor air. Given the analytical results from the 2013 groundwater monitoring event, a Human Health Risk Assessment (HHRA) was prepared to evaluate the potential health effects of vapor intrusion on commercial workers. The HHRA determined that potential vapor intrusion of VOCs from groundwater to indoor air does not appear to pose an unacceptable health risk to commercial workers on the Project site.³⁰

Soil Quality

In 2014, a Phase I ESA identified areas of potential concern where known and/or suspected hazardous materials releases associated with former industrial activities occurred on the Project site. Given the Areas of Concern identified in the Phase I ESA, the following soil investigations were performed by Cornerstone Earth Group (Cornerstone):

²⁷ GRA Associates, Inc. 2013. *Groundwater Monitoring of July 2013, Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, CA 94025*. Revised: March 2014.

²⁸ Cornerstone Earth Group. 2014a. *op. cit.*

²⁹ Cornerstone Earth Group. 2014a. *op. cit.*

³⁰ Exponent. 2013. *Evaluation of Analytical Results from July 2013 Groundwater Monitoring Event, Tyco Electronic, Menlo Park, California*. November.

- *Phase I Environmental Site Assessment and Preliminary Soil and Soil Vapor Quality Investigation (2014)*,
- *Soil Quality Investigation, Building MPK21 (2015a)*, and
- *Soil Quality Investigation, Building 23 (MPK23) (2015b)*.

Approximately 236 soil samples from about 135 borings, at depths of less than 10 feet bgs in areas of potential concern, were collected and analyzed for contaminants of concern. The soil investigations compared analytical results to one or more of the following screening criteria to assess potential health risks to commercial workers: EPA's Regional Screening Levels (RSLs) with a Hazard Quotient of either 0.1 or 1.0,³¹ San Francisco Bay RWQCB's Environmental Screening Levels (ESLs), Cal/EPA's California Human Health Screening Levels (CHHSLs), and natural background concentrations of metals.

Information regarding the soil samples that exceeded the screening levels for the commercial worker exposure scenarios is presented in Table 3.11-1, below. The findings of the recent soil investigations indicate that there are concentrations of PCBs, total petroleum hydrocarbons as gasoline (TPHg), total petroleum hydrocarbons as diesel (TPHd), total petroleum hydrocarbons as motor oil (TPHmo), and lead in soil at the Project site that exceed human health risk screening levels for the commercial worker exposure scenarios. The source and extent of soil contamination in each Area of Concern listed in Table 3.11-1 have not been defined.

Table 3.11-1. Summary of Soil Analytical Results that Exceeded Commercial Screening Levels

Analyte	Number of Samples	Area of Concern
PCBs	3	South of Building 305 and the former Pilot Plant area
TPHg	1	South of Building 305
TPHd	4	Former Pilot Plant area, beneath Building 308, and south of Building 308
TPHmo	2	Beneath Building 308 and south of Building 308
Lead	1	South of Building 309

Sources: Cornerstone Earth Group 2014a, 2015a, 2015b.

Notes:

Commercial screening levels, which varied for each report, included RSLs, ESLs, CHHSLs, and background metals.

Soil Gas Quality

Given the Areas of Concern identified in the Phase I ESA, a soil gas investigation was performed by Cornerstone in 2014. A total of 21 soil gas samples were collected and analyzed from nine temporary vapor wells (approximately 5 and 9.75 feet bgs) across the Project site. The soil gas investigation identified elevated concentrations of several VOCs (benzene, PCE, TCE, and vinyl chloride).³²

³¹ For non-carcinogenic compounds, the hazard quotient is the ratio of potential exposure to a substance and the level at which no adverse effects are expected. For a single compound, raising the hazard quotient from 0.1 to 1 raises its respective RSL by an order of magnitude.

³² Cornerstone Earth Group. 2014a. *op. cit.*

Given the analytical results of the soil gas investigation, a preliminary HHRA was prepared to evaluate the potential health effects of vapor intrusion on commercial workers.³³ The preliminary HHRA modeled the potential vapor intrusion of VOCs from soil gas to indoor air under two exposure scenarios: a site-specific exposure scenario and a DTSC-default exposure scenario. The site-specific exposure scenario accounted for the attenuation of indoor air VOC concentrations from the existing air exchange rates used in some of the buildings on the Project site. In accordance with DTSC's vapor intrusion guidance,³⁴ the DTSC-default exposure scenario applied a lower and more conservative air exchange rate to attenuate indoor air VOC concentrations. The maximum cumulative cancer risk and non-carcinogenic Hazard Index (HI) for commercial workers estimated under each exposure scenario are shown in Table 3.11-2, below, based on samples collected near Building 305. The health effects associated with the estimated cancer risks and non-carcinogenic HI values shown in Table 3.11-2 are discussed further in the *Environmental Impacts* section.

Table 3.11-2. Summary of Estimated Health Effects on Commercial Workers from the Potential Vapor Intrusion of VOCs from Soil Gas to Indoor Air

Exposure Scenario	Maximum Cumulative Cancer Risk	Maximum HI
Site Specific	5E-06	0.9
DTSC Default	3E-05	2

Source: Exponent. 2014.
Note:
A cancer risk of 1E-06 is equivalent to one in 1 million.

Naturally Occurring Asbestos

Previous geotechnical investigations performed on the Project site have encountered approximately 2 to 6 feet of undocumented fill. The primary fill materials were reportedly imported from an area near I-280 and Farm Hill Boulevard in Redwood City and consisted predominantly of serpentinite (an altered ultramafic rock) associated with the Franciscan Complex. Soils that formed from serpentinite could contain naturally occurring asbestos. Although materials with an asbestos content equal to or greater than 1 percent are classified as a California Hazardous Waste, CARB's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations applies to materials with an asbestos content of 0.25 percent or greater. In 2014, Cornerstone collected and analyzed five bulk samples from across the Project site for asbestos. The asbestos content was reported to be less than 0.10 percent in all five samples.³⁵ In 2015, Cornerstone collected and analyzed three 4-point composite bulk samples in the vicinity of Building 23 for asbestos.³⁶ The presence of asbestos was confirmed in one of the three samples, which had a reported asbestos content of 2.25 percent; the asbestos content was less than 0.25 percent in the other two samples.³⁷

³³ Exponent. 2014. *Preliminary Evaluation of Soil Vapor Sampling Performed by Cornerstone at the TE Menlo Park Site by Exponent*. October 31.

³⁴ Department of Toxic Substances Control. 2011. *Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air*. October.

³⁵ Cornerstone Earth Group. 2014a. *op. cit.*

³⁶ For reference, Building 23 is not considered part of the Project.

³⁷ Cornerstone Earth Group. 2015b. *op. cit.*

Hazardous Building Materials

Hazardous building materials, as described in the *Regulatory Setting* section, could pose a health risk to construction workers and the public if not handled and disposed of properly. As summarized in Table 3.11-3, eight of the existing buildings on the Project site were built prior to 1981; therefore, ACMs may be present in these structures. LBPs and other hazardous materials that would be considered universal wastes during demolition activities may also be present in the buildings.

Table 3.11-3. Existing Buildings at the Project Site

Building ID	Construction Date
Building 23 (300)	1969 (north)/circa 1975 (south)
301	1967
302	1967
303	1967
304	1990
305A, 305B, 305C	1966; addition in 1969
306	1968
307 ^a	1969
308/309 ^a	1970/1990
Chemical Transfer Facility	1989

Sources: Hibiscus Properties, LLC 2015; Cornerstone Earth Group 2014a.

Note:

- ^a. Prior to the City's consideration of the Project, two buildings (307–309) were slated to be demolished. This will occur as a separate project. Therefore, for purposes of this analysis, the buildings that were on the Project site at the time of the NOP release (the baseline) are included. It is assumed that Buildings 307–309 are existing at the Project site.

Radiological Materials

Radioactive Cobalt 60 was formerly used in the beam/bunker structure located in Building 304 from as early as 1964 until its removal in February 2007. A Radioactive Material License Closure Report was submitted to the Radiological Health Branch of the California Department of Health Services in April 2007. The closure letter included a Certificate of Disposition of Materials, radiation surveys completed prior to and after decommissioning activities, and documentation that there have been no instances of radioactive release or contamination on the property.³⁸

Schools

A review of federal records for public and private schools with grades ranging from pre-kindergarten to 12 indicates that there are two schools within 0.25 mile of the Project site, as shown in Table 3.11-4.³⁹

³⁸ Tyco Electronics, 2007. *Radioactive Material License Final Closure Report*. April 11.

³⁹ National Center for Education Statistics. 2015. *School Search Tool for Public and Private Schools*. Available: <http://nces.ed.gov/ccd/schoolsearch/>. Accessed: September 10.

Table 3.11-4. Schools within 0.25 Mile of the Project Site

Type	Lowest Grade	Highest Grade	School Name	Address
Public	KG	8	Belle Haven Elementary	415 Ivy Dr, Menlo Park
Private	KG	8	Beechwood School	50 Terminal Ave, Menlo Park

Note: KG =kindergarten

Aviation Hazards

The nearest public use airport to the Project site is Palo Alto Airport, which is approximately 2.4 miles to the southeast. According to the Comprehensive Land Use Plan adopted by the Santa Clara County Airport Land Use Commission, the Project site is not located within the airport influence area of Palo Alto Airport.⁴⁰ In addition, no private airstrips have been mapped within 2 miles of the Project site.⁴¹

Wildland Fire Hazards

CAL FIRE has mapped Very High Fire Hazard Severity Zones in San Mateo County to help responsible local agencies, such as the Menlo Park Fire Protection District, identify measures to reduce the potential for loss of life, property, and resources from wildland fire. CAL FIRE has determined that there are no Very High Fire Hazard Severity Zones in the Project vicinity.⁴²

Environmental Impacts

This section describes the impact analysis related to hazards and hazardous materials for the Project. It describes the methods used to determine the impacts of the Project and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany each impact discussion.

Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, the Project would be considered to have a significant effect if it would result in any of the conditions listed below.

- Create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to public health or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

⁴⁰ Santa Clara County Airport Land Use Commission. 2008. *Comprehensive Land Use Plan, Santa Clara County, Palo Alto Airport*. Adopted: November 19.

⁴¹ Federal Aviation Administration. 2015. *Airport Data and Contact Information*. Last updated: August 20, 2015. Available: http://www.faa.gov/airports/airport_safety/airportdata_5010/. Database searched for private-use facilities in San Mateo County and Santa Clara County. Accessed: September 11.

⁴² CAL FIRE. 2008. *San Mateo County, Very High Fire Hazard Severity Zones in LRA, as Recommended by CAL FIRE*. November 24.

- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (the “Cortese List,” described above) and, as a result, create a significant hazard to the public or the environment.
- For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area.
- Impair 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 areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methods for Analysis

As described under *Regulatory Setting*, above, the use of hazardous materials is subject to numerous laws and regulations. In most cases, the laws and regulations pertaining to hazardous materials management minimize risks to human health and the environment. The impact analysis identifies areas where impacts related to the use of hazardous materials during Project construction and operation would be subject to applicable laws and regulations.

To assess the Project’s potential to create a significant hazard for the public or environment related to subsurface hazardous materials, the impact analysis considers the potential pathways through which exposure to hazards could occur, based on the following reports:

- *Groundwater Monitoring of July 2013* by GRA Associates, Inc. (2013 [revised March 2014]);
- *Phase I Environmental Site Assessment and Preliminary Soil and Soil Vapor Quality Investigation* by Cornerstone (2014);
- *Soil Quality Investigation Building MPK21* by Cornerstone (2015a);
- *Soil Quality Investigation at Building 23 (MPK23)* by Cornerstone (2015b); and
- *Evaluation of Analytical Results from July 2013 Groundwater Monitoring Event, Tyco Electronics, Menlo Park, California* by Exponent (2013).
- *Preliminary Evaluation of Soil Vapor Sampling Performed by Cornerstone at the TE Menlo Park Site* by Exponent (2014).

As described in the *Environmental Setting* section, above, the soil investigations compared analytical results to one or more of the following health risk screening criteria for commercial workers: EPA RSLs with a Hazard Quotient of 0.1, EPA RSLs with a Hazard Quotient of 1.0, RWQCB ESLs, Cal/EPA CHHSLs, and natural background concentrations of metals. Although the same screening levels were not used in each soil investigation report, the findings of each soil investigation report were used for the impact analysis. The screening levels used for the commercial worker exposure scenario were also considered appropriate for conservatively evaluating potential health effects on patrons at the proposed hotel on the Project site because the expected duration of potential exposure to contaminants would be less for patrons than commercial workers.

As described in the *Environmental Setting* section, above, a preliminary HHRA was prepared to evaluate potential vapor intrusion concerns on the Project site, based on the analytical results from the 2014 soil gas investigation. The health effects estimated in the preliminary HHRA included cumulative cancer risk and non-carcinogenic health hazards (e.g., liver or kidney damage). The adverse health effects a person may experience following exposure to any chemical depend on several factors, including the amount to which one is exposed (i.e., dose), the duration of exposure, the form of the chemical, and if exposure to any other chemicals has occurred. A specific chemical may be considered a carcinogen or a health hazard or both (e.g., benzene is considered both a carcinogen and a health hazard).

Carcinogens are assumed to have no safe exposure threshold; cancer risk is the estimated probability of an individual developing cancer over a lifetime of exposure, expressed as chances per million people exposed. Non-carcinogenic substances are generally assumed to have a safe threshold below which health impacts would not occur. Acute exposure (less than 1 year) and chronic exposure (more than 1 year) to non-carcinogens is expressed as an HI, which describes the likelihood of adverse non-cancer health effects.

DTSC recommends using a cumulative incremental cancer risk threshold of 1E-06 (one in 1 million) and a non-carcinogenic HI threshold of 1.0 to identify site conditions that may require further assessment and/or cleanup. These thresholds were used in the impact analysis to evaluate the results of the preliminary HHRA with respect to potential vapor intrusion concerns on the Project site.

Impacts Not Evaluated in Detail

Cortese List Sites. The Cortese List is a compilation of several different lists of hazardous material release sites that meet criteria specified in Section 65962.5 of the California Government Code. Although there are documented releases of hazardous materials on the Project site, there are currently no hazardous materials release sites on the Project site that meet the criteria for inclusion on the Cortese List. Therefore, the Project would have **no impact** related to development on a hazardous materials release site included on the Cortese List, and this impact is not evaluated further.

Airport Hazards. The Project site is located approximately 2.4 miles northwest of the nearest public use airport, Palo Alto Airport. It is not located within the airport influence area; therefore, Project structures would not be considered a potential obstruction to aircraft that use Palo Alto Airport. In addition, there are no private airstrips within 2 miles of the Project site. Therefore, the Project would have **no impact** on the navigable airspace of public use airports or private airstrips, and this impact is not evaluated further.

Wildland Fires. The Project site is surrounded by urban development to the east, south, and west and separated from the salt ponds, marsh, and Bay by Bayfront Expressway/SR 84 (Bayfront Expressway). Therefore, the Project site is not mapped in or adjacent to a Very High Fire Hazard Severity Zone. The Project would have no impact related to wildland fire hazards. This impact is not evaluated further.

Impacts and Mitigation Measures

Impact HAZ-1: Routine Hazardous Materials Use. The Project would not create a significant hazard to human health and/or the environment through the routine transport, use, or disposal of hazardous materials. (LTS)

Project construction activities are expected to involve the routine transport, use, and disposal of hazardous materials (e.g., motor fuels, paints, oils, and grease) that could pose a significant threat to human health or the environment if not properly managed. Although small amounts of these materials

would be transported, used, and disposed of during Project construction, these materials are typically used in construction projects and are not considered acutely hazardous. Workers who handle hazardous materials are required to adhere to OSHA and Cal/OSHA health and safety requirements. Hazardous materials must be transported to and from the Project site in accordance with RCRA and USDOT regulations and disposed of in accordance with RCRA regulations at a facility that is permitted to accept the waste. Because compliance with existing regulations is mandatory, Project construction is not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials.

During Project operation, it is anticipated that the Project would involve the use of hazardous materials that are typical of office uses (e.g., solvents, cleaning agents, paints, petroleum fuels, propane, batteries, etc.). These would be used in small, localized amounts. As described above, routine transport, use, and disposal of hazardous materials are subject to federal and state regulations. On the local level, the San Mateo County Department of Environmental Health is the CUPA that implements regulatory programs for sites that routinely use hazardous materials to ensure the safe storage, management, and disposal of such materials in accordance with the Unified Program. Because compliance with existing laws, regulations, and CUPA programs is mandatory, Project operations are not expected to create a significant hazard to public health or the environment through the routine transport, use, or disposal of hazardous materials. As a result, impacts related to the routine transport, use, or disposal of hazardous materials during Project construction and operation would be *less-than-significant*. Impacts related to potential accidental releases of hazardous materials during routine (and non-routine) activities are discussed under Impact HAZ-2, below.

Impact HAZ-2: Upset and Accident Conditions Involving Hazardous Materials. The Project could create a potentially significant hazard to human health and/or the environment involving the release of hazardous materials. (LTS/M)

Potential accident conditions resulting in the release of hazardous materials used during general construction, operation, and building demolition activities, as well as potential upset conditions involving the disturbance of naturally occurring asbestos and contaminated groundwater, soil, and soil gas, are discussed below.

Accidental Hazardous Materials Releases during Construction and Operation

The accidental release of hazardous materials during Project construction and operation activities could pose a significant threat to human health or the environment. As described under Impact HAZ-1, above, the use of hazardous materials would be subject to existing hazardous materials laws, regulations, and CUPA programs. Adherence to these standards would also reduce the potential for an accidental release. In addition, a Stormwater Pollution Prevention Plan (SWPPP) must be prepared and implemented during Project construction for coverage under the Construction General Permit, in accordance with the requirements of the SWRCB. As detailed in Section 3.10, *Hydrology and Water Quality*, the SWPPP requires implementation of best management practices for hazardous materials storage and soil stockpiles, inspections, maintenance, training of employees, and containment of releases to prevent runoff into existing stormwater collection systems or waterways. Because compliance with existing regulations is mandatory, accidental hazardous materials releases during construction and operation would have a *less-than-significant* impact on human health and/or the environment.

Accidental Hazardous Materials Releases during Building Demolition

The Project includes demolition of Buildings 301–306 and the Chemical Transfer Facility, which could result in the release of hazardous building materials into the environment. Renovation and demolition of Building 23 and Buildings 307–309, respectively, would not occur as part of the Project but are considered in the *Cumulative Impacts* section, below. The removal of existing hazardous materials stored on the Project site would not occur as part of the Project; however, the removal of these hazardous materials would be done in accordance with federal and state laws and regulations prior to Project demolition.

As summarized in Table 3.11-3, Buildings 301–303 and Buildings 305–306 were constructed prior to 1981; therefore, ACMs may be present in these structures. LBPs and other hazardous materials, which would be considered universal wastes during demolition activities, could be present in all buildings that would be demolished under the Project. The removal of hazardous building materials prior to demolition is governed by federal and state laws and regulations. Workers who conduct hazardous materials abatement and demolition activities must be trained in accordance with state and federal OSHA requirements. Hazardous building materials removed during demolition must be transported in accordance with USDOT regulations and disposed of in accordance with RCRA regulations and/or the California Universal Waste Rule at a facility that is permitted to accept the wastes. Because compliance with existing laws and regulations is mandatory, the Project would have a ***less-than-significant*** impact on human health and/or the environment related to ACMs, LBPs, or other common hazardous materials during building demolition activities.

Disturbance of Subsurface Hazardous Materials

As described below, previous investigations have identified naturally occurring asbestos and potential contaminants of concern in groundwater, soil, and soil gas, which could have potentially significant health effects on future users of the Project site if not properly managed.

Naturally Occurring Asbestos

As described in the *Environmental Setting*, previous geotechnical investigations performed on the Project site have encountered approximately 2 to 6 feet of undocumented fill, consisting predominantly of serpentinite (an altered ultramafic rock), which could contain naturally occurring asbestos. Five bulk samples and three 4-point composite bulk samples from across the Project site have been collected and analyzed for asbestos. The asbestos content was reported to be less than 0.10 percent in all five bulk samples and less than 0.25 percent in two of the composite samples; however, the presence of asbestos was confirmed in one composite sample collected beneath the northwest portion of Building 23 and the parking lot north of Building 23. However, excavation around Building 23 is not considered to be part of the Project. The disturbance of naturally occurring asbestos during Project construction and maintenance activities (e.g., excavation, grading, soil stockpiling) could generate asbestos-containing dust and pose an inhalation hazard for workers and the public. The exposure of Project construction workers, maintenance workers, commercial workers, and/or the public to asbestos can result in lung cancer, mesothelioma (cancer of the linings of the lungs and abdomen), and asbestosis (scarring of lung tissues that results in constricted breathing). If naturally occurring asbestos is encountered during construction, then dust control measures must be implemented in accordance with CARB's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations. Therefore, the disturbance of naturally occurring asbestos during Project construction activities could have a ***less-than-significant*** impact on human health.

Groundwater Quality

As described in the *Environmental Setting*, the results of GRA's 2013 groundwater monitoring event at the former Raychem site, which includes the Project site, indicate that there are elevated concentrations of chlorinated solvents, chlorobenzene, and Freon 113 in groundwater from former industrial activities. Two VOC plumes, generally oriented from west to east, appear to cover a large portion of the Project site. One plume is located in the northeast portion of the Project site and extends beneath Building 301, and the other plume extends beneath Buildings 305–309. Relative to previous monitoring events, the VOC plumes appear to be stable (i.e., not increasing) and/or are reducing over time.

Because of the high concentrations of TDS in the shallow water-bearing zone beneath the Project site, the groundwater is not considered a potential source of drinking water. Therefore, ingestion of contaminated groundwater is not considered as a potential exposure pathway on the Project site. Given Exponent's 2013 HHRA, potential vapor intrusion of VOCs from groundwater to indoor air does not appear to pose an unacceptable health risk for commercial workers on the Project site. This analysis did not consider potential vapor intrusion from soil gas, which is discussed below.

Depth to groundwater ranges from about 6 to 9 feet bgs; therefore, construction and/or maintenance workers could come into direct contact with contaminated groundwater during Project excavation and dewatering. Contaminated groundwater encountered during Project construction and maintenance activities could have a **potentially significant** impact on the health of the workers and the environment.

Soil Quality

As described in the *Environmental Setting* and summarized in Table 3.11-1, the findings of Cornerstone's recent soil investigations indicate that there are concentrations of PCBs, TPHg, TPHd, TPHmo, and lead in soil across the Project site that exceed human health risk screening levels for commercial worker exposure scenarios. The source and extent of soil contamination in each Area of Concern summarized in Table 3.11-1 have not been defined. The presence of soil contamination on the Project site could have a **potentially significant** impact on the health of commercial workers and hotel patrons who come into direct contact with the contaminated soil.

Soil Gas Quality

As described in the *Environmental Setting* and summarized in Table 3.11-2, Exponent's 2014 preliminary HHRA evaluated potential health effects on commercial workers from vapor intrusion of VOCs from soil gas to indoor air.⁴³ The preliminary HHRA modeled a site-specific exposure scenario and a DTSC-default exposure scenario. Under the site-specific exposure scenario, the preliminary HHRA estimated a maximum cumulative cancer risk of 5E-06 from a sample collected near Building 305, which exceeds DTSC's recommended cancer risk threshold of 1E-06. Under the DTSC-default exposure scenario, the preliminary HHRA estimated a maximum cumulative cancer risk of 3E-05 and a non-carcinogenic HI of 2 from a sample collect near Building 305, which exceed DTSC's recommended thresholds of 1E-06 and 1.0, respectively. However, these findings are based on the assumption that vapors are migrating into an enclosed at-grade structure. The Project design includes at-grade open-air podium parking areas beneath each building. The free flow and exchange of air through the podium parking structures would be expected to ventilate potential vapors into the atmosphere and not into the overlaying structure. Because of the incomplete exposure pathway, VOC vapor intrusion from soil gas to indoor air would have a **less-than-significant** impact on the health of commercial workers and hotel patrons at the Project site.

⁴³ Exponent. 2014. *op. cit.*

Summary of Findings

As described above, the following conditions associated with hazardous materials could pose unacceptable hazards to future users of the Project site and/or the environment:

- Contaminated groundwater encountered during Project construction and maintenance activities could have a **potentially significant** impact on the health of construction workers and maintenance workers.
- Soil contamination on the Project site could have a **potentially significant** impact on the health of commercial workers and hotel patrons.

The LUC that was recorded for the former Raychem site requires any activities that disturb the soil (e.g., excavation and grading) to be permitted only pursuant to a Soil Management Plan(s) and a Health and Safety Plan(s) after approval from DTSC. The Soil Management Plan(s) must describe how contaminated soil that is brought to the surface by grading, excavation, trenching, or backfilling will be managed in accordance with applicable provisions of state and federal laws. The soil management measures described in the OMMP approved by DTSC in 2006 satisfy the LUC requirements for a Soil Management Plan. Although the LUC and OMMP include measures to help protect construction workers who may encounter hazardous materials in soils, they do not include measures for managing contaminated groundwater encountered during construction and maintenance activities, characterizing the source and extent of soil contamination discovered during recent investigations, or evaluating and mitigating (if necessary) potential health effects of subsurface contamination discovered during recent investigations on the Project site on commercial workers, and hotel patrons.

In accordance with the LUC and OMMP, Cornerstone prepared a Soil Management Plan for proposed Building 21, located at the site of Buildings 307, 308, and 309. The plan was approved by DTSC in November 2015. Given the findings of recent soil and groundwater quality investigations, the Soil Management Plan includes protocols for managing both known and potentially undocumented residual soil and groundwater contamination that may be encountered during the construction of Building 21. Soil Management Plans have not yet been prepared for the remainder of the Project site.

MITIGATION MEASURES. The Project Sponsor shall implement the following measures to reduce significant impacts related to hazardous materials to a **less-than-significant** level.

HAZ-2.1: Soil and Groundwater Management. Soil Management Plans that cover the entire Project site shall be prepared and implemented. These Soil Management Plans shall, as appropriate, incorporate the analytical results from the most recent groundwater monitoring event and soil investigations and include protocols for managing both known and potentially undocumented residual soil and groundwater contamination that may be encountered during Project construction, including naturally occurring asbestos. The Soil Management Plans shall include dust control measures that describe how construction and grading operations will minimize dust emissions and ensure that no equipment or operations will emit visible dust across the property line. Although naturally occurring asbestos has not been detected in areas of the Project site that could be disturbed during construction, in accordance with CARB's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations, if naturally occurring asbestos is encountered during construction, then dust control measures must meet the requirements of an ADMP approved by the BAAQMD. These Soil Management Plans shall be approved by DTSC and implemented during Project construction.

HAZ-2.2: Additional Site Investigation. If required by DTSC, additional site investigations shall be performed to delineate the source and extent of contamination on the Project site. At DTSC's discretion, these investigations may be incorporated into the Soil Management Plans required by DTSC for the Project site. The analytical results shall be compared to risk-based human health screening levels approved by DTSC. The site investigation(s) shall be prepared and evaluated by a licensed professional, and a technical report summarizing the field activities, results, and conclusion shall be submitted to DTSC for review and approval prior to issuance of building permits.

HAZ-2.3: Remedial Action. According to the results of additional site investigations (if any), the Project Sponsor shall coordinate with DTSC to select and implement remedial actions (as necessary) to protect future site users from conditions that could pose an unacceptable health risk. Remedial measures may include, but are not limited to, source removal of contaminated materials, in-situ treatment, engineering controls, and/or modification of institutional controls described in the existing LUC for the Project site. Remedial actions shall be implemented prior to building occupancy. At DTSC's discretion, remedial actions may be completed during implementation of the Soil Management Plans required by DTSC for the Project site.

Impact HAZ-3: Exposure to Schools. The Project would not create a potentially significant hazard for children at nearby schools from emissions or handling hazardous or acutely hazardous materials. (LTS)

The handling or emission of hazardous or acutely hazardous materials near schools must consider potential health effects on children, who are considered sensitive receptors. There are two schools within 0.25 mile of the Project site: Belle Haven Elementary and Beechwood School. The only plausible exposure pathway of concern for children at nearby schools is through the inhalation of air contaminants, such as particulate matter.

As discussed in Section 3.4, *Air Quality*, sources of hazardous emissions during Project construction and operation would include diesel particulate matter from vehicle exhaust and emergency generators. These emission sources would have a less-than-significant impact on nearby schools. As discussed under Impact HAZ-1, above, hazardous materials used during construction and operation would be managed in accordance with applicable laws and regulations. As discussed under Impact HAZ-2, Project construction and maintenance activities that generate dust could expose people to naturally occurring asbestos and/or soil contaminants from former industrial activities on the Project site. Because implementation of CARB's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations is required to ensure that Project equipment and operational activities do not emit visible dust across the property line, dust from the Project would not be expected to migrate to offsite. Therefore, the handling or emission of hazardous or acutely hazardous materials during Project construction and operation would have a *less-than-significant* impact on nearby schools.

Impact HAZ-4: Impairment of Emergency Response or Evacuation Plans. The Project would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. (LTS)

As discussed in Section 3.4, *Transportation*, the Project would increase traffic in the vicinity of the Project site. Station 77, located at 1467 Chilco Avenue, south of the Project site, is expected to serve the Project site. The driving distance between Station 77 and the Project site is about 0.6 mile, and the

Project site is accessible via Chilco Avenue. It is unlikely that added Project traffic would result in congestion along Chilco Avenue that could significantly affect response times. Menlo Park Fire Protection District (MPFPD) response times in the vicinity of the Project site could be affected because of existing and future congestion at the Bayfront Expressway/Willow Road intersection. However, there are emergency vehicle priority (Opticom) systems in place at all Willow Road approaches from Middlefield Road to Bayfront Expressway. Because traffic preemption devices are already installed at all these locations, it is not anticipated that the increase in traffic in the area would significantly affect response times.

The City of Menlo Park has adopted a Local Hazard Mitigation Plan and Emergency Operation Plan. As described in the adopted plans, the MPPD is responsible for coordinating emergency response and evacuation procedures in the event of a major disaster. As discussed in Section 3.3, *Transportation*, the Project would increase traffic in the vicinity of the Project site. Currently, the Project site is accessed by one ingress/egress point on Chilco Street. The Project would improve emergency vehicle circulation throughout the Project site. Emergency vehicle and fire truck access would be provided along the outside perimeter of the office buildings. Along Chilco Street, emergency vehicles would access the site from the existing stop sign-controlled driveway. In addition, emergency vehicles would access the site from a new signalized intersection on SR 84, at the midpoint of the Project site, as well as from two points on Chilco Street. Because the Project would improve emergency access and not alter local roadways that connect to nearby major arterial roadways or result in permanent road closures, the Project would not be expected to interfere with emergency response and evacuation plans in the Project vicinity. Therefore, the Project would have a **less-than-significant** impact on emergency response or evacuation plans.

Cumulative Impacts

Cumulative impacts occur when impacts from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. The geographic context for cumulative impacts related to hazards and hazardous materials is the Project site and the sites of other nearby projects, as discussed in Chapter 3, *Environmental Impact Analysis*. Cumulative impacts are addressed only for those conditions that would result in a Project-related impact, whether it be less than significant, significant, or significant and unavoidable. If the Project would result in no impact with respect to a particular threshold, it would not contribute to a cumulative impact. Given the analysis of Project-related impacts, above, cumulative impacts related to Cortese List sites, airport hazards, and wildland fires would not be significant because the Project would not contribute to these impacts.

Impact C-HAZ-1: Cumulative Hazardous Materials Management and Accidental Releases. Construction and operation of the Project and other development would not create a significant hazard to human health and/or the environment involving the management or release of hazardous materials. (LTS)

The Project impacts identified above related to the management and potential release of hazardous materials during construction, operation, and building demolition are site specific. These hazardous materials would be managed in accordance with existing regulatory requirements, which would reduce the risk of hazardous materials emissions and/or accidental releases that could affect receptors outside the Project work areas. Therefore, the Project would not be expected to contribute to any potential hazardous materials impacts at other nearby project sites. Although renovation of Building 23 and demolition of Buildings 307–309 would occur at the Project site, these projects would not overlap with

construction or operation of the Project, resulting less-than-significant cumulative impacts. Similarly, hazardous materials impacts from other nearby projects would not be expected to intensify potential impacts on the Project site because they, too, would be site specific. This would be a *less-than-significant* cumulative impact.

Impact C-HAZ-2: Cumulative Subsurface Hazardous Materials. Construction and operation of the Project and other development would not create a significant hazard to human health and/or the environment involving the disturbance of subsurface hazardous materials. (LTS)

Project impacts identified above related to the disturbance of hazardous materials encountered in the subsurface during construction and operation are site specific. These hazardous materials would be managed in accordance with existing regulatory requirements, which would reduce the risk of hazardous materials dust emissions and/or accidental releases that could affect offsite receptors; therefore, the Project would not be expected to contribute to any potential hazardous materials impacts at other nearby projects. Similarly, hazardous materials impacts from other nearby projects would not be expected to intensify potential impacts on the Project site because they, too, would be site specific. There would be a *less-than-significant* cumulative impact.

Impact C-HAZ-3: Cumulative Impairment of Emergency Response or Evacuation Plans. Construction and operation of the Project and other development would not impair implementation of or physically interfere with an adopted emergency response or evacuation plan. (LTS)

The Project would improve emergency access to the Project site and would not alter local roadways that connect to nearby major arterial roadways or result in permanent road closures. Emergency response times are not expected to be affected by the Project. All development in the city is required to adhere to applicable safety standards regarding emergency response. Cumulative impacts are less than significant. Furthermore, because of the Project's compliance with applicable standards, it would not be expected to contribute to cumulative impacts related to the impairment of emergency response or evacuation plans. This is considered a *less-than-significant* cumulative impact.