3.13 HAZARDS AND HAZARDOUS MATERIALS

Introduction

This section considers the range and nature of foreseeable hazardous materials impacts resulting from construction and occupancy of the Project and identifies the primary ways these hazards could expose people and the environment to various health and safety risks associated with those hazards. This section also describes the available information about hazardous materials in soil and groundwater at the Project site and evaluates the potential for construction and occupancy of the Project to affect, or be affected by, environmental contamination associated with historic and current land uses within the Project site. In addition, a description of regulatory requirements that provide for the management of soil or groundwater contamination on the Project site is provided. This section also describes the nature and extent of routine hazardous materials use at the Project site, and the potential for upset and accident conditions in which hazardous materials releases could affect on-site uses or off-site locations, including schools within 0.25 miles of the Project site.

Issues identified in response to the Notice of Preparation (NOP) (Appendix 1) were considered in preparing this analysis. The California Department of Toxic Substances Control (DTSC) submitted written comments on the NOP regarding the requirements of the Land Use Covenant for the West Campus and recommending the Draft EIR evaluate an assessment of air and health impacts if soil is excavated and if standards would be exceeded. This section describes the conditions under which soil movement at the West Campus would occur and the range of potential human health effects that could reasonably be expected to occur. DTSC staff also requested in their comment letter that the Draft EIR consider transportation impacts from removal or remedial activities, as well as the potential for soil excavation to result in an accident involving the release of hazardous materials. DTSC has already concluded that the West Campus has been remediated to levels that are protective of a commercial/industrial land use scenario, such as that proposed for the West Campus.[1] However, this evaluation accounts for the potential that there may be remediation at the West Campus beyond that already completed. The East Campus has never required any hazardous materials remediation and none is expected in the future.

The increase in intensity at the East Campus could result in the exposure of more people to hazards. The increase in intensity at the East Campus would not result in any other impacts associated with hazards and hazardous materials; therefore, those Project impacts at the East Campus are not discussed further in this section.

[1] Tyco Electronics Corporation, Covenant to Restrict Use of Property Environmental Restriction, Covenant and Agreement between Tyco Electronics Corporation and California Department of Toxic Substances Control, January 4, 2007, p.p. 2-3.

Applicable Plans and Regulations

Hazardous materials and hazardous wastes are regulated under federal, State, and local laws. In California, federal environmental laws generally establish minimum applicable standards; more stringent State and local standards may apply as well. For example, California regulates a broader array of wastes defined as "hazardous waste" than those regulated under federal law. Hazardous materials handling and hazardous waste management are subject to laws and regulations at all levels of government, as summarized below. Former and existing Project area uses are required to comply with these laws and regulations, in part by implementing a series of in-house policies and procedures or by correcting adverse environmental conditions that pose a risk to the public and/or the environment. The following describes the major federal, State, and local legally-required environmental procedures and programs relevant to each category.

Federal and State

Hazardous Materials Management and Emergency Planning. State and federal laws require detailed planning to ensure that hazardous materials are properly handled, used, stored, and disposed of, and, in the event that such materials are accidentally released, to prevent or to mitigate injury to health or the environment. The federal Emergency Planning and Community Right to Know Act (EPCRA [42 USC Section 11001, et seq.]) requires facilities that store, use, or produce certain amounts of hazardous chemicals to provide State and local authorities with material safety data sheets, or, alternatively, a list of chemicals. EPCRA also requires reporting of permitted and accidental releases of hazardous substances, and requires certain facilities to complete and submit the US Environmental Protection Agency's (EPA's) Toxic Chemical Release Inventory form annually.

California's Hazardous Materials Release Response Plans and Inventory Act, sometimes called the Business Plan Act (California Health and Safety Code Section 25500 et seq.) requires businesses using hazardous materials to prepare a plan that describes their facilities, chemical inventories, emergency response plans, and training programs. Businesses that use, store, or handle 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a compressed gas at standard temperature and pressure, require hazardous materials business plans. Plans must be prepared prior to facility operation and are reviewed/updated biennially (or within 30 days of a change). In addition, the Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health and Safety Code Section 25249.5 et seq.) requires that any person with ten or more employees operating within the State or selling products in California (1) be prohibited from knowingly discharging listed chemicals into sources of drinking water; and (2) be required to provide a "clear and reasonable" warning before knowingly and intentionally exposing anyone to a listed chemical. This warning can be given by a variety of means, such as by labeling a consumer product, by posting signs at the workplace, or by publishing notices in a newspaper.

The California Fire Code regulates storage and use of hazardous materials at commercial and industrial facilities. The California Building Code regulates how protective measures within a structure will be built and implemented. Certified Unified Program Agencies (CUPAs) are responsible for local regulation and enforcement of hazardous materials laws and regulations. The San Mateo County

Environmental Health Division serves as the County's CUPA. The CUPA has been certified by the California Environmental Protection Agency (Cal-EPA) to implement six State environmental programs within the City's jurisdiction: the hazardous materials business plan/emergency response plans and inventories program; the hazardous waste program; the California accidental release prevention program; the Underground Storage Tank (UST) program; the Aboveground Storage Tank (AST) program; and the uniform hazardous materials management plan program.

Hazardous Waste Management. The federal Resource Conservation and Recovery Act (RCRA) regulates handling and tracking of hazardous waste from generation to disposal. Under RCRA, hazardous waste generators must comply with regulations concerning record keeping and reporting, waste storage, proper treatment and disposal, and the use of a manifest system. In California, the DTSC has been authorized by Cal-EPA to administer the RCRA program. California's Hazardous Waste Control Act (HWCA [California Health and Safety Code Section 25100 et seq.]) is similar to, but more stringent than, the federal RCRA program. The HWCA provides authority for DTSC to regulate the transportation and disposal of hazardous wastes, and establishes standards for hazardous waste facilities. The San Mateo County Environmental Health Division, as the CUPA, implements the hazardous waste generator program for the Project area. RCRA and the HWCA also require facilities engaging in treatment, long-term storage, or disposal of hazardous waste to obtain a permit from DTSC.

Soil and Groundwater Contamination. One of the requirements of a RCRA permit is to implement a "corrective action program" to investigate and remediate any releases of hazardous waste constituents at the facility site, under the supervision of DTSC. As a result, DTSC has supervised the investigation and clean-up of soil and groundwater contamination at the West Campus under the RCRA connective action program, rather than under the similar cleanup program pursuant to the federal Superfund law, the Comprehensive Environmental Compensation and Liability Act (CERCLA) 42USC §9601 et seq. and its state equivalent. (California's Health and Safety Code Section 25300 et seq.)

In addition, the Porter-Cologne Act (California Water Code Section 13163) authorizes the State Water Resources Control Board (SWRCB) and the local Regional Water Resources Control Board (RWQCB) to coordinate water quality-related investigations of State agencies. SWRCB and the local RWQCB also have jurisdiction to oversee site cleanups (California Health and Safety Code Section 25355). The Project area is within the jurisdiction of RWQCB Region 2, the San Francisco Bay RWQCB.

There is a special federal regulatory scheme for cleanup of Polychlorinated Biphenyls (PCB) releases, pursuant to the Toxic Substances Control Act (TSCA), which is administered by EPA and has not been delegated to the states. TSCA establishes procedures and standards for cleanup of PCB releases, allowing them to be encapsulated in place under certain circumstances.

Hazardous Building Components. Structural building components sometimes contain hazardous materials such as asbestos, PCBs, lead, and mercury. During demolition or renovation of any existing building or structure, these hazardous material building components may be disturbed and thus expose workers, the public, and the environment to these hazards. The testing, removal, and disposal of these materials are subject to various regulations, as described below.

Asbestos. Asbestos[2] is regulated both as a hazardous air pollutant and as a potential worker safety hazard. The Bay Area Air Quality Management District (BAAQMD) and the California Division of Occupational Safety and Health (Cal/OSHA) regulations restrict asbestos emissions from demolition and renovation activities, and specify safe work practices to minimize the potential for release of asbestos fibers. These regulations prohibit emissions of asbestos from asbestos-related manufacturing, demolition, or construction activities; require medical examinations and monitoring of employees engaged in activities that could disturb asbestos; specify precautions and safe work practices that must be followed to minimize the potential for release of asbestos fibers; and require notice to federal and local government agencies prior to beginning renovation or demolition that could disturb asbestos. California requires licensing of contractors who conduct asbestos abatement activities.

The California Air Resources Board (CARB) Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations is intended to protect public health and the environment by requiring the use of best available dust control measures. These measures prevent off-site migration of naturally occurring asbestos-containing dust from road construction and maintenance activities, construction and grading operations, and quarrying and surface mining operations in areas of ultramafic rock, serpentine, or asbestos.[3] The ATCM applies to grading or excavation activities, which would involve the excavation of bedrock or fill materials potentially containing naturally occurring asbestos.

For construction activities disturbing less than one acre of area underlain by these types of bedrock that potentially contain naturally occurring asbestos, specific dust control measures must be implemented in accordance with the ATCM before construction begins. In addition, each measure must be maintained throughout the duration of the portion of the construction project when these types of bedrock are being disturbed. For construction activities disturbing greater than one acre of area underlain by these types of bedrock, construction contractors are required to prepare an Asbestos Dust Mitigation Plan (ADMP) specifying measures that will be taken in an attempt to ensure that no visible dust crosses the property boundary during construction. The ADMP must be submitted to and approved by the BAAQMD prior to the beginning of construction, and the site operator must ensure the implementation of all specified dust control measures throughout the construction project. In addition, the BAAQMD may require air monitoring for off-site migration of asbestos dust during construction activities and may change the plan on the basis of the air monitoring results.

PCBs. DTSC has classified PCBs as a hazardous waste when concentrations exceed five parts per million (ppm) in liquids or 50 ppm in non-liquids. Fluorescent light ballasts[4] may contain PCBs, and if

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2 Asbestos is a term used for several types of naturally occurring fibrous minerals found in many parts of California.

3 Ultramafic rocks are formed in high temperature environments well below the surface of the earth. Serpentine is a naturally occurring group of minerals that can be formed when ultramafic rocks are metamorphosed during uplift to the earth's surface. Serpentinite is a rock consisting of one or more serpentine minerals. This rock type is commonly associated with ultramafic rock along faults such as the Hayward Fault. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals, can be common in serpentinite.

4 The ballast is a small transformer that starts the light bulb and then stabilizes it on the correct operating voltage.

so, they are regulated as hazardous waste and must be transported and disposed of as hazardous waste. Ballasts manufactured after January 1, 1978, should not contain PCBs and are required to have a label clearly stating that PCBs are not present. As noted above, the federal TSCA establishes procedures and standards for cleanup of PCB releases.

Lead-Based Paint (LBP). Cal/OSHA standards establish a maximum safe exposure level for types of construction work where lead exposure may occur, including demolition of structures where LBPs are present; removal or encapsulation of materials containing lead; and new construction, alteration, repair, or renovation of structures with materials containing lead. Inspection, testing, and removing lead-containing building materials must be performed by State-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Typically, building materials with LBP attached are not considered hazardous waste unless the paint is chemically or physically removed from the building debris. The U.S. Department of Housing and Urban Development has developed guidelines for the evaluation and control of LBP hazards.[5]

Mercury. Spent fluorescent light tubes, thermostats, and other electrical equipment contain heavy metals that, if disposed of in landfills, can leach into soil or groundwater. Fluorescent light tubes typically contain concentrations of mercury that may exceed regulatory thresholds for hazardous waste and, therefore, must be managed in accordance with hazardous waste regulations. Elemental mercury can be found in many electrical switches, and when disposed of, such mercury is considered hazardous waste.

Worker Safety. Occupational safety standards exist in federal and State laws to minimize worker safety risks from both physical and chemical hazards in the workplace. Cal/OSHA is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many businesses to prepare injury and illness prevention plans and chemical hygiene plans. The Cal/OSHA Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle. For example, manufacturers are to appropriately label containers, material safety data sheets are to be available in the workplace, and employers are to properly train workers.

Hazardous Materials Transportation. The U.S. Department of Transportation (DOT) has developed regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. The U.S. Postal Service (USPS) has developed additional regulations for the transport of hazardous materials by mail. DOT regulations specify packaging requirements for different types of materials. The EPA has also promulgated regulations for the transport of hazardous wastes. These more stringent requirements include tracking shipments with manifests to ensure that wastes are delivered to their intended destinations. In California, the California Highway Patrol, the California Department of Transportation (Caltrans), and DTSC play a role in enforcing hazardous materials transportation requirements.

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[5] U.S. Department of Housing and Urban Development, *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing*, June 1995, revised 1997, Chapter 7.

Local

City of Menlo Park General Plan. The following policies and implementation programs from the Seismic Safety and Safety Element[6] of the General Plan pertain to the Project.

> *Policy 2:* Develop and adopt standards to reduce level of risk from natural hazards to an acceptable level for all land use.
>
> *Policy 12:* Prohibit structural development in areas where hazards cannot be mitigated by accepted methods to a legal of acceptable risk.
>
> *Policy 13:* Require that all new development incorporate adequate hazard mitigation measures to reduce risks from natural hazards.
>
> Implementation Program 16: Require that all private roads be designed to allow unrestricted access to all emergency vehicles as a prerequisite to the granting of permits and approvals for construction.
>
> *Policy 45:* Review and strengthen, if necessary, regulations for the manufacturing, storage, transportation, and use of hazardous and/or explosive materials to reduce risk to local populations.
>
> Implementation Program 47: Monitor manufacturing, storage, transportation, and use of hazardous and/or explosive materials.

Hazardous Materials Permitting. The City has a use permit process for the use of hazardous materials. The Planning Division relies on the Menlo Park Fire Protection District (MPFD) to determine whether a use permit is required for a Project. The MPFD has established threshold levels based on the California Fire Code to define the maximum amount of hazardous materials that would be allowed before a use permit is required.

Airport Land Use Plan. The Airport Land Use Plan (ALUP) for the Palo Alto Airport identifies the categories of land uses and height restrictions that may be permitted within the surrounding airspace. However, the Project site is not within the jurisdiction of the Palo Alto ALUP and not within the Height Restriction Area, the Airport Safety Zone, and Airport Influence Area.[7]

Emergency Operation Plan. The City is a participant in the Association of Bay Area Governments (ABAG) multi-jurisdictional planning process for emergencies. The City has adopted an Emergency Operation Plan that assesses the potential losses associated with inadvertent or intentional releases of

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6 City of Menlo Park, Menlo Park General Plan, Seismic Safety and Safety Element, adopted June 22, 1976.

7 Santa Clara County Airport Land Use Commission, Comprehensive Land Use Plan Santa Clara County: Palo Alto Airport," prepared by Walter B. Windus, PE, November 19, 2008, website: http://countyairports.org/docs/CLUP_PAO/PAOClupAdopted11-19-08.pdf, accessed September 23, 2011.

hazardous materials that could affect the public and identifies responsibilities for city departments and coordination with San Mateo County and regional emergency response providers.[8]

Existing Conditions

Hazardous Materials Use

On-Site Hazardous Materials Use. The East Campus is currently in use, and reported chemical use and storage consists mainly of diesel fuel in emergency generators, hydraulic fluid in elevators and trash compactors, lead-acid batteries, refrigerants and water treatment chemicals, janitorial and maintenance products, and transformers. Alcohols, paints, and solvents are also used.

Hazardous materials are not used at the West Campus because the site is currently vacant with no existing operations. There are two emergency generators with associated above-ground diesel storage tanks. While there is no existing hazardous materials use, the former manufacturing facilities that operated on-site used hazardous materials and generated hazardous waste, which have resulted in soil and groundwater contamination. Existing conditions pertaining to soil and groundwater contamination are described separately in this section.

Off-Site Hazardous Materials Use. The Project site is surrounded by salt evaporation ponds to the north. The remaining surrounding land uses consist of vacant land, offices, major and local roadways, residential uses to the south, and commercial/light industrial businesses to the south, east, and west, and a railway right-of-way along the southern boundary of the West Campus. Where applicable, the City has issued hazardous materials use permits for businesses using hazardous materials at the Tyco and Bohannon (Menlo Gateway) properties to the west, and the Menlo Science and Technology Park (AMB), O'Brien, and Menlo Business Parks to the south and east. City records indicate the primary materials stored and used at the permitted facilities are compressed gases, and flammable and combustible products.[9] Releases of hazardous materials with the potential to affect the public or property outside these businesses have not occurred.

However, in September 2011, an explosion in a research and development facility at 1360 Willow Road (approximately 900 feet southeast of the West Campus) resulted in the death of one employee and injured another. The explosion was attributable to a leaking methane cylinder inside the building. The MPFD responded immediately and evacuated workers in the facility, but no off-site evacuations were deemed necessary. There were no off-site releases of hazardous materials associated with this incident. No other incidents involving hazardous materials releases have occurred at the off-site businesses other than the Tyco property to the west that was originally part of the same Raychem facility as the West Campus, as discussed in more detail below.[10]

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8 City of Menlo Park, "Emergency Operation Plan," Version 2, January 2011, website: http://www.menlopark.org/departments/pwk/MenloEOPV2.pdf, accessed September 23, 2011.

9 City of Menlo Park, HazMat Permit Revenue Records, 2010.

10 Cornerstone Earth Group, *Phase I Environmental Site Assessment, 10 Network Circle, Menlo Park, California*, November 3, 2010; Cornerstone Earth Group, Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California, November 19, 2010.

Soil and Groundwater Contamination

Overview. Some of the key terms used in the management of hazardous materials and the context within which they apply to sites where contaminants have been identified in soil or groundwater are presented below.

A "hazardous material" is 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 if released into the workplace or the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment (*California Health and Safety Code*, Section 25501).

A "hazardous materials release site" refers to any area, location, or facility where a hazardous material has been released or threatens to be released to the environment.

"Remedial action" or "remediation" refers to actions required by federal, State, or local laws, ordinances, or regulations necessary to prevent, minimize, or mitigate damage that may result from the release or threatened release of a hazardous material. These actions include site cleanup, monitoring, testing, and analysis of site conditions, site operation and maintenance, and placing conditions or restrictions on the land use of the site upon completion of remedial actions. Such remedial activities taken at permitted hazardous waste facilities are also called "corrective action." This section describes those actions that have been taken on the West Campus and those that may be taken in the future.

"Exposure pathways" are means by which hazardous materials move through the environment from a source to a point of contact with people, or with animal or plant populations. A complete exposure pathway must have four parts: (1) a source of contamination, (2) a mechanism for transport of a material from the source to the air, surface water, groundwater, or soil, (3) a point where people come in contact with contaminated air, surface water, groundwater, or soil, and (4) a route of entry into the body. Routes of entry can be eating or drinking contaminated materials, breathing contaminated air, or absorbing contaminants through the skin. Risks can be assessed when an exposure pathway is complete. If any part of an exposure pathway is absent, the pathway is said to be incomplete and no exposure or risk is possible. In some cases, although a pathway is complete, the likelihood that significant exposure will occur is very small.

The risk to human health and the environment is determined by the probability of exposure to hazardous material(s) and the severity of harm such exposure would pose. That is to say, the likelihood and means of exposure, in addition to the inherent toxicity of a material, are used to determine the degree of risk to human health or the ecological environment. For example, a high probability of exposure to a low toxicity chemical would not necessarily pose an unacceptable human health or ecological risk, whereas a low probability of exposure to a very high toxicity chemical might. The quantified risk levels are one of several elements used in the decision-making process to determine how that risk should be managed.

Methodologies have been established by the EPA, which are also used at the State level, to quantify risk. The EPA, along with State agencies, such as the RWQCB, DTSC, and Cal/OSHA are responsible for developing and/or enforcing risk-based standards to protect the public and the environment. The current regulatory view of redevelopment where chemical constituents are present in the soil or groundwater is that the decisions regarding cleanup and future site use should be based on actual and reasonably projected risks presented by individual sites. This risk-based approach is marked by a focus on planned land uses, a recognition that all sites do not present the same risk, the understanding that the actual risks posed by a site are a function of the populations that could be present and the activities they could be engaged in, and an acknowledgment that many risks can be reduced and/or eliminated through the implementation of controls placed on the future use of the land, including through legally enforceable restrictions on use, and through risk management plans (RMPs) and operation, maintenance, and monitoring plans.

Depending on the types of chemicals present and potential pathways through which individuals might be exposed to the chemicals, contaminants in soil or groundwater can often be left in place or cleaned up to a degree that does not pose a threat to human health or the environment. The risk estimates take into consideration such factors as the concentration and further potential migration of contaminants, potential hazards to remediation workers and nearby populations, and potential exposures to the public, based on future land use. This risk-based decision-making relies on the preparation of risk-based evaluations to quantify potential exposures and resultant potential adverse health effects.

At the West Campus, these methodologies, along with supporting analytical data, were used by DTSC to determine the appropriate cleanup levels for the contamination that occurred when the site was a manufacturing facility, as described in greater detail, below.

Site History. Prior to the development of the existing Oracle (formerly Sun Microsystems) Campus, the East Campus was tidal marshland. The first levees were constructed around the East Campus prior to 1946 and subsequently raised in 1965 to create a salt evaporation pond.[11] Additional fill was placed on the site in the 1980s and early 1990s, after which the buildings currently on the site were constructed.

The West Campus was originally undeveloped marshland until an asphalt batch plant was constructed in the eastern part of the site in the 1950s. The batch plant was eventually demolished in the 1969-1971 timeframe. In 1965, Raychem (now TE Connectivity, formerly Tyco Electronics Corporation) began constructing a manufacturing facility on an approximately 82-acre property for a variety of products used in the aerospace, automotive, construction, electronics, electrical power, and process and telecommunication industries.[12]

[11] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[12] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

The western part of the Raychem facility (not a part of the Project site) was occupied by clusters of manufacturing and process facilities. The eastern part of the former facility (i.e., the West Campus), commonly referred to as the ChemPlant, included several chemical handling and storage facilities: Omega Wastewater Treatment System, several solid waste management units, a process wastewater sump, a Therminol Heater/Dowtherm Boiler, and five buildings (N, O, P, U, and Y). Buildings I and J were constructed in the 1980s and were used as offices. They were reportedly not used for manufacturing or R&D purposes. Buildings I and J are the only two buildings that remain on-site.[13]

Soils and Hydrogeology. The depth and extent of chemical contaminants in the subsurface are a function of underlying geologic materials and how groundwater moves horizontally and laterally. The following summarizes hydrogeologic conditions at the Project site. Refer to Section 3.9, Geology and Soils, and Section 3.12, Hydrology and Water Quality, for additional information.

Geologic materials underlying the East Campus and West Campus consist of several feet of artificial fill (sandy gravels, clayey gravels, and sandy clay) underlain by native materials (older alluvial fan deposits, basin deposits, estuarine and channel deposits). Shallow groundwater ranges from a few feet beneath the surface to approximately 14 feet below ground surface (bgs), and generally flows east. Seasonal fluctuations in groundwater levels are common. Below the shallow zone are additional water-bearing zones. The RWQCB has stated that the quality of shallow groundwater is such that it is not considered a potential source of drinking water.[14]

The fill at the East Campus ranges from four to eight feet thick. At the West Campus, the fill ranges in thickness from zero to six feet across the site and is thickest in the northeast corner. The principal source of fill was an excavation in the 1960s for Interstate 280 (I-280)near Farm Hill Road. The source area was bedrock composed predominantly of serpentinite associated with the Franciscan Complex.[15]

Hazardous Materials Use. At the East Campus, the types of chemicals used in the facilities (diesel fuel for backup generators, lead/acid batteries, and various laboratory chemicals) were not reported to have resulted in any significant hazardous materials spills.

In its former operations at the West Campus, Raychem used, treated, and stored numerous hazardous materials in its former operations at the West Campus. These included volatile organic compounds

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[13] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[14] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 10 Network Circle, Menlo Park, California,* November 3, 2010; Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010; Cornerstone Earth Group. *Geotechnical Feasibility Evaluation 22-Acre Property at Highway 84 and Willow Road Menlo Park, California*. November 18, 2010.

[15] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*. November 19, 2010.

(VOCs),[16] semi-volatile organic compounds (SVOCs),[17] metals, total recoverable petroleum hydrocarbons (TRPH),[18] PCBs,[19] and polychlorinated dioxins and dibenzofurans. The use of these materials in laboratories, manufacturing, and processing activities also generated hazardous waste.[20] Raychem managed its hazardous wastes under a Hazardous Waste Facility Permit (Permit) issued pursuant to the federal RCRA (42 U.S.C. 6901 et seq.) in 1983 by the California Department of Health Services (DHS, now California Environmental Protection Agency, DTSC). The Permit allowed operation of the Omega Wastewater Treatment System, the Hazardous Waste Storage Yard, and the Potassium Ferrocyanide Tank Farm.

Cortese List Status. Government Code section 65962.5 requires compilation of a list of Hazardous Waste and Substances Sites to be used as a planning document by State and local agencies and developers to comply with the CEQA requirements in providing information about the location of hazardous materials release sites. This list is commonly known as the "Cortese List." The West Campus is on the Cortese List because of the investigation and remediation activities described below. The East Campus is not on the Cortese List.[21]

The East Campus is included on the RWQCB Geotracker database,[22] where it is listed as open-inactive.[23] The case was opened in 1990 after a non-emergency response report concerning elevated nickel levels in soil was submitted to the RWQCB by a consultant performing some soil sampling at the site. San Mateo County Environmental Health Department records indicated there was no need for investigation. Subsequent testing indicated the nickel levels were consistent with concentrations found

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16 A volatile organic compound (VOC) is an organic chemical that readily evaporates at temperatures normally found at the ground surface and at shallow depths. Examples of VOCs include acetone, benzene, 1,1-dichloroethene (1,1-DCE), methylene chloride, tetrachloroethylene (PCE), toluene, and xylene.

17 A semi-volatile organic compound (SVOC) is an organic chemical that readily, but only partially, evaporates or changes from a liquid to gas at temperatures normally found at the ground surface and at shallow depths. Benzo(a)pyrene and naphthalene are examples of SVOCs.

18 Total recoverable petroleum hydrocarbons (TRPH) is a term describing a large family of several hundred chemical compounds that originate from crude oil. Some form of petroleum hydrocarbon was used during the production of most, if not all, of the chemicals produced by Raychem.

19 PCBs are a class of chlorinated hydrocarbon chemicals used in electrical insulating and heat-exchange fluids.

20 Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

21 California Department of Toxic Substances Control, EnviroStor, "Project Search Results," Search Criteria: Menlo Park, website: http://www.envirostor.dtsc.ca.gov/public/search.asp?CMD=search&ocieerp=False&business_name=&main_street_name=&city=Menlo+Park&zip=&county=&case_number=&Search=Get+Report, accessed September 12, 2011.

22 The Geotracker database is a RWQCB data management system for tracking sites that impact groundwater, especially those that require groundwater cleanup under the agency's various programs (Underground Storage Tanks, Site Cleanup Program) as well as permitted facilities such as operating USTs and land disposal sites.

23 As defined by RWQCB, an "open-inactive" is a site where no regulatory oversight activities are being conducted by RWQCB.

in imported fill likely obtained elsewhere in the Bay Area. For those reasons, and because the site is covered with buildings and parking areas, the risk to human health is considered minimal.[24]

Summary of West Campus Hazardous Materials Releases and Remediation

The following summarizes information about the West Campus, including the status of investigations, remediation, and controls in place to minimize hazards to the public and environment.

Investigations. Facilities with a RCRA Hazardous Waste Facility Permit are required to conduct an assessment to determine if there have been releases of hazardous waste requiring further investigation and corrective action. DTSC conducted a RCRA Facility Assessment (RFA) in 1989 for the Raychem facility, and the RFA Report recommended that further investigation was needed. Raychem and DTSC entered into a Corrective Action Consent Agreement on June 26, 1996 to facilitate the required RCRA Facility Investigation (RFI) for the Facility. Closure activities for the above-ground portions of these hazardous waste management units (HWMUs) were approved by DTSC on January 9, 1997. Tyco entered into another Corrective Action Consent Agreement with DTSC in September 2000 and further amended it in December 2001. By this agreement, in addition to the RFI activities, Tyco was required to complete Interim Measures, a Corrective Measures Study, Remedy Selection and Corrective Measures Implementation for the West Campus.[25]

Between 1999 and 2003, Tyco conducted RFI activities in accordance with DTSC-approved work plans to gather information regarding surface and subsurface chemical impacts on soils and groundwater across the entire Tyco site, which included property to the west of the West Campus. The RFI divided the Tyco site into two areas: the western area (Areas 1 through 5) and the eastern area (Area 6).[26] What is now the proposed West Campus is what was referred to as the eastern portion (Area 6) in the RFI and was occupied by the ChemPlant, along with several buildings, as described above. For purposes of this Draft EIR, information about Area 6 compiled from the various RFI reports that were used to develop the existing conditions in this Draft EIR is referred to as the "West Campus."

The RFI identified Chemicals of Potential Concern (COPCs) in the soil and groundwater for the entire Tyco facility. COPCs are developed as part of an RFI and are based on a comprehensive review of the types of hazardous materials used, treated, and stored at the facility along with the types of hazardous wastes generated. Altogether, 21 VOCs, 11 SVOCs, 6 metals, and other chemicals were identified as soil COPCs, and 13 VOCs were identified as groundwater COPCs for the West Campus.[27]

The RFI identified localized areas of contaminated soils and concluded that most of the releases were believed to have occurred in the 1970s and 1980s. Elevated levels of COPCs (e.g., VOCs, SVOCs,

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[24] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 10 Network Circle, Menlo Park, California,* November 3, 2010.

[25] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[26] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[27] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

PCBs) were found at a number of locations, with the main area of contamination located at the former ChemPlant complex (i.e., the West Campus). The probable sources of contamination were attributed to leaks and spills from above-ground storage tanks and piping, below-ground sumps, releases from drum storage areas and waste management practices employed in the past by the Raychem facility.[28]

The groundwater RFIs were conducted between 1999 and 2004. The RFIs determined that groundwater was impacted by VOCs (chlorobenzene and 1,1-DCE) and PCBs. The predominance of low-permeability clayey materials generally restricts downward migration of shallow contaminated groundwater. A groundwater model used to predict the concentration of VOCs and PCBs to the year 2072 indicate VOC levels will continue to decline through natural attenuation. PCBs, which do not break down like VOCs, are predicted to show minimal movement over time. The studies also indicate that groundwater contamination originating from the West Campus has not migrated off-site. However, groundwater contamination from the Tyco property to the west has migrated and extends under the West Campus.[29]

Remediation. Interim Remedial Measures (IRMs) are actions that can be initiated prior to implementation of the final corrective measure to control or eliminate the release or potential release of hazardous wastes or hazardous constituents at or from a facility. The ultimate goal of interim measures is to achieve stabilization at a facility. A site is considered stabilized when: 1) human and environmental exposure pathways are blocked; 2) off-site migration is stopped; and 3) sources of contamination are controlled.

Tyco conducted several IRMs in the early to mid-2000s, which resulted in removal of approximately 5,000 cubic yards of contaminated soils. Contaminated soils were removed from various locations in the West Campus, including storm drain inlets and drainage swales where sediment was contaminated. The IRMs also helped to reduce impacts to groundwater (documented reductions in plume size and chemical concentrations) by removing the sources of contamination. Soil investigations indicated the presence of PCBs in off-site soils, which were also removed as an IRM action.[30]

An IRM was also implemented at the location of former Building U, a part of the ChemPlant. PCB-contaminated surface soils to a depth of approximately four feet were removed, but deeper soils containing PCBs at concentrations that would be unacceptable for human health or the environment if there was an exposure pathway were left in place at a depth of approximately nine to 21 feet. The soil was not removed due to the difficulty in dealing with flowing sands and flooding of the excavation, possibility remobilizing and redistributing the PCBs. The soils not removed were covered with an engineered cap consisting of approximately four feet of clean soil covered by a synthetic liner and

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[28] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[29] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[30] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

drainage cover.[31] That area, which occupies approximately 0.25 acres and is currently fenced to protect the cap and discourage trespassing, is adjacent to the proposed transit center and will be covered with landscaping. Specific measures to protect the integrity of the cap are prescribed in a Land Use Covenant (LUC), explained later in this section. These remedial measures for PCBs were also approved by EPA under the federal TSCA.

Corrective Measures Study/Implementation Plan. The cleanup efforts resulted in the development of a Corrective Measures Study/Implementation Plan (CMS/IP) in 2006, which applied to the entire Tyco facility. It was developed to ensure compliance with the 1996 Corrective Action Consent Agreement, as amended in 2006. The general objective of the CMS/IP was to develop and evaluate corrective measure alternative(s) that would continue to be used to address any residual contaminants and potential releases of hazardous waste and constituents that could occur subsequent to the cleanup efforts.[32]

A component of the CMS/IP is the Operation, Maintenance, and Monitoring Plan (OMMP). It identifies actions that must be implemented to ensure the IRMs and other cleanup actions satisfy the remedial action objectives established through the RFI process, and that the various elements of the remedial actions will be monitored. The OMMP addresses the engineered cap, groundwater monitoring, and management of chemically impacted soil. In particular, it requires protection of the groundwater monitoring network because it provides valuable data regarding the reduction in contaminant levels, and it clearly describes contingency actions in the event odorous or discolored soils are encountered during subsurface work. The OMMP also includes action levels for air monitoring, soil sampling, and soil disposal. [33]

Human Health Risk Assessments. Although contaminated soils have been removed to commercial use levels and a groundwater cleanup program is in place, along with a DTSC-approved process to ensure the remedial actions remain effective, there are residual levels of contaminants in West Campus soils and in shallow groundwater under the site. The process for determining the levels that were allowed to remain on-site included a human health risk assessment (HHRA), which is described below.

A HHRA[34] was prepared according to a work plan approved by DTSC. The purpose of the HHRA was to evaluate the potential human health risks attributable to residual COPCs in soil and groundwater in Area 6 of the former Raychem facility (the West Campus).

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31 Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

32 SCS Engineers, *Corrective Measures Study/Implementation Plan, 300 Constitution Drive, Menlo Park, California,* prepared for Tyco Electronics Corporation, November 2006.

33 SCS Engineers, *Corrective Measures Study/Implementation Plan, 300 Constitution Drive, Menlo Park, California,* prepared for Tyco Electronics Corporation, November 2006. Appendix G: Operation, Monitoring, and Maintenance Plan, prepared for Tyco Electronics Corporation.

34 SCS Engineers, Baseline Human Health Risk Assessment Eastern Portion of Site (Expanded Area 6) Tyco Electronics (Former Raychem) Facility, 300 Constitution Drive, Menlo Park, California EPA ID No. CAD009125527, July 2005.

The HHRA assumed the presence of residual contaminants, primarily PCBs, and examined the risk estimates for the following potentially exposed populations:

a. On-site commercial/industrial worker,

b. On-site construction/utility worker,

c. Off-site commercial/industrial worker,

d. Off-site resident, and

e. Hypothetical future on-site resident.

Three exposure scenarios were evaluated in the HHRA. The following is provided for information purposes to disclose how risk was evaluated. However, only the second scenario (Future Modified Site Configuration – Commercial/Industrial Land Use) is applicable to the Project.

1. **Current Unchanged Site Configuration** – This scenario assumed that the site would continue to operate as a commercial/industrial facility and that the existing buildings and surface cover (i.e., pavement and landscaping) would remain in place. Risk and hazards were estimated assuming current on-site commercial/industrial workers may inhale volatile chemicals that migrate from soil and groundwater into an existing building. For areas not covered, it was assumed that workers may be exposed to chemicals at the site via inhalation, incidental ingestion of soil, and dermal contact with soil.

2. **Future Modified Site Configuration (Commercial/Industrial Land Use)** – This scenario assumed continued use of the site as a commercial/industrial facility. It further assumed that the site would be modified in the future and that all existing surface cover (including pavement and buildings) were removed and the underlying soil exposed. Risks and hazards were estimated assuming that future on-site commercial/industrial workers, future on-site construction workers, and future off-site commercial/industrial workers, as well as off-site residents may be exposed to site chemicals via inhalation, incidental ingestion of soil, and dermal contact with soil. This is the scenario that generally applies to the Project for the West Campus.

3. **Hypothetical Future Modified Site Configuration (Unrestricted Land Use)** – This scenario assumed that the site would be redeveloped in the future for residential use (unrestricted use). It further assumed that all surface cover is removed and that single-family residential homes are developed. Under this scenario, risks and hazards were estimated assuming that future residents may be exposed to chemicals at the site via inhalation, incidental ingestion of soil, dermal contact with soil, and ingestion of homegrown produce. The Project does not propose residential uses; therefore, this scenario is not applicable.

With the exception of the area in the immediate vicinity of the engineered cap, the estimated carcinogenic risk[35] for all potentially exposed populations considered under the commercial/industrial land use scenario for the West Campus was within the range ($1x10^{-6}$ to $1x10^{-4}$) defined as the acceptable risk range by the EPA.[36] The presence of an engineered cap prevents exposure to contaminants beneath the cap. Because there is not a complete exposure pathway, there would be no risk to people under current conditions. The HHRA concluded that assuming that the site remains commercial/industrial and the engineered soil cap remains in place, the estimated risks from potential direct exposure to soil and groundwater at the site ranged from approximately $1x10^{-9}$ to $1x10^{-5}$, which are less than the EPA standards for carcinogenic risk. Non-carcinogenic[37] risk levels are also not exceeded.

The HRRA noted import of clean fill soil and new building foundations would further reduce the exposure and potential risk. The HHRA further concluded, the West Campus currently does not pose a human health risk in its current condition nor would it pose a risk in the future if the site continues to be used as a commercial/industrial property. However, if the West Campus were developed as a residential property or for other land uses not included in the HHRA, further action may be required to protect human health.

Ecological Risk Screening. An ecological risk screening for the West Campus was completed in 2003. The studies concluded that the conditions at the West Campus pose very little threat to biota from areas contaminated with hazardous substances due to lack of complete exposure pathways. The report noted the saltwater evaporation ponds located north of the West Campus and the wetland-mitigation area located east of the West Campus are separated from the site by paved roads/highways (Bayfront Expressway and Willow Road).[38]

DTSC's Approved Remedial Actions for the West Campus

The current DTSC-approved remedies for contaminants at the West Campus consist of the LUC (see below), which protects the engineered cap, among other items, and continuation of the groundwater monitoring program. In 2006, DTSC conducted a review under CEQA of the corrective action project and approved an Initial Study/Negative Declaration (State Clearinghouse No. 2006072107) that

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35 Carcinogenic compounds are present in daily life and present a risk of exposure to individuals; there is a cumulative risk from numerous environmental sources. The risk criterion (1x10-6) is commonly referred to as "one-in-a-million." It is the smaller of the two values, where 1x10-4 is a one-in-ten-thousand risk. The quantified values that are compared to the criterion range represent the *probability* of occurrence that exposure to carcinogenic materials would exceed—in others words, would be in addition to—existing risk.

36 California Department of Toxic Substances Control, *Statement of Basis, Proposed Remedy Selection for Contaminated Soil and Groundwater at Tyco Electronics Corporation, 300 Constitution Drive. Menlo Park, California*. July 24, 2006.

37 Unlike cancer risk estimates, the measure used to describe the potential for noncarcinogenic toxic effects to occur is expressed in terms of a Hazard Index (HI). The HI assumes that there is a level of exposure below which it is unlikely, even for sensitive populations, to experience adverse health effects. Adverse health effects are not anticipated when chronic and acute hazard indices are less than one. The final calculated risk values represent a conservative probability of occurrence.

38 California Department of Toxic Substances Control, *Statement of Basis, Proposed Remedy Selection for Contaminated Soil and Groundwater at Tyco Electronics Corporation, 300 Constitution Drive. Menlo Park, California*. July 24, 2006

evaluated these remedies, and concluded that no additional mitigation measures are needed to address the residual chemical contaminants that remain on-site in soil and groundwater.[39] In September 2007, DTSC determined that Tyco had implemented the remedies for soil and groundwater subject to continuing obligations to conduct site inspections and periodic groundwater monitoring.[40]

Land Use Covenant (LUC). DTSC has determined that the West Campus has been remediated to a level that is acceptable for commercial and industrial uses, but not residential use. Because residual hazardous wastes remain in the soil and groundwater at the West Campus and the levels that remain are risk-based, DTSC determined that a Covenant and Agreement to restrict site uses was necessary for the protection of human health and the environment. A LUC restricting the use of property at the West Campus was made between Tyco Electronics and DTSC in January 2007 and is binding upon all owners of the land, their heirs, successors, and assignees.[41] The LUC must be incorporated by reference into each and all deeds and leases for any portion of the West Campus.

As set forth in the LUC, the following uses are prohibited: residential, hospital, public or private schools for persons under 21 years of age, and day care for children. Other prohibited activities are: raising agricultural products; drilling for water, oil, or gas; and extraction of groundwater for purposes other than groundwater monitoring, site remediation, or construction dewatering; any activity that may disturb or adversely affect the integrity of the engineered cap (paving and non-tree landscaping over the cap is permitted as long as such surfacing does not disturb or interfere with any remedy or operation and maintenance activities required for the site); and any activity that may interfere with the operation and maintenance of the groundwater monitoring wells that are required as part of the DTSC-approved remedy without the written approval of the DTSC and EPA.[42] The LUC requires the property owner to perform annual inspections of the site to ensure the prohibitions in the LUC are being adhered to, and to evaluate the engineered cap. The last inspection was completed in January 2011, and no issues were identified.[43]

In addition, activities that would disturb soil, such as excavation, grading, removal, trenching, filling, earth movement or mining are only permitted if the activities are conducted pursuant to the DTSC-approved OMMP.[44] The OMMP sets forth procedures and protocols designed to limit the disturbance

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[39] California Department of Toxic Substances Control, Initial Study Checklist for Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, California, for the remedies described in the Draft Corrective Measures Study and Implementation Plan dated June 2006. State Clearinghouse No. 2006072107. Negative Declaration approved November 30, 2006.

[40] California Department of Toxic Substances Control, Letter from Wei Wei Chui, Section Chief, to Spencer Leslie, Director/Site Services of Tyco Electronics, September 6, 2007.

[41] Tyco Electronics Corporation, Covenant to Restrict Use of Property Environmental Restriction, Covenant and Agreement between Tyco Electronics Corporation and California Department of Toxic Substances Control, January 4, 2007.

[42] Tyco Electronics Corporation, Covenant to Restrict Use of Property Environmental Restriction, Covenant and Agreement between Tyco Electronics Corporation and California Department of Toxic Substances Control, January 4, 2007.

[43] California Department of Substances Control, letter from Matthew Huang, Project Manager, to Glen Foster, Tyco Electronics Corporation, February 23, 2011, approving the 2010 annual inspection report.

[44] SCS Engineers, Operating, Maintenance, and Monitoring Plan, Tyco Electronics Corporation, June 14, 2006.

of contaminated soils and reduce the short-term risks to workers. DTSC and the Project Sponsor are discussing potential modifications to the OMMP, and potentially the LUC, in the context of the Voluntary Cleanup Agreement.

Easement Agreement. An easement was established in 2007 between Tyco and Argonaut Holdings, Inc. that created certain easements and related rights for Tyco to facilitate ongoing environmental monitoring and related maintenance activities, such as maintenance of the groundwater monitoring wells and continued groundwater monitoring.[45]

Voluntary Cleanup Agreement. In June 2011, the Project Sponsor entered into a Voluntary Cleanup Agreement (VCA) with DTSC to reimburse DTSC for its oversight of the Project Sponsor's activities related to the residual hazardous materials, engineered cap, and groundwater monitoring wells at the West Campus.[46] DTSC oversight would be necessary to ensure that Project construction activities are conducted in accordance with the requirements of the OMMP and LUC. Although the Project can be developed within those restrictions and without any additional remediation, the Project Sponsor is considering requesting modifications to the OMMP and LUC, which might require additional remediation, to create more flexibility in site development and reuse. Under the VCA, the Project Sponsor would work with DTSC to determine if one of the proposed remedial options described below. In conjunction with DTSC, the Project Sponsor is considering the following options:

- *On-site consolidation of impacted soil*. This option would reduce the potential for exposure to the residual contamination on-site by consolidating the impacted soil above the unrestricted use cleanup goal in one location and capping it; institutional controls would reduce the potential for exposure through the breaching of the cap.
- *Excavation and off-site disposal of impacted soil (excluding the area under engineered cap)*. Under this option, impacted soil above the cleanup goal would be excavated and disposed at an appropriately permitted off-site facility. The area would be backfilled with "clean" soil to the West Campus to grade.
- *Excavation and off-site disposal of impacted soil (including impacted soil under engineered cap)*. Under this alternative, the impacted soil currently underneath the engineered cap would be excavated and disposed at an appropriately permitted off-site facility. This option could involve excavation of all the soil over the unrestricted use cleanup goal, or all such soil down to a highly-protective depth, such as 25 feet. The area would be backfilled to grade with "clean" soil.
- *Placement of clean soil cover over the site*. Under this option, all of the residual contamination would remain in place but at least two-feet of clean soil would be placed over the existing site, to specifications approved by DTSC. The OMMP would be revised to provide for a soil management plan setting forth protocols and procedures for disturbance of the soil cover.

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[45] Cornerstone Earth Group, *Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California*, November 19, 2010.

[46] Voluntary Cleanup Agreement, entered into between Giant Properties LLC, a wholly owned subsidiary of Facebook Inc., and California Department of Toxic Substances Control. June 17, 2011

DTSC has not identified vapor intrusion from the groundwater contaminants into structures as a hazard at the West Campus. Nevertheless, because under any of these options residual levels of those contaminants would remain in groundwater beneath the site, the Project Sponsor may install gas-impermeable membranes with passive ventilation and utility-trench, vapor cut-off barriers to effectively limit vapor/odor intrusion into the planned structures.

Naturally Occurring Asbestos

As noted in Section 3.11, Geology and Soils, the West Campus was undeveloped marshland and was filled prior to development of the Raychem facilities. The fill source for the West Campus was reported to be from a road cut for I-280 construction, just north of Woodside Road (south of Farm Hill Boulevard exit). Bedrock in the source area is predominantly serpentinite[47] associated with the Franciscan Complex. Eleven samples were collected from the road cut and tested in 1998, in conjunction with a study of nickel and chromium levels in West Campus soils. None of the 11 samples contained asbestos.[48] While road cut soils were tested, the fill materials at the West Campus do not appear to have been tested. Therefore, there is the potential for naturally occurring asbestos (NOA) to be present in fill material at the Project site.

Asbestos, Lead-Based Paint, PCBs

East Campus. The East Campus buildings were constructed in the 1990s and are unlikely to contain significant quantities of asbestos. However, surveys to identify whether asbestos regulated under federal, State, or local regulations have not been completed for East Campus buildings. The Consumer Product Safety Commission banned the use of lead as an additive in paint in 1976. Based on the age of the buildings, the potential for lead-based paint is low.[49]

West Campus. The West Campus buildings were constructed in the 1980s and are, therefore, unlikely to contain significant quantities of asbestos or lead-based paints. Nonetheless, comprehensive surveys have not been completed to determine whether these materials are present in building components at levels that would trigger the need for compliance with testing, removal, and disposal regulations.[50] Several indoor and outdoor transformers are present; however, the RFI studies at the West Campus determined there were no transformers with PCB content in fluids at or above regulatory limits.

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47 Serpentinite is a rock consisting of one or more serpentine minerals. This rock type is commonly associated with ultramafic rock along faults such as the Hayward Fault. Small amounts of chrysotile asbestos, a fibrous form of serpentine minerals, can be common in serpentinite. The State has designated serpentinite as the "State Rock" of California.

48 GRA Associates, Inc., RFI Report – Soil Investigation (Final), Raychem/Tyco Facility Eastern Portion of Site (Expanded Area 6), 300 Constitution Drive, Menlo Park, California EPA ID No. CAD0091255272002, Section 4.3.3.

49 Cornerstone Earth Group. *Phase I Environmental Site Assessment, 10 Network Circle, Menlo Park, California,* November 3, 2010.

50 SCS Engineers, *Corrective Measures Study/Implementation Plan, 300 Constitution Drive, Menlo Park, California,* prepared for Tyco Electronics Corporation, November 2006.

Schools Within 0.25 Miles of the Project Site

Belle Haven Elementary School located at 415 Ivy Drive is the closest school to the Project site and is just over 0.35 miles southwest of the West Campus. There are no schools within a 0.25-mile radius of the West Campus. There are no schools within a 0.25-mile radius of the East Campus.

Airports Within 2 Miles of the Project Site

There are no airports within two miles of the Project site. However, the Project site is within approximately 2.25 miles of the Palo Alto Airport. The primary hazards associated with airports are crash hazards due to aircraft approach and departure operations.

Impacts and Mitigation Measures

Standards of Significance

The Project would result in a significant impact if it 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 or 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 0.25 miles 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 (the "Cortese List" described above) and, as a result, would 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 two 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 where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Methodology

To assess the potential for the Project to create a significant hazard to the public or environment from hazardous materials, the following analysis considers the pathways through which exposure to hazards could potentially occur, and evaluates the controls that would foreseeably be placed on each of these pathways.

It is important to note that, as a result of the health and safety risks associated with the use of hazardous materials, hazardous materials use, storage, and disposal are subject to numerous laws and regulations at various levels of government. These laws and regulations are identified in this section. In most cases, the laws and regulations pertaining to hazardous materials management are sufficient to minimize risks to human health and the environment, except where site-specific conditions warrant additional consideration. The impact analysis identifies areas where impacts related to hazardous materials during Project occupancy may, nonetheless, be potentially significant. In these cases, feasible mitigation measures are identified.

The primary sources of information for establishing baseline conditions are site-specific Phase I Environmental Site Assessments (ESAs) for the East Campus and West Campus, prepared by Cornerstone in November 2010, which are supplemented with other documents provided by the Project Sponsor and those available from DTSC's EnviroStor website, as referenced in the footnotes (Appendix 3.13). Phase I ESAs are used to assess whether potentially hazardous materials are located on a property. Standards for Phase I ESAs have been developed by the American Society for Testing and Materials (ASTM) and are used routinely to determine the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products, onto the surface or into the ground, groundwater or surface water of the property. A Phase I ESA consists of a site reconnaissance, review of regulatory agency databases and/or files, aerial photograph review, interviews, interpretation of the results, and recommendations whether additional investigation is necessary.

Because the Phase I ESAs for the East Campus and West Campus included a summary compilation of decades of investigation at the Project site and were prepared in accordance with industry standards, the conclusions presented therein are assumed to represent the best available information for purposes of analyzing potential effects. In addition, all remedial activities and ongoing monitoring at the West Campus have been performed in accordance with DTSC-approved work plans and reports. The ESAs and DTSC-approved documents have also been independently reviewed. Thus, there is sufficient information upon which to base the analysis.

The baseline for determining potential effects for the Project is described in Section 3.1, Introduction to the Environmental Analysis. However, it should be noted that for the purposes of this the Hazardous Materials analysis, the baseline also includes the current restrictions imposed under the LUC and OMMP, the purpose and contents of which are previously described above. This condition reflects DTSC's conclusion that the West Campus has been remediated to levels that are protective of a commercial/industrial land use scenario, provided all restrictions and prohibitions are implemented.

Impacts Not Evaluated In Detail

The impacts related to wildland fires are not evaluated in detail because there would be no impact as a result of implementing the Project. The Project would not expose people or structures to a significant risk of loss, injury or death involving wildland fires. The Project site is surrounded on the east, south, and west by urban development. It is separated from salt evaporation ponds and Bay margin vegetation by roadways. As described in Section 3.15, Public Services, the MPFD provides fire protection services to the Project site. There would be ***no impact*** related to wildland fire hazards.

The impact related to the accidental release of hazardous materials within 0.25 miles of a school is not evaluated in detail because there are no schools within a 0.25-mile radius of the East Campus or the West Campus.

The impacts related to siting a project within an Airport Land Use Plan (ALUP) or within two miles of a public airport are not evaluated in detail because neither the East Campus nor the West Campus are within an ALUP or two miles of a public airport.

Environmental Analysis

HM-1 ***Asbestos, Lead, or Other Hazardous Materials in Building Components.*** *Project-related demolition or excavation at the West Campus could disturb hazardous materials in existing building components, but compliance with existing regulations would prevent adverse health or safety effects. This would be a less-than-significant impact. (LTS)*

The West Campus buildings were constructed in the 1980s and are, therefore, unlikely to contain significant quantities of asbestos or lead-based paints. The RFI studies at the West Campus, the results of which are summarized in the Environmental Setting, above, determined there were no transformers with PCB content in fluids at or above regulatory limits. However, comprehensive surveys have not been completed to determine whether these materials are present in building components at levels that would trigger the need for compliance with testing, removal, and disposal regulations.[51] Demolition of the buildings in the West Campus could disturb these hazardous building materials and cause adverse health or safety effects to construction workers, the public, and/or the environment if appropriate hazardous materials surveys and safety precautions are not taken.

Asbestos poses health hazards only when inhaled; therefore, friable (easily crumbled) asbestos is potentially hazardous if not encapsulated. Non-friable asbestos or encapsulated asbestos does not pose substantial health risks. Upon building demolition at the West Campus, asbestos fibers (if present) could be disturbed, released into the air, and inhaled by construction workers or the public unless proper precautions are taken. Existing laws and regulations (e.g., 29 CFR 1926.1101 – Asbestos and BAAQMD Regulation 11, Rule 2 – Asbestos Demolition, Renovation, and Manufacturing) require the Project Sponsor to retain a qualified environmental

[51] SCS Engineers, *Corrective Measures Study/Implementation Plan, 300 Constitution Drive, Menlo Park, California,* prepared for Tyco Electronics Corporation, November 2006.

specialist (e.g., a Cal/OSHA-certified asbestos consultant or similarly qualified individual) to inspect existing buildings that may be altered. In addition, existing government regulations, such as the California Health and Safety Code Section 39000 et seq., limit asbestos emissions from asbestos-related demolition or construction activities, and specific precautions and safe work practices that must be followed to minimize the potential release of asbestos fibers. In light of these regulations, public health risks due to asbestos exposure during demolition of the existing buildings at the West Campus are expected to be controlled and proper precautions would be implemented.

In sufficient concentrations, lead and mercury are regulated as hazardous wastes. RCRA and the State RWCA require that generators of PCBs, lead, or mercury waste test the debris for toxicity characteristics. This requires that building components be tested for those materials. If building components containing hazardous materials are found at levels that require special handling (i.e., any building material containing paint that contains more than 5,000 ppm of lead, or any building materials known or suspected to contain PCBs or mercury), these materials would be removed and disposed of off-site as required by law and according to federal and State regulations and guidelines, including those of DTSC, BAAQMD, Cal/OSHA, and any other agency with jurisdiction over these hazardous materials.

Proper handling and disposal of contaminated building materials would reduce unforeseen risks to the environment and prevent potential future adverse health, safety, or environmental effects. As a result, impacts related to hazardous materials in building components would be ***less than significant***.

HM-2 ***Soil and Groundwater Contamination.*** *Implementation of the Project could expose people to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases:*

- *The Project at the East Campus would have a less-than-significant potential to expose people to residual contaminants in soil and/or groundwater. (LTS)*
- *The Project at the West Campus could expose people to residual contaminants in soil and/or groundwater, resulting in potentially significant impact. (PS)*

East Campus

The East Campus is not included on the Cortese List. The Phase I ESA for the East Campus concluded that elevated levels of nickel from undocumented sources, along with other contaminants typically found in artificial fill, and contaminants in shallow groundwater, would not present a significant health hazard during construction or occupancy, assuming soil and groundwater are not disturbed. Project implementation at the East Campus would not involve site improvements (e.g., constructing new buildings, installing utilities, or changes in roadways) that would disturb soils or require groundwater extraction or expose building occupants to hazards in soil or groundwater. Impacts are considered ***less than significant***.

West Campus

The West Campus is included on the Cortese List. Prior operations at the West Campus and the adjacent TE Connectivity site resulted in significant releases of hazardous substances, including PCBs, VOCs and semi-VOCs at a number of locations in the West Campus. DTSC has overseen a comprehensive "corrective action" program of investigation and remediation of these releases. These remediation activities have included: significant soil removal actions where concentrations of hazardous substances exceeded levels appropriate for commercial/industrial use; installation of a five-foot thick engineered cap over an 11,437-square-foot discrete area of deep PCB-contaminated soils on the eastern portion of West Campus (in the vicinity of former Building U, generally where the Transit Center and adjacent landscaping is proposed); and a comprehensive, long-term groundwater monitoring program consisting of 45 groundwater monitoring wells on the West Campus and the adjacent TE Connectivity property combined.

As the result of a decision-making process that included the issuance of a Negative Declaration under CEQA, DTSC determined in November 2006 that the West Campus had been remediated to a level that is acceptable for commercial and industrial use, such as those proposed for the West Campus.

Because residual hazardous materials remain in the soil and groundwater, DTSC determined that the recordation of a land use covenant to restrict property uses was necessary for the protection of human health and the environment. The LUC restricting the use of the TE Connectivity property was executed between TE Connectivity and DTSC in January 2007 and is binding upon all owners of the land, their heirs, successors, and assignees. The LUC prohibits residential and similar sensitive uses and requires activities that will disturb soil, such as excavation, grading, removal, trenching, filling, or earth movement must be performed pursuant to the OMMP and a Health and Safety Plan approved by DTSC. In addition, Mitigation Measure HM-2.9 would ensure that landscaping activities at the West Campus would not disturb soil in the area of the engineered cap.

DTSC has concluded the residual contaminants in soil and groundwater at the West Campus do not pose a risk to people or the environment under existing conditions, and would not pose a threat in the future, provided the surface is not disturbed in a manner inconsistent with the LUC and OMMP. A substantial amount of soil disturbance would be necessary to develop the West Campus, some of which will require specific approval of DTSC pursuant to the LUC and OMMP. This would include placing fill on the site for floodproofing, along with general soil movement on site for excavation for foundations or pile installation, and filling and compaction.

To minimize the potential introduction of contaminated fill onto the West Campus, all possible sources of import fill would have adequate documentation so it can be verified that the fill source is appropriate for the West Campus. Documentation would include detailed information on previous land use of the fill source, any environmental site assessments performed and the

findings, and the results of any analytical testing performed. If no documentation is available or the documentation is inadequate or if no analytical testing has been performed, samples of the potential fill material would be collected and analyzed. The analyses selected would be based on the fill source and knowledge of the previous land use as determined by the Project Sponsor's environmental consultant. The sample frequency for potential fill material would be in accordance with that outlined in the technical document titled, "Information Advisory on Clean Imported Fill Material."[52] The Project Sponsor's environmental consultant would approve the use of imported fill; no fill material will be accepted if it exceeds EPA's current residential environmental screening levels (ESLs), residential California Human Health Screening Levels (CHHSLs), and/or background concentrations of metals.

For locations where import fill is not used, on-site soil disturbance has the potential to result in impacts due to hazardous materials releases in a variety of ways: soil disturbance could generate dust containing residual soil contaminants, which could pose an inhalation hazard to workers if contaminants adhere to the dust; improperly stockpiled soils could introduce contaminants into stormwater; excavation and removal of contaminated soils, particularly if soils are used elsewhere on-site or transported for off-site disposal or reuse could spread contaminants. In addition, NOA may be present in fill materials. As described in Impact HM-1, asbestos poses a specific kind of inhalation hazard.

As part of its ordinary practice in reviewing each request to disturb soil or groundwater under the existing LUC, DTSC will confirm that risks from all potential exposure pathways to construction workers associated with the depth and extent of the requested excavation have been adequately assessed and that appropriate controls are in place.

To ensure construction workers are not exposed to inhalation and contact hazards, DTSC will require a site-specific health and safety plan (Mitigation Measure HM-2.2). In addition, implementation of a Dust Control Plan/Asbestos Dust Management Plan (Mitigation Measure HM-2.3) would provide further control of airborne dust. Because the safety measures identified in both these plans are intended to be protective of the construction workers, who would be at greatest risk due to the frequency of exposure and proximity to the contaminants, they would be equally protective to the public at off-site locations.

Besides the general soil movement associated with utility installations, utility trenches also have the potential to create a horizontal conduit for chemical contaminants contained in soil vapors or shallow groundwater to migrate along permeable soils that would be placed as trench backfill. This could cause residual contaminants to migrate and, in addition, could also pose a risk to occupants in enclosed structures from vapors migrating into buildings. Appropriate measures would be implemented to reduce vapor migration through trench backfill and utility conduits. Such measures would include placement of low-permeability backfill "plugs" at

[52] California Department of Toxic Substances Control, *Information Advisory Clean Imported Fill Materials*, October 2011. http://www.dtsc.ca.gov/Schools/upload/SMP_FS_Cleanfill-Schools.pdf. Accessed November 7, 2011.

intervals on-site and where utilities would extend outside parcel boundaries. Mitigation Measure HM-2.5 would require incorporation of necessary measures in Project design.

Foundation support piles are proposed for Buildings 1, 2, and 3 to provide structural support. Unless properly installed with minimally invasive methods and depending on the depth and location of the support piles, shallow groundwater could be encountered as a result of this activity. Groundwater extraction is not a concern when driving piles, but piles installed in locations where residual contaminants are known to be present could, under certain soil conditions, create a vertical conduit for chemicals occurring in shallow groundwater to move along the pile to deeper groundwater zones, causing degradation of the deeper groundwater. If development plans include the construction of deep foundations, the foundations of the buildings will incorporate measures to help reduce the potential for the downward migration of the contaminated groundwater. These measures would be identified in the required geotechnical investigation reports and would need to be approved by DTSC and/or EPA. The OMMP (Mitigation Measure HM-2.1) requires identification of appropriate foundation pile design and installation to minimize this hazard.

Extraction of shallow groundwater may be necessary for some excavation and utility trench work. The LUC (Article IV, Section 4.2[c]) does not prohibit extraction of groundwater for construction dewatering. However, extraction of groundwater does have the potential to alter contaminant plume characteristics such as flow direction. Contaminated water could also enter excavations or utility trenches, where it could pose a risk to construction workers through inhalation of vapors or direct contact with skin. Implementation of a Groundwater Management Plan (Mitigation Measure HM-2.4) would ensure extracted groundwater is properly tested and disposed.

Because of the chemical characteristics of the residual chemicals in soil, buried utility lines could be subject to increased corrosion risk. This could adversely affect the delivery of potable water or conveyance of untreated wastewater, which could pose a human health or environmental risk. As outlined in Mitigation Measure HM-2.6, the use of corrosion-resistant piping materials and proper design can reduce the potential hazards associated with corrosion.

The Project proposes various on-site drainage features to convey stormwater runoff to the City system. As required under the NPDES Regional Permit Provision C.3 (see Section 3.12, Hydrology and Water Quality), stormwater quality best management practices (BMPs) will be included in Project design. BMPs would incorporate biofiltration treatment using either planted areas, bioretention areas, flow-through planters, or tree well filters. Although fill would be placed at the West Campus, which would increase the amount of separation between the BMPs and groundwater and residual contaminants in soil, there is still the potential for stormwater to infiltrate to groundwater, where it could affect flow characteristics. This could, in turn, interfere with the groundwater remediation system. Or, contaminated groundwater could flow into the BMPs, from which treated stormwater would flow to the storm drain system, resulting in possible inadvertent, off-site contamination of stormwater. As included in Mitigation Measure HM-2.7, the biofiltration areas would incorporate an impermeable liner,

which would reduce the potential for groundwater-stormwater interactions that could affect water quality.

In addition, although the West Campus has been comprehensively evaluated, as at any development in an urban setting, particularly one to be constructed on fill where it would be infeasible to examine the 22-acre site in its entirety, there is a potential for construction activities associated with the Project to encounter previously unidentified hazards, such as an abandoned underground storage tank located before permitting requirements were imposed, or other subsurface hazards, including soil. For those locations where additional remediation or UST removal is needed, this could require off-site transport of contaminated soil or groundwater, and exposure to hazardous materials could result if these materials were not handled appropriately during transport or disposal. Some materials could be classified as a hazardous waste under federal or State regulations depending on the specific characteristics of the materials, and this would require special handling to ensure regulations would not be violated.

All of these activities have the potential to result in a release of hazardous materials that could pose a human or environmental risk. For that reason, this is considered a ***potentially significant*** impact.

MITIGATION MEASURE. The following measures would reduce the potentially significant soil and groundwater contamination impact at the West Campus to ***less than significant***. (LTS)

HM-2.1 *Update Operation, Maintenance, and Monitoring Plan (OMMP) for the West Campus*. Prior to commencement of site grading on the West Campus, the Project Sponsor shall retain a qualified professional to update the OMMP to incorporate site development considerations for the West Campus to ensure continued implementation of Article IV, Section 4.2 (Soil Management) of the LUC.

The updated OMMP shall include, at a minimum, requirements for soil sampling and laboratory analysis, action levels triggering the need for special handling, as well as stormwater runoff controls (Mitigation Measure HM-2.7), on-site soil movement associated with excavation and fill placement, off-site soil transport (if necessary), and contingency measures in the event activities encounter soil that is odorous, stained, visibly discolored, or is questionable. The Project Sponsor shall submit the updated OMMP to DTSC as required under Article IV Section 4.2 of the LUC, and in accordance with the applicable terms of the VCA. The updated OMMP shall ensure that any human health risk evaluation or assessment used to support approval of soil or groundwater disturbance evaluates the proposed duration and extent of the Project activities, considers the potential for groundwater dermal exposure, and is based on the most current applicable risk evaluation methodologies. The updated OMMP shall also identify how deep foundation design and installation will be managed to reduce the potential for downward migration of contaminants in soil or groundwater.

The City shall not authorize any activity on the West Campus that has the potential to disturb soil until approved by DTSC and all necessary permits and/or approvals have been obtained, including but not limited to any permits for wells and/or borings from San Mateo County and BAAQMD.

HM-2.2 *Health and Safety Plan for the West Campus*. Prior to commencement of site grading on the West Campus, the Project Sponsor shall retain a qualified professional to prepare an updated Health and Safety Plan to implement Article IV, Section 4.2 (Soil Management) of the LUC. The Project Sponsor shall submit the Health and Safety Plan to DTSC as required under Article IV Section 4.2 of the LUC, and in accordance with the applicable terms of the VCA. The City shall not authorize any activity on the West Campus that has the potential to disturb soil until DTSC has approved the updated Health and Safety Plan and all necessary permits have been obtained.

HM-2.3 *West Campus Construction Activity Dust Control Plan (DCP) and Asbestos Dust Management Plan (ADMP)*. Prior to commencement of site grading on the West Campus, the Project Sponsor shall retain a qualified professional to prepare a DCP/ADMP. The DCP shall incorporate the applicable BAAQMD pertaining to fugitive dust control. The ADMP shall be submitted to and approved by the BAAQMD prior to the beginning of construction, and the Project Sponsor must ensure the implementation of all specified dust control measures throughout the construction of the Project. The ADMP shall require compliance with specific control measures to the extent deemed necessary by the BAAQMD to meet its standard.

HM-2.4 *West Campus Construction Activity Groundwater Management Plan*. Prior to site grading on the West Campus, the Project Sponsor shall retain a qualified professional to prepare a Groundwater Management Plan that describes how any groundwater extracted to accommodate site preparation will be tested and disposed of in accordance with existing regulations. The City shall not authorize any activity on the West Campus that would involve dewatering until DTSC has approved the Groundwater Management Plan and all necessary permits or approvals have been obtained, particularly if groundwater requires additional treatment and/or disposal at a permitted facility.

HM-2.5 *Soil Vapor Intrusion Barrier at the West Campus*. Prior to the issuance of the first building permit for the first occupied structure at the West Campus, the Project Sponsor shall retain a qualified professional to design a vapor intrusion barrier system consistent with the recommendations set forth in "Phase I Environmental Site Assessment, 312-314 Constitution Drive, Menlo Park, California" dated November 19, 2010 prepared by Cornerstone Earth Group. The City shall not issue a building permit until the vapor intrusion barrier design has been reviewed and approved by DTSC and the City Engineer has reviewed the final design plans

to ensure the necessary features have been incorporated into the Project. Such measures could include, but would not be limited to, gas-impermeable membranes.

Appropriate measures shall also be incorporated into Project design to reduce vapor and groundwater migration through trench backfill and utility conduits. Such measures could include placement of low-permeability backfill plugs.

HM-2.6 *Corrosion-Resistant Utility Pipeline Design for the West Campus*. Prior to, or at a minimum concurrent with the issuance of utility improvement plan permits, the Project Sponsor shall retain a qualified licensed professional engineer to determine protective measures for utilities. The City shall not issue any permit for utility construction until the City Engineer has reviewed the final design plans to ensure the necessary corrosion-resistant features have been incorporated into the Project.

HM-2.7 *Stormwater Quality BMPs*. The Project Sponsor shall ensure on-site detention/retention basins are lined to prevent groundwater interaction with stormwater and to prevent downward migration of stormwater into groundwater.

HM-2.8 *Construction Stormwater Pollution Prevention Plan for the West Campus*. The City shall not issue any permit for grading until a stormwater pollution prevention plan (SWPPP) has been completed to the satisfaction of the City and necessary construction BMPs have been incorporated into the Project.

HM-2.9 *Landscaping Restrictions on the Engineered Cap for the West Campus*. In accordance with the existing LUC, the Project Sponsor shall not plant trees on the engineered cap. Non-tree landscaping is permissible.

Secondary Impacts Related to Implementing the OMMP

The residual chemical contaminants remaining in soil at the West Campus do not pose a human health or environmental risk. However, as stipulated in the LUC, activities that would disturb soil, such as excavation, grading, removal, trenching, filling, or earth movement may only be performed in accordance with an OMMP (Mitigation Measure HM-2.1). All of these types of activities will take place at the West Campus and would encounter soils where residual chemicals may be present. In addition, it is possible previously unknown contamination may be discovered during site preparation. The OMMP would identify under what conditions soils must be treated as potentially hazardous, and whether special handling would be necessary to protect human health and the environment. Typically, this would likely consist of collecting soil samples and could consist of removing the affected soils and disposing off-site at permitted facility, or excavating the affected soils and consolidating and placing them elsewhere on-site where they could be covered or capped. For the latter, administrative controls similar to the existing LUC would need to be developed.

Therefore, a reasonably foreseeable secondary impact of implementing Mitigation Measure HM-2.1 (OMMP) is that it could result in exposure to hazardous materials release as a result of

general soil movement on-site and through actions deemed necessary by DTSC to reduce potential hazards.

Workers directly engaged in a soil sampling activity would face the greatest potential for exposure to hazards. Small samples may be transported from the site for analysis, but because relatively small amounts are collected, public exposure to potential hazards would be limited. Associated impacts would be localized. However, the public could be exposed to potential hazards if access to the West Campus were not controlled.

If it is determined through implementing the OMMP, or otherwise, that on-site soils need additional remediation, DTSC would need to review and approve any of these activities before the Project Sponsor could proceed. The remediation options being considered are presented above in the "Voluntary Cleanup Agreement" section. In order for DTSC to approve additional remedial activities that would involve soil-disturbing activities, DTSC would complete environmental review in accordance with CEQA. This review would be conducted separately and independently from the Project because additional remediation is not an element of the Project because DTSC has determined additional remediation is not necessary to implement the Project and because such remediation would be a continuation of the Corrective Action Program for with the DTSC issued a Negative Declaration in 2006. However, for purposes of full disclosure and to inform the decision makers, the following is provided as an overview of the types of hazardous materials impacts that are typically associated with remediation of sites with contaminated soils.

Site remediation measures, in themselves, could have adverse impacts. Excavation and off-site disposal or excavation and on-site consolidation activities have the potential to result in hazardous materials impacts, primarily from dust emissions, stormwater runoff, direct contact with contaminants, and off-site transport. All of these potential pathways for hazardous materials releases would be controlled through implementation of DTSC-approved work plans and health and safety plans and will be evaluated by DTSC in a separate CEQA review before any such measures are approved.

Potential adverse impacts of site remediation, if any, would be mitigated, in part, by legally required safety and hazardous waste handling and transportation precautions. For hazardous waste workers, OSHA regulations mandate an initial 40-hour training course and subsequent annual training review. Additionally, site-specific training would be required for some construction workers. These measures, along with application of State cleanup standards, would serve to protect human health and the environment during site remediation, thus minimizing potential adverse effects associated with remediation. Moreover, the major hazards-related effects of environmental cleanup associated with any remediation, if necessary, would be beneficial over the long term. Remediation, or equally effective management, of contaminated soils would substantially reduce risks to the public and would also reduce the potential for operational activities such as subsurface repairs and maintenance in the event of any future excavation at the site. Consequently, implementation of the OMMP would not

result in any substantial hazardous materials release impacts and would be beneficial in the long run.

HM-3 ***Effects on Ecological Systems.*** *Soil movement during construction of the Project at the West Campus could expose ecological receptors to residual contaminants in soil and/or groundwater if measures are not implemented to control contaminants. (PS)*

Studies have concluded that the conditions at the West Campus pose very little threat to biota from areas contaminated with hazardous substances due to lack of complete exposure pathways. The saltwater evaporation ponds located north of the West Campus and the wetland-mitigation area located east of the West Campus are separated from the site by paved roads/highways (Bayfront Expressway and Willow Road).[53]

However, because residual contaminants remain in soil, on-site soil movement during construction could provide a new potential pathway through which wildlife species could be exposed to contaminants in soil or fill material. Soil disturbance could be the result of general construction activities in which previously unidentified contaminants have been discovered, or it could be the result of implementation of Mitigation Measure HM-2.1 (OMMP).

The primary environmental mechanisms for ecological exposure during soil disturbance would be (1) direct species contact with the fill or soil containing contaminants (e.g., birds landing on or rodents burrowing into stockpiled materials); (2) stormwater runoff from exposed soils or fill, or soils spilled onto roads during transport, which could carry contaminants into aquatic environments, where fish and benthic invertebrate species could be affected; or (3) windblown dust, which could be inhaled by terrestrial and avian species, or that could be deposited on surface water, where aquatic organisms could be affected. After construction, all exposed soils would be covered by buildings, roadways and parking, and landscaping and hardscaping. Thus, this impact would only occur during construction.

There are controls and mitigation measures identified in this Draft EIR that would reduce potential impacts on human populations, which would also help reduce the impact on ecological systems, as explained below. In addition, there are environmental conditions that would also reduce the potential for adverse impacts.

For example, the OMMP and health and safety plan measures (HM-2.1 and HM-2.2) would be protective of human health. This would, in turn, minimize the potential for avian and terrestrial species to have direct contact with soil. Implementation of measures to control stormwater runoff during construction would control the discharge of potential chemicals adhered to soil in the runoff. Mitigation Measure HM-2.8 would require preparation of a SWPPP to identify the specific measures and BMPs applicable to construction activities in the event of a spill of construction materials or exposure of hazardous materials. This would

[53] California Department of Toxic Substances Control, *Statement of Basis, Proposed Remedy Selection for Contaminated Soil and Groundwater at Tyco Electronics Corporation, 300 Constitution Drive, Menlo Park, California,* July 24, 2006.

reduce the likelihood of contaminants being conveyed to drainage swales, which would reduce the risk to the species that rely on that habitat (e.g., birds and mammals).

As described, dust control measures are required both by local ordinance and by BAAQMD (see Mitigation Measure HM-2.3). Implementation of dust control measures would effectively reduce the potential for windborne dust that could affect wildlife species. However, natural environmental conditions would also be a factor in minimizing the potential for contaminated dusts to adversely affect ecological systems. Avian species could be exposed to windblown dust through inhalation and ingestion during preening and prey consumption. Although various avian species may use the West Campus, the mobility of the bird species results in their use of a relatively large home range and foraging range. Due to this mobility, avian species would not be present in one foraging area for an extended period of time in which they could receive substantial exposure to contaminants in dust. Even if dust control measures were not implemented, dusts generated by wind during construction would be dispersed over a relatively large area, with no single area receiving a sufficient volume of dust to generate a significant exposure to species.

Ponded water in open excavations and trenches (if contaminants were present and if standing water remained) could also present an ecological risk. However, because dewatering would be necessary to ensure proper construction conditions, groundwater would be removed routinely and frequently. Groundwater would be removed as required by the City. The sewage system is a closed system, so there would be no direct exposure pathway to fish or wildlife. If shallow groundwater were to be discharged by some other means as a necessary by-product of construction dewatering, the discharger would be required to notify and obtain approval of the Region 2 RWQCB.

Compliance with the procedures described above would ensure that soil movement at the West Campus would not present a significant risk to the ecological environment. Therefore, with implementation of Mitigation Measure HM-2.1, potential construction impacts to ecosystems related to handling of soil with residual contaminants and groundwater would be reduced to ***less-than-significant*** levels.

HM-4 ***Interference with Groundwater Monitoring System.*** *Site preparation activities and structures at the West Campus could interfere with the groundwater monitoring system. (LTS)*

The earthwork that would be required to develop the West Campus, as described in Impact HM-2, has the potential to damage or destroy groundwater monitoring wells. Groundwater level and water quality data from the extensive network of wells are used to confirm the groundwater model, monitor for changes that would alter the conclusions of the risk assessments, and monitor the natural degradation of target chemical compounds in the shallow water-bearing zone.

If a well were damaged (e.g., cracked) at the well head or below the surface as a result of site preparation, this could reduce or eliminate the well as a data point. In addition, if structures,

landscaping, hardscaping, parking lots, or utility trenches are not properly designed and sited, these could preclude access to the monitoring wells for sampling. The location and/or depth of stormwater quality treatment features (e.g., rain gardens or swales) also have the potential to interfere with groundwater characteristics.

Site development plans would be coordinated with TE Connectivity and DTSC to allow continued monitoring, additional sampling, and/or remediation activities that may be required to obtain DTSC approvals for the West Campus. If there are groundwater wells that would obstruct construction activities, they will be decommissioned, relocated, and/or reinstalled. Such activities would require DTSC approval. This would ensure continued operation of the groundwater treatment and monitoring system in accordance with the LUC, and the impact would be ***less than significant.***

HM-5 ***Maintenance Activities.*** *Maintenance activities with implementation of the Project could disturb soil containing residual contaminants:*

- *Maintenance activities at the East Campus would have a less-than-significant potential to disturb soil containing residual contaminants. (LTS)*
- *Maintenance activities at the West Campus could have a potentially significant potential to disturb soil containing residual contaminants. (PS)*

East Campus

Maintenance activities at the East Campus would be limited to landscaping. There may be the need for routine inspection, maintenance, or repair of underground utilities (e.g., water, sewer, telecommunication, electrical/natural gas). These types of activities would not involve extensive soil disturbance. Soils on the East Campus are not known to present a human health risk. For those reasons, impacts would be ***less than significant***.

West Campus

After Project occupancy, soil excavation may be required to maintain or replace utilities, repair foundations, or make other subsurface repairs. Prior to occupancy, particularly on the West Campus, locations for which the OMMP elements would have already been implemented (Mitigation Measure HM-2.1) would have effectively removed soils in locations affected by construction that could pose a risk to construction workers, provided the OMMP is fully implemented. Therefore, contact with unremediated soil by construction workers, or inhalation of soils by workers or the public, is unlikely and would not be expected to pose a substantial human health risk for areas subject to OMMP requirements.

As explained in Impact HM-2, the West Campus has been comprehensively evaluated, but as with any development in an urban setting, particularly one to be constructed on fill, it would be infeasible to examine the 22-acre site in its entirety. Therefore, there is a potential for future maintenance or repair activities involving disturbance of subsurface soils on the West Campus

to encounter previously unidentified hazards, such as contaminated soil or other subsurface features that could pose a hazard. This would be a ***potentially significant*** impact because it could expose maintenance workers to previously unidentified contaminated soil or other hazards.

MITIGATION MEASURE. While the updated OMMP (Mitigation Measure HM-2.1) provides for unexpected conditions, as an added safety measure, documentation ensuring that as-built conditions are fully described (e.g., locations where soils were further remediated or not remediated) and any additional restrictions are recorded so as to be made available to future maintenance and repair workers. The following measure would reduce the potentially significant impact at the West Campus to ***less than significant***. (LTS)

HM-5.1 *Record Additional Restrictions*. The Project Sponsor shall ensure that the updated OMMP (Mitigation Measure HM-2.1) includes provisions for disclosing information in DTSC-approved remediation reports along with any other requirements pertaining to post-construction, long-term operation and maintenance of subsurface utilities or maintenance or repair of foundations. Any such documentation shall be recorded in the Office of the County Recorder and a copy shall be provided to the City.

HM-6 ***Routine Hazardous Materials Use.*** *Construction and operation of the Project at both the East Campus and West Campus would involve the use of hazardous materials-containing products. However, these products would be used in moderation and would comply with federal, State, and local regulations, resulting in less-than-significant impacts. (LTS)*

Wherever hazardous materials are used or stored, there is the potential for human exposure, and, under certain conditions, potential releases to the environment. In each situation, the potential hazards and the risks they would pose to people or the environment would depend on what materials would be used, where the materials would be used and stored, how they would be used, and who would use them. The routes through which these individuals could be exposed include inhalation, ingestion, dermal (skin and eye) contact, and other accidents.

For the Project, there are no large-scale manufacturing or processing facilities proposed that would store and use large quantities of hazardous materials that would present a substantial risk to people. However, the office uses and amenities would involve the use of smaller quantities of "household-type" hazardous materials. The potential risks associated with hazardous materials handling and storage would generally be limited to the immediate area where the materials would be located, because this is where exposure would be most likely. For this reason, the individuals most at risk would be employees or others in the immediate vicinity of the hazardous materials, rather than visitors or the public outside the Project site. For the most part, the health and safety procedures that protect workers and other individuals in the immediate vicinity of hazardous materials would also protect the adjacent community and environment. The pathways through which the community or the environment (e.g., local air quality and biota) could be exposed to hazardous materials include air emissions, transport of

hazardous materials to or from the site, waste disposal, human contact, and accidents. However, the only primary potential pathway for public exposure to hazardous materials would be airborne emissions under normal operations or upset conditions, such as those caused by diesel particular matter, toxic air contaminants, or traffic-related $PM_{2.5}$ emissions. These impacts are addressed in Section 3.6, Air Quality.

East Campus

As explained in Section 2, Project Description, the Project Sponsor is currently in the process of implementing TIs to convert the existing buildings from the hardware-intensive laboratory and individual hard-wall office environment to a more open, shared workspace characteristic of the Facebook work environment. The Tenant Improvements include interior renovations involving the use of commonly used materials, such as sheetrock, paints, solvents, glues and adhesives, and cleaning agents. Installation of new landscaping will require some concrete work, which will also involve some limited use of hazardous materials-containing products. Some minimal herbicide application may also be needed. The amounts and types of products containing hazardous materials will be limited and used in short duration. Construction specifications would require contractors comply with applicable hazardous materials use and waste disposal practices. These are not part of the Project, but are discussed because of the increased number of employees are anticipated on-site with the Project.

Operation of the East Campus would consist of office uses and amenities, such as food services and landscaped gathering areas. Products containing hazardous materials would be limited to office products and maintenance items, such as cleansers, degreasers, paints, and pesticides. These materials would not be used or transported to the East Campus in such quantities they would pose a health risk to occupants, visitors, or the Project vicinity. Impacts would be ***less than significant.***

West Campus

Construction of the West Campus would involve a substantial use of heavy equipment containing fuels and other hazardous products, along with extensive amounts of concrete products, construction materials, and architectural finish items.

These hazardous materials and vehicles would remain on the West Campus during the 18-month period of construction activities. Accidental releases of hazardous materials during construction activities could result in releases of hazardous materials into the air, or could impact soil and/or groundwater quality, which could result in adverse health effects to construction workers, the public, and the environment. However, the Project Sponsor's contractors would be required to comply with mandatory workplace hazardous materials regulations (described above) as well as a SWPPP[54] as described in Mitigation Measure HM-2.7, all of which would be specified in the construction contracts. In particular, among

[54] The SWPPP is a requirement under the Clean Water Act. See Section 3.12, Hydrology and Water Quality, for details.

many other elements and as it pertains to hazardous materials, the SWPPP requires an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced, storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage, implementing procedures that effectively address hazardous and nonhazardous spills, developing a spill response and implementation element of the SWPPP prior to commencement of construction activities; good housekeeping for vehicle storage and maintenance to prevent oil, grease, or fuel to leak in to the ground, storm drains, or surface waters.

Compliance with mandatory hazardous materials regulations and SWPPP requirements would ensure that potential releases from the transport and use or disposal of hazardous materials during Project construction activities would be reduced to a less-than-significant level. No mitigation is required. Operation of the Project would involve the use of household and commercial hazardous materials, such as cleaning agents, and paints. However, based on the uses within the Project, these materials would not be used, stored, or transported in large enough quantities to cause a substantial impact, either during construction or operation of the Project. Furthermore, the use, storage, and transportation of hazardous materials are subject to applicable federal, State, and local regulations, the intent of which is to minimize the risk of upset. Therefore, the risk of accidental explosion or release of hazardous materials that could create a health hazard is low, and impacts would be ***less than significant***.

HM-7 ***Hazardous Materials Risks from Off-Site Uses.*** *The Project at both the East Campus and West Campus could expose occupants to potential risks from off-site routine use or upset/accident conditions involving hazardous materials. However, compliance with federal, State, and local regulations would reduce the potential for off-site uses to pose a substantial hazard to the Project to less-than-significant. (LTS)*

The Project site is located in an area where there are commercial, light industrial, and R&D businesses, and the use of hazardous materials is permitted in those businesses. The City has a formal process for determining when use permits must be obtained, and there is a program in place for inspections by the County. In addition, hazardous materials can be legally transported on major thoroughfares, such as Willow Road and the Bayfront Expressway, as well as local roadways that provide access to nearby businesses.

The Project would not involve changes in hazardous materials use in off-site locations or substantially contribute to transport of hazardous materials on local roadway. However, it would increase the number of people in an area where an accidental release of hazardous materials at an off-site location could affect Project occupants. The Project would not reconfigure any existing roadways within the East Campus or include the construction of any new roadways or access points. Some minor improvements are proposed for the West Campus access along the Bayfront Expressway and Willow Road, but that would not involve a change in the roadway design or create new hazards that could affect hazardous materials transportation.

Exposure of site occupants to hazardous materials emergencies from off-site uses could occur because of improper handling or use of hazardous materials or hazardous wastes, particularly by untrained personnel; transportation accident; environmentally unsound disposal methods; or fire, explosion, or other emergencies.

All allowable off-site uses and transportation are subject to applicable State and federal laws and regulations, along with local permitting and inspections requirements, the purpose of which are to reduce the potential for hazardous materials incidents that could pose public or environmental risks. For example, the federal EPCRA, (42 USC Section 11001, et seq.) requires facilities that store, use, or produce certain amounts of hazardous chemicals to provide State and local authorities with material safety data sheets, or, alternatively, a list of chemicals. In addition to the federal requirement, California's Hazardous Materials Release Response Plans and Inventory Act, sometimes called the Business Plan Act (California Health and Safety Code Section 25500 et seq.) requires businesses using hazardous materials to prepare a plan that describes their facilities, chemical inventories, emergency response plans, and training programs. Businesses that use, store, or handle 55 gallons of a liquid, 500 pounds of a solid, or 200 cubic feet of a compressed gas at standard temperature and pressure, require hazardous materials business plans.

Hazardous materials regulations, which are codified in Titles 8, 22, and 26 of the CCR, and their enabling legislation set forth in Chapter 6.95 of the California Health and Safety Code, were established at the State level to ensure compliance with federal regulations to reduce the risk to human health and the environment from the routine use of hazardous substances. These regulations must be implemented by employers/businesses, as appropriate, and are monitored by the State (e.g., Cal OSHA in the workplace or DTSC for hazardous waste) and/or local jurisdictions (e.g., the MPFD and the San Mateo County Environmental Health Division).

The City, along with the MPFD, would be responsible for ensuring that businesses in the vicinity of the Project site comply with the local regulation and enforcement of hazardous materials laws and regulations, which would reduce the potential for accidental release of hazardous materials during occupancy. This would be accomplished by ensuring that regulated activities (e.g., businesses) are managed in accordance with applicable regulations such as Hazardous Materials Release Response Plans and Inventories (Business Plans), the CalARP Program, and the California Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements.

Compliance with Title 26, Division 6 (California Highway Patrol), of the CCR, which oversees the transportation of explosive and hazardous materials, would reduce impacts associated with potential for accidental release during construction or occupancy in the Project area. Compliance with this regulation, monitored by the appropriate entity (i.e., MPFD and the San Mateo County Environmental Health Division), would ensure that businesses and public facilities where hazardous materials are used or stored adhere to regulations designed to prevent leakage and spills of material in transit and provide detailed information to clean-up crews in the event of an accident.

Workplace regulations addressing the use, storage, and disposal of hazardous materials in Title 8 of the CCR would apply to businesses and public uses in the Project area. Compliance with these regulations would be monitored by the MPFD and the San Mateo County Environmental Health Division when they perform inspections for flammable and hazardous materials storage. Other mechanisms in place to enforce the Title 8 regulations include compliance audits and reporting to local and State agencies. Implementation of the workplace regulations would further reduce the potential for hazardous materials releases.

Implementation of Title 49, Parts 171-180, of the Code of Federal Regulations would reduce any impacts associated with the potential for accidental release during construction or occupancy of the Project or by transporters delivering hazardous materials to the Project site or picking up hazardous waste. These regulations establish standards by which hazardous materials would be transported.

Compliance with existing federal, State, and local laws and regulations that are administered and enforced by the CUPA (San Mateo County Environmental Health Division), and MPFD standards (the local agency that implements applicable hazardous materials-related sections of the California Fire Code and California Building Code), along with the City permitting requirements, would reduce the potential for off-site uses to pose a substantial hazard to the Project through routine or upset conditions. Impacts would be ***less than significant***.

HM-8 ***Impairment of Emergency Access or Emergency Plans.*** *The Project, at both the East Campus and West Campus, would result in a less-than-significant impact regarding the implementation of or interference to an adopted emergency response or evacuation plan. (LTS)*

As discussed in Section 3.5, Transportation, the Project would increase traffic in the vicinity of the Project site. Without the installation of traffic preemption devises, MPFD response times to the East Campus could be significantly impacted due to congestion at the Bayfront Expressway/Willow Road intersection.[55] However, there are emergency vehicle priority (Opticom) systems in place at all Willow Road approaches from Middlefield to Bayfront Expressway, as listed in Section 3.15, Public Services. 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.

Emergency access to the East Campus would remain the same. Emergency vehicles would access the West Campus via five points. Along Bayfront Expressway, the emergency vehicles would be able to access the site from the main entry at the proposed signalized intersection and at the secondary entry to the west of the parking structure. Along Willow Road, the emergency vehicles would be able to access the site from the entrance. Such access would be facilitated by a median cut-through on Willow Road to allow for emergency vehicle left turns, subject to Caltrans approval. In addition, emergency vehicles would also access the West Campus via two fire lanes from the adjacent TE Connectivity property, to the west of the

[55] Harold Schapelhouman, Fire Chief, and Geoffrey Aus, Fire Marshal, Menlo Park Fire Protection District, personal interview with Atkins, May 16, 2011.

proposed parking structure. Staging and turn-out areas for emergency vehicles would be located throughout the site and the design of the roundabout island to the southeast of Building 4 would meet the requirements established by the Fire Code, based on the size of the fire department's apparatus.

As such, implementation of the Project would not impede emergency access routes and would continue to maintain the existing City grid system. The Project would not result in permanent road closures that would physically interfere with the City's 2011 Emergency Operation Plan. Therefore, a ***less-than-significant*** impact would occur.

Cumulative Impacts

The geographic context for the analysis of cumulative impacts associated with hazardous materials varies depending on the threshold. The cumulative projects considered in this Draft EIR consist of two categories, as shown in Table 3.1-1 and Table 3.1-2, Introduction to Environmental Analysis. For disposal and transport of hazardous materials, the geographic context would include the area between the area of generation and the area of disposal, as well as the route between a distribution facility to the Project area, where risk of upset and accident would occur. The cumulative context for impacts associated with contaminated groundwater would include projects in the Atherton Channel watershed. The context for analysis of contaminated soil and risk from hazardous materials in buildings is site-specific, and would include only those cumulative projects in the immediate vicinity of the Project site (1283 Willow Road and 297 Terminal Avenue). For a discussion of airport hazards and emergency access, the geographic context would be the airport influence area of the Palo Alto Airport.

C-HM-1 ***Cumulative Hazardous Materials Use.*** *Construction and operation of the Project and other cumulative development would involve routine hazardous materials use, generation, disposal, or transport. This is a less-than-significant cumulative impact. (LTS)*

Tier 1 and Tier 2

The Tier 1 projects are a combination of residential, office, commercial, retail, and medical office uses. Both the types and amounts of hazardous materials present at any one time in these uses would be limited to household-type products, with the exception of the medical offices. Medical offices could include laboratories where small amounts of chemicals would be used, along with pharmaceuticals and small amounts of radioactive materials for diagnosis and treatment. Medical offices would also generate biohazardous medical waste. The Tier 2 projects would include a similar range of land uses as Tier 1, with the addition of institutional and some R&D/Industrial uses. The R&D and industrial uses would likely involve greater amounts of hazardous materials such as solvents, flammable materials, and compressed gases, along with other chemicals used in manufacturing and processing.

Although existing, proposed, and reasonably foreseeable development could have potentially unique hazardous materials considerations, all such existing and potential users would comply with the range of federal, State, and local statutes and regulations applicable

to the use, transport and disposal of hazardous materials, and would be required to comply with existing and future programs of enforcement by the appropriate regulatory agencies, which are described in the Regulatory Setting. Compliance with these federal, State, and local laws and regulations pertaining to hazardous materials management would be sufficient to minimize health and safety risks, because these laws and regulations have been designed to protect health and safety and are enforced by State and local agencies. In addition, stringent federal and State regulatory requirements apply to the common carriers that would handle the delivery and transport of hazardous materials to and from locations where hazardous materials are used. While these regulations do not eliminate the potential for accidents and resulting spills, they would reduce the frequency of possible occurrences and would limit the number of people that could be exposed.

Therefore, the cumulative impact with regard to routine use, transport, disposal, and handling of hazardous materials would not be significant.

Operation of the Project would involve limited hazardous materials use because of the types of activities that would occur (offices and related amenities). Moreover, as explained in Impact HM-6, the Project would also have to comply with all applicable statutes and regulations. This would ensure that the Project would not result in significant hazards as a result of hazardous materials use, transport, or disposal.

Development of the Tier 1 and Tier 2 projects and the Project would result in an increase in hazardous materials use and transportation in the area, and such use could also occur within 0.25 mile of schools. This could expose greater numbers of people to increased risks in the event of an inadvertent release or spill. However, hazardous materials incidents associated are usually site-specific, and the likelihood of multiple incidents occurring concurrently to result in a cumulative impact is anticipated to be very remote. As a result, associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials.

For the reasons explained above, the Project's cumulative impact would be ***less than significant***.

C-HM-2 ***Cumulative Soil and Groundwater Contamination.*** *Development of the West Campus and other cumulative development could expose people or the environment to residual contaminants in soil and/or groundwater if measures are not implemented to control unintentional or inadvertent releases. This is a less-than-significant cumulative impact. (LTS)*

Tier 1 and Tier 2

Two project sites included in the Tier 1 analysis (in addition to the West Campus) are listed pursuant to *Government Code* Section 65962.5 (Cortese List). The project at 1400 El Camino Real, which is an approved new construction for mixed-use development, is an active site for voluntary clean-up. In addition, the Derry Lane development at 580 Oak

Grove, which is mixed-use development proposed for construction, is active and requires State response.[56] For projects in the City and Atherton Channel watershed that would involve the development or redevelopment of an existing site where soil or groundwater contamination may have occurred, the potential exists for release of hazardous materials during construction and/or remediation of those sites. For individuals not involved in construction activities, the greatest potential source of exposure to contaminants would be airborne emissions, primarily through construction-generated dust. Other potential pathways, such as direct contact with contaminated soils or groundwater, would not pose as great a risk to the public because such exposure scenarios would typically be confined to the construction zones.

Assuming that site-specific risk management controls are implemented and compliance with applicable laws and regulations pertaining to site cleanup and hazardous materials management is achieved at all other locations, soil or water contamination in the identified geographic context would not result in significant cumulative impacts. Exposure to soil and groundwater contamination, inadvertent spills, etc. are all localized impacts that are not expected to combine with other incidents to create a cumulative impact for the same population or environment. Moreover, an individual who is near the construction zone of one source would not likely be exposed to maximum levels off-site from another source. Implementation of applicable hazardous materials management laws and regulations adopted at the federal, State, and local levels, which are explained in the Regulatory Setting, would reduce cumulative impacts related to development of known or potentially contaminated sites to less than significant.

The risk-based remediation of soil and groundwater contamination from historic uses at the West Campus has resulted in restrictions on the types of soil-disturbing activities that can occur. These restrictions are set forth in a LUC and related OMMP. Development of the West Campus would involve extensive soil disturbance that has the potential to cause a significant impact if controls are not in place to reduce potential hazards (see Impact HM-2). The mitigation strategy outlined in Mitigation Measure HM-2, which implements the requirements of the LUC and is consistent with current regulatory standards, would reduce the potential for the Project to cause a significant impact due to the release of hazardous materials. All soil-disturbance activities at the West Campus that are performed in conjunction with geotechnical investigations for design, installation of foundations and utilities, and any related work cannot proceed without DTSC approval of plans describing how potential risks to people and the environment will be mitigated. In addition, implementation of those mitigation measures would reduce the potential for residual contaminants to pose an ecological risk (Impact HM-3).

[56] California Department of Toxic Substances Control, EnviroStor, "Project Search Results," Search Criteria: Menlo Park, website: http://www.envirostor.dtsc.ca.gov/public/search.asp?CMD=search&ocieerp=False&business_name=&main_street_name=&city=Menlo+Park&zip=&county=&case_number=&Search=Get+Report, accessed September 12, 2011.

All of the Project's impacts associated with soil and groundwater contamination would be mitigated to a less-than-significant level. As described above, the hazards associated with investigation and cleanup of contaminated sites elsewhere would not combine in the cumulative sense, nor would the Project Sponsor be responsible for participating in efforts to reduce the impacts at other locations. Therefore, the Project's cumulative impact would be ***less than significant***.

C-HM-3 ***Cumulative Hazardous Materials in Building Components.*** *Development of the Project and other cumulative development could expose people to asbestos, lead, PCBs, or other hazardous materials in existing buildings that may be demolished, renovated, or rehabilitated if measures are not implemented to control unintentional or inadvertent releases. This is a less-than-significant cumulative impact. (LTS)*

Tier 1 and Tier 2

It is reasonable to assume development of some of the Tier 1 and/or Tier 2 projects could involve demolition of existing structures, or renovation/rehabilitation of some buildings. If demolition of existing buildings where asbestos, lead-based paint, PCBs, or other hazardous materials are present, those projects, along with the Project, would be required to comply with applicable federal, State, and local regulations, which are above in Regulatory Setting. Prior to issuance of a demolition permit, the City would be responsible for ensuring that the necessary investigations and remediation have been completed.

Hazardous materials incidents associated with demolition activities where asbestos, lead, PCBs, or other hazardous materials could be released would be site-specific. As a result, associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials. Further, the likelihood of multiple incidents occurring concurrently to result in a cumulative impact would be minimal, and there would be no significant cumulative impact. Development of the Project would comply with all local, State, and federal regulations pertaining to the handling and disposal of hazardous materials that could be contained in the buildings to be demolished on the West Campus, and that could be discovered on renovation of the East Campus buildings. Compliance with these regulations would reduce any potential Project impact to less than significant. Therefore, the Project's cumulative impact would also be ***less than significant.***

C-HM-4 ***Cumulative Impairment of Emergency Access or Emergency Plan Impacts.*** *Development of the Project and other cumulative development would not impair implementation of or interfere with an adopted emergency response or evacuation plan. The cumulative impact is less than significant. (LTS)*

Tier 1 and Tier 2

Cumulative development would result in increased traffic throughout the City. Emergency provider response times could be significantly impacted due to congestion at intersections, particularly for those projects that are farther away from fire and police stations. However, the Project is in close proximity to existing fire Station 77 (approximately 0.5 miles) and existing traffic preemption devices would ensure that response times are not significantly affected.

Since the site plans of several Tier 1 and Tier 2 projects are unknown, it is possible that emergency access to these sites could be impacted. Certain design features for the Tier 1 and Tier 2 projects would be required to ensure that adequate emergency access to/from the sites is maintained. During the design review process of the projects, the City would require appropriate measures to ensure that emergency access is not impeded and that the developments include adequate emergency access to the site. As explained in Section 2, Project Description, adequate emergency access would be provided to both the East Campus and West Campus.

As such, with existing traffic preemption devices located throughout the City and adequate emergency access to the Project Site, implementation of the Project would not impede emergency access routes and would continue to maintain the existing City grid system. The Project would not result in permanent road closures that would physically interfere with the City's 2011 Emergency Operation Plan. Therefore, a ***less-than-significant*** cumulative impact would occur.

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