

4.7 Hazards and Hazardous Materials

4.7.1 Introduction

This section discusses hazardous materials and hazards conditions within the Project site, and evaluates the potential for the Project to result in significant impacts related to exposing people or the environment to adverse effects related to hazards and hazardous materials. A review of the applicable regulatory framework is also provided.

CEQA requires the analysis of potential adverse effects of a project on the environment, but, as discussed in Chapter 1.0, *Introduction*, of this EIR, potential effects of the environment on a project are not required to be analyzed or mitigated under CEQA standards (*CBIA v. BAAQMD*). However, if a proposed project impact exacerbates an existing environmental hazard or condition, an agency must analyze the potential impact of such hazards on the project (such as future residents or users), which is presented herein. In addition, solely to provide information to the public and decision-makers, this section also discusses certain existing conditions and potential effects of hazards and hazardous materials on the Project.

4.7.2 Definitions

Hazardous Material and Waste

Materials and waste are generally considered hazardous if they are poisonous (toxicity), can be ignited by open flame (ignitability); corrode other materials (corrosivity); or react violently, or explode or generate vapors when mixed with water (reactivity).

The term “hazardous material” is defined in the State Health and Safety Code (Chapter 6.95, Section 25501[n][1]) to include any material that, because of 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.

A hazardous waste, for the purpose of this EIR, is any hazardous material that is discarded, stored and treated, or recycled, as defined in the State Health and Safety Code (Chapter 6.95, Section 25124).

The transportation, use, and disposal of hazardous materials, as well as the potential releases of hazardous materials to the environment, are closely regulated through many state and federal laws.

Potential Receptors/Exposure

The sensitivity of potential receptors in the areas of known or potential hazardous materials contamination is dependent on several factors, the primary factor being the potential pathway for human exposure. Exposure pathways include external exposure, inhalation, and ingestion of contaminated soil, air, water, or food. The magnitude, frequency, and duration of human exposure

can cause a variety of health effects, from short-term acute symptoms to long-term chronic effects. Potential health effects from exposure can be evaluated in a health risk assessment. The main elements of exposure assessments typically include:

- Evaluation of the fate and transport processes for hazardous materials at a given site;
- Identification of potential exposure pathways;
- Identification of potential exposure scenarios;
- Calculation of representative chemical concentrations; and
- Estimation of potential chemical uptake.

Soil and Groundwater Contamination

In California, regulatory databases listing hazardous materials sites provided by numerous federal, state, and local agencies were consolidated in the “Cortese List” pursuant to Government Code Section 65962.5, originally enacted in 1985. The Cortese List is no longer consolidated as originally intended, but is now available as web-based information from the responsible organizations as linked on the California Environmental Protection Agency’s (CalEPA) website, and includes:

- List of Hazardous Waste and Substances sites from Department of Toxic Substances Control (DTSC) EnviroStor database;
- List of Leaking Underground Storage Tank Sites by County and Fiscal Year from the State Water Resources Control Board (SWRCB) GeoTracker database;
- List of solid waste disposal sites identified by SWRCB with waste constituents above hazardous waste levels outside the waste management unit;
- List of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO) from the SWRCB; and
- List of hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the Health and Safety Code, identified by DTSC and listed in the EnviroStor database (DTSC, 2016a).

The SWRCB GeoTracker database includes leaking underground storage tanks (LUSTs); permitted underground storage tanks (USTs); and spills, leaks, investigations, and cleanup database (SLIC) sites. The DTSC EnviroStor database includes federal and state response sites, voluntary, school, and military cleanups and corrective actions, and permitted sites. The five databases cited above identify sites with suspected and confirmed releases of hazardous materials to the subsurface soil and/or groundwater. The statuses of these sites change as identification, monitoring and clean-up of hazardous materials progress. Typically, a site is considered “closed” (i.e., no further action is needed to address hazardous materials at the site) once it has been demonstrated that existing site uses combined with the levels of identified contamination present no significant risk to human health or the environment.

Underground Fuel Tanks

An underground fuel tank (UFT) system is a tank and any underground piping connected to the tank that has at least 10 percent of its combined volume underground. Until the mid-1980s, most UFTs were made of single-walled bare steel which could corrode over time, resulting in leakage. Faulty installation or maintenance procedures also resulted in UFT leakage, in addition to potential releases associated with spills. Revised UFT regulations in the late 1990s significantly reduced the incidents of leakage from new UFT systems and the resulting soil and groundwater contamination. However, some older UFT systems remain in service, and many sites contaminated by UFTs are still undergoing investigation and cleanup.

Underground storage tanks installed prior to the mid-1980s that have leaked, as well as improperly installed UFTs, have resulted in fuel spills that can present contamination issues. In addition, it is not uncommon for older UFTs to have been abandoned in place with no documentation of location or abandonment technique. Unknown and undocumented UFTs can be found during ground disturbances associated with redevelopment activities of commercial and industrial properties.

Case closure for leaking underground fuel tanks (LUFTs, also referred to as leaking underground storage tanks or LUSTs) is typically granted by the oversight agency when soil or groundwater affected by a release of petroleum hydrocarbons (PHCs) and the constituents of PHCs (such as benzene, toluene, ethylbenzene, xylenes and methyl tertiary butyl ether) have been substantially cleaned up, and the contamination no longer poses a substantial threat to human health or the environment. However, it should be noted that residual contaminants may remain in soil or groundwater at closed sites. PHCs tend to naturally degrade over time; excavation for project construction at closed LUFT sites, however, may encounter low levels of PHCs in soil, soil vapor, or groundwater.

4.7.3 Environmental Setting

A preliminary site assessment, commonly referred to as a “Phase I” investigation, seeks to identify the presence or likely presence of hazardous materials at a project site under conditions that indicate an existing release, a past release, or a material threat of release of hazardous materials into structures on the site or into the ground, groundwater, or surface water of the site. A Phase I investigation also seeks to assess whether such conditions warrant further investigation, such as subsurface soil and groundwater sampling, referred to as a “Phase II” investigation.

During Phase I investigations, environmental professionals, among other things, research site history, perform a regulatory database review and conduct a site reconnaissance for the site and surrounding area. Methods to obtain historical information pertaining to the site include the review of historical aerial photographs, topographical maps and Sanborn Fire Insurance Maps. A Phase I investigation generally includes a review of potential offsite sources of contamination that may be of potential environmental concern due to their proximity to the project site. A Phase II investigation generally involves subsurface sampling of soil or groundwater at a project site to evaluate the extent of known or suspected contaminant releases.

A Phase I investigation was conducted for the Project site and the information contained within the Ceres Associates August 22, 2003 report was used as a primary source of information for this analysis and with no material changes in the site uses since that time, remains a valid resource for the purposes of this analysis. In addition, a more recent review of available environmental databases was conducted to confirm some of the conclusions (discussed below). No Phase II investigation has been performed at the Project site, and as indicated in the *Introduction* in this section, no changes potentially affecting the conditions reported in the 2003 Phase I have occurred.

Regional Setting

The Project site is part of a series of unincorporated communities along the northern I-680 corridor east of Martinez. The area of and around the Project site is currently characterized by a mix of open space and developed lands that include roads, trails, and residential communities, as well as industrial uses including gas pipelines, a landfill, and wastewater treatment facilities.

Pipelines carrying crude oil and refined petroleum products (gasoline, diesel fuel and jet fuel) extend under Central Avenue and the Project site along a wetland area on the northwestern boundary. The Project site is bounded by the Burlington Northern Santa Fe Railroad (BNSF) Railway tracks to the south, and a combination of undeveloped lands and recreational vehicle storage occupy the area immediately south of the railroad tracks. The Acme landfill located northeast of the Project site is no longer actively accepting refuse as a final depository; however, a refuse transfer station operates within the landfill site, and is located approximately 0.3 miles north of the Project site.

Project Site Setting

According to the Phase I investigation report, the Project site appears to have been undeveloped land dating back to at least 1939 (Ceres, 2003). The Phase I report reviewed aerial photographs from the years 1939, 1950, 1959, 1970, 1980, 1988, 1996 and 1999 (Ceres, 2003). None of the aerial photographs showed signs of any development on the Project site. However, according to the geotechnical investigation prepared for the site, there was evidence of previous quarrying activity on the east facing slope of the hill (Engeo, 2003). In addition, a review of historic Google Earth imagery shows a small structure in the late 1980s and early 1990s that has been removed by the early 2000s (Google Earth, 2017). The surrounding area was also undeveloped until the 1970s when some of the neighboring residential developments began to appear.

Hazardous Materials Use

Based on the history of the site use, the Phase I report and the site visit by ESA, there does not appear to be any evidence of hazardous materials use on the Project site including underground storage tanks, above ground storage tanks, hazardous building materials (asbestos, lead based paint, mercury, etc.), or polychlorinated biphenyls (“PCBs”). According to interviews and regulatory agencies contacted for the Phase I investigation, no existing files or database entries exist for the Project site (Ceres, 2003). In addition, a review of environmental databases

maintained by the Department of Toxic Substances Control and State Water Resources Control Board did not include the Project site among sites known to be Federal Superfund, State Response, Voluntary Cleanup, School Cleanup, Hazardous Waste Permit, Hazardous Waste Permit and Corrective Action, Leaking Underground Fuel Tank, or Spills, Leaks, Incidents and Cleanup sites (DTSC, 2020).

However, the Project site includes a wedge shaped parcel on the north-eastern boundary of the Project site which is crossed by five gas pipelines, which are buried beneath or in close proximity to Central Avenue. The pipelines include easements from Chevron, Santa Fe Pacific Partners L.P. (“SFPP”), Kinder Morgan Energy Partners, L.P (“KMP”), and Crimson-Chevron KLM (“KLM”). As mentioned above, these pipelines carry a variety of petroleum products including crude oil and its refined products such as gasoline and diesel. The KMP pipeline is a 6-inch diameter underground pipeline made of welded steel that are coated and have cathodic protection (Milstone, 2020). SFPP has two 8-inch diameter underground pipelines made of welded steel that are coated and have cathodic protection (Milstone, 2020). The Chevron pipeline is 20 inches in diameter, and the KLM pipeline is 12 inches in diameter. (Milstone, 2020).

Surrounding Sites

The Project site is surrounded by a wide range of land uses that includes sites with a history of hazardous materials or waste uses. The Phase I report identified two state sites within 1 mile of the Project site, four leaking underground storage tank sites and two solid waste landfill sites within 0.5 miles, one registered fuel tank within 0.25 miles of the Project site and only one site within 0.125 miles of the Project site which was listed as a solid waste landfill site (Ceres, 2003). However, the report concluded that there was no evidence to suggest that any of these sites have impacted the environmental quality of the Project site (Ceres, 2003). A current review of available environmental databases confirms this conclusion (DTSC, 2020). Groundwater flow typically mimics topography which would indicate that flow on the Project site generally radiates outward from the top of the hill and for most of the Project site generally flows toward the northeast. Therefore, all of the identified sites are located either cross or down gradient of the Project site and unlikely to have migrated onto the Project site.

Wildland Fire

Factors that contribute to the risk of fire include dense and fire-prone vegetation, poor access to fire-fighting equipment because of slopes or inadequate roads, lack of adequate water pressure and service in fire-prone locations, and seasonal atmospheric conditions that result in warm, dry fire seasons with strong afternoon winds. Some areas within the Project site include vegetated open space that can become very dry during summer months. Wildfire hazard maps compiled by the Association of Bay Area Governments (ABAG) does not show the Project site as being within an area subject to moderate, high, or very high fire threat based on Cal Fire’s assessment of wildfire risk (ABAG, 2020). Also, the Project site is not recommended to be designated as “Very High Fire Hazard Severity Zone” (VHFHSZ) by CAL FIRE, for the State or the Local Responsibility Area) (CAL FIRE, 2009).

Airports and Air Hazards

Airport Influence Areas are used in land use planning to identify areas commonly overflowed by aircraft as they approach and depart an airport, or as they fly within established airport traffic patterns. The Buchanan Field Airport is located approximately 1.3 miles southeast of the Project site. The Project would be located within the Buchanan Field Airport Influence Area; however, the Project site is not located within a safety zone nor is it located within a composite noise contour as depicted in the Contra Costa County Airport Land Use Compatibility Plan. Nevertheless, since the Project is located within the Buchanan Field Airport Influence Area and proposes a General Plan Amendment, therefore the Project would be subject to review by the Contra Costa County Airport Land Use Commission (ALUC) for determination of consistency with the *Contra Costa County Airport Land Use Compatibility Plan* (ALUC, 2000).

Other Hazards

The Contra Costa County Office of Emergency Services (OES) is responsible for disaster management and emergency preparedness within the County. The Contra Costa County Operational Area (OA) Emergency Operations Plan directs the response to emergency incidents affecting the county as a whole.

Fire and Explosion Risks

For informational purposes, the following information describes existing conditions that may pose potential effects on the Project. Some existing uses in the Project vicinity include facilities that are governed by federal, State, and local regulations and permits addressing fire and explosion risks. The Shell Martinez Refinery is located approximately one-mile northwest of the Project site. The Marathon Refinery (previously Tesoro Golden Eagle) is located less than one-mile northeast of the Project site. Air Products also has hydrogen facilities within the Shell and Marathon refineries. Per a review of the last 25 years of accident investigations completed by the U.S. Chemical Safety Board and reported by the Contra Costa Health Services Department (CCHS), there have been multiple industrial chemical accidents at the Shell and Marathon facilities (CCHS, 2020). Process safety deficiencies contributed to a pattern of sulfuric acid exposure incidents that occurred at the previous Tesoro Martinez (now Marathon) refinery's alkylation unit between 2010 and 2014, including two incidents that occurred in February and March 2014 that injured four workers in total and in one instance led to a significant release of sulfuric acid (CSB, 2016). The latest incident reported occurred in 2018 at the Shell refinery that resulted in a small lube oil fire and unit shutdown (CCHS, 2020).

The presence of underground gas lines that transport pressurized hazardous materials such as natural gas or liquid petroleum products can also present a hazard. A review of the National Pipeline Mapping System's map viewer indicated that a gas transmission pipeline bisects the Project site and a hazardous liquid pipeline runs adjacent to the east of the Project site (NPMS, 2020).

Risks Related to Train Activities

An active BNSF Railway tracks run adjacent to the south border of the Project site. Additionally, a rail line owned by Union Pacific and used by Amtrak and BNSF is located approximately 1.5 miles north of the Project site (FRA, 2017). The rail line is used by the Amtrak Capitol Corridor that provides frequent daily service between the Sacramento region and the Bay Area. Both rail lines transport munitions for the Army's Military Traffic Management Command. Moreover, truck transportation of explosives through populated areas constitutes a potential significant public safety hazard. Permitted routes designated by the California Highway Patrol include the major freeways and other highways in the County (Contra Costa County, 2010).

4.7.4 Regulatory Setting

Federal

The primary federal agencies with responsibility for hazardous materials management include the USEPA, U.S. Department of Labor Occupational Safety and Health Administration (Fed/OSHA), and the U.S. Department of Transportation (DOT). Federal laws, regulations, and responsible agencies are summarized in **Table 4.7-1**.

State and local agencies often have either parallel or more stringent regulations than federal agencies. In most cases, state law mirrors or overlaps federal law and enforcement of these laws is the responsibility of the state or of a local agency to which enforcement powers are delegated. For these reasons, the requirements of the law and its enforcement are discussed under either the state or local agency section.

State

California Environmental Protection Agency (CalEPA)

Agencies within CalEPA include the State Water Resources Control Board (SWRCB), Regional Water Quality Control Boards (RWQCBs), and Department of Toxic Substances Control (DTSC), as described below.

In January 1996, the California Environmental Protection Agency (CalEPA) adopted regulations implementing a Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program). The plan is implemented at the local level, by the certified uniform program agencies (CUPAs). The Secretary of CalEPA is directly responsible for coordinating the administration of the Unified Program. The Secretary certifies Unified Program Agencies, and has certified 83 CUPAs to date. These 83 CUPAs carry out certain responsibilities previously handled by approximately 1,300 State and local agencies. The responsibilities of the CUPAs are described below.

**TABLE 4.7-1
 FEDERAL LAWS AND REGULATIONS RELATED TO HAZARDOUS MATERIALS MANAGEMENT**

Classification	Law or Responsible Federal Agency	Description
		Imposes requirements to ensure that hazardous materials are properly handled, used, stored, and disposed of and to prevent or mitigate injury to human health or the environment in the event that such materials are accidentally released.
Hazardous Site Cleanup	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also known as Superfund)	CERCLA establishes a program to address and clean up abandoned sites contaminated with hazardous substances and pollutants.
Hazardous Waste Handling	Resource Conservation and Recovery Act of 1976 (RCRA)	Under RCRA, the USEPA regulates the generation, transportation, treatment, storage, and disposal of hazardous waste from “cradle to grave.”
	Hazardous and Solid Waste Act	Amended RCRA in 1984, affirming and extending the “cradle to grave” system of regulating hazardous wastes. The amendments specifically prohibit the use of certain techniques for the disposal of some hazardous wastes.
Hazardous Materials Transportation	U.S. Department of Transportation (DOT)	Has the regulatory responsibility for the safe transportation of hazardous materials. The DOT regulations govern all means of transportation except packages shipped by mail (49 Code of Federal Regulations [CFR]).
	U.S. Postal Service (USPS)	USPS regulations govern the transportation of hazardous materials shipped by mail.
Occupational Safety	Occupational Safety and Health Act of 1970	Fed/OSHA sets standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries (29 CFR).
Structural and Building Components; PCB Release (Lead-based paint, PCBs, and asbestos)	Toxic Substances Control Act (TSCA)	Regulates the use and management of PCBs in electrical equipment, and sets forth detailed safeguards to be followed during the disposal of such items as well as soil containing PCBs. Also, addresses releases of PCBs, e.g., associated with transformer releases.
	USEPA	The USEPA monitors and regulates hazardous materials used as structural and building components and their effects on human health.
Rail Safety	Federal Railroad Administration (FRA)	The FRA adopts and enforces railroad safety regulations, including regulations relating to rack safety, grade crossings, rail equipment, operating practices, and the transport of hazardous materials by rail.
	Pipeline and Hazardous Materials Safety Administration (PHMSA)	PHMSA is another department within the DOT. Pursuant to the Hazardous Materials Transportation Act, PHMSA adopts regulations governing the transport of hazardous materials by rail, highway, air, and water. The PHMSA regulations are set forth in Chapter I of Subtitle B of Title 49 of the Code of Federal Regulations (CFR). The FRA enforces the requirements set forth in PHMSA regulations.
	National Transportation Safety Board (NTSB)	The National Transportation Safety Board (NTSB) is an independent federal agency. The NTSB reviews transportation accidents, including rail accidents, and makes recommendations to FRA and PHMSA for regulatory changes.
	The American Association of Railroads (AAR)	The American Association of Railroads (AAR) is an industry trade association that represents railroads, including the major freight railroads in the United States, Canada, and Mexico. AAR adopts standards for the design and construction of tank cars carried by its members. In some cases, these standards are more stringent than the requirements set forth in FRA or PHMSA regulations. In addition, USDOT’s predecessor delegated to AAR regulatory authority to approve the construction, alteration, repair, and conversion of tank cars and to certify facilities engaged in these activities.

State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs)

The SWRCB protects water quality in California by setting statewide policy. The SWRCB supports the nine RWQCBs, which, within their areas of jurisdiction, protect surface water and groundwater from pollutants discharged or threatened to be discharged to the waters of the state. For the majority of the San Francisco Bay Area, the San Francisco Bay RWQCB maintains jurisdiction within the subject basin. This protection is carried out by the RWQCB through the issuance and enforcement of National Pollutant Discharge Elimination System (NPDES) permits under the federal Clean Water Act, called Waste Discharge Requirements (WDRs), regulation of leaking underground storage tanks and contaminated properties through the Leaking Underground Storage Tank (LUST) and Site Cleanup programs respectively. USTs are regulated under Chapter 6.7 of the California Health and Safety Code and 23 CCR Chapter 16.

Department of Toxic Substances Control (DTSC)

DTSC is authorized by the USEPA to enforce and implement federal hazardous waste laws and regulations. In addition, DTSC generally acts as the lead agency for soil and groundwater cleanup projects that primarily affect public health (especially residential projects requiring environmental site mitigation), and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels. The DTSC's principal cleanup authority is established under the Carpenter-Presley Tanner Hazardous Substance Account Act (HSAA; Cal. Health and Safety Code sections 25300–25395.45). Most State hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR).

DTSC has established that “[it is the Department’s] goal that sites requiring response actions, where sensitive land uses are anticipated, be remediated to the degree that allows unrestricted use (DTSC, 2002).” The HSAA also expressly relies on the current and reasonably foreseeable future use of the site to establish cleanup standards, stating that risk assessments “shall include the development of reasonable maximum estimates of exposure for both current land use conditions and reasonably foreseeable future land use conditions at the site (DTSC, 2002; California Health and Safety Code Section 25356.1.5[d]).

DTSC has an established process for determining what land uses are foreseeable. This process, in general, refers to the municipality in which the site is located for guidance. The DTSC has stated:

“...local government will normally be the source of information about anticipated land uses. In cases where the future land use is relatively certain, the remedial action objective must reflect such land use. Conversely, where the future land use is less certain, a range of uses should be considered. Selection of cleanup levels must be based on consideration of public health and environmental risk, technical and cost limitations, and the performance and risk uncertainties inherent in all waste remediation efforts (DTSC, 2000).”

Certified Unified Program Agencies (CUPAs)

The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and

emergency response programs (see below). The State agency partners involved in the Unified Program have the responsibility of setting program element standards, working with CalEPA on ensuring program consistency, and providing technical assistance to the CUPAs. The Unified Program Administration and Advisory Group (UPAAG) was created to foster effective working partnerships between local, State and federal agencies. The UPAAG's goals and objectives are listed in the UPAAG Strategic Plan. The six programs are:

- Hazardous Materials Release Response Plans and Inventories (Business Plans)
- California Accidental Release Prevention (CalARP) Program
- Underground Storage Tank Program
- Aboveground Petroleum Storage Act (APSA) Program
- Hazardous Waste Generator and Onsite Hazardous Waste Treatment (tiered permitting) Programs
- California Uniform Fire Code: Hazardous Material Management Plans and Hazardous Material Inventory Statements

Along with the CalEPA agencies described above (SWRCB, DTSC, and RWQCBs), the following State agencies are involved with the Unified Program:

Governor's Office of Emergency Services (OES)

The Governor's Office of Emergency Services is responsible for providing technical assistance and evaluation of the Business Plan Program and the CalARP Program. Propane stored in quantities over 10,000 pounds is a regulated flammable substance under the CalARP program rules.

Office of the State Fire Marshal (OSFM) and California Fire Code

The Office of the State Fire Marshal is responsible for ensuring the implementation of the Hazardous Material Management Plans and the Hazardous Material Inventory Statement Programs. These programs tie in closely with the Business Plan Program. The State Fire Marshal is also responsible for approving the State Fire Code which is included in the California Building Standards Code, Title 24 California Code of Regulations. Chapter 61 of the California Fire Code covers regulations on the storage, handling and transportation of LPG. In addition, the 2019 California Fire Code adopts by reference the 2019 Edition of the National Fire Protection Association's NFPA 2 (Hydrogen Technologies Code), which provides fundamental safeguards for the generation, installation, storage, piping, use and handling of hydrogen in compressed gas or liquid form.

Hazardous Materials Transportation

The State has adopted federal DOT regulations for the intrastate movement of hazardous materials. State regulations are contained in Title 26 of the California Code of Regulations (CCR). In addition, the State of California regulates the transportation of hazardous waste originating in the state and passing through the state (26 CCR). Both regulatory programs apply in California. The two state agencies that have primary responsibility for enforcing federal and

state regulations and responding to hazardous materials transportation emergencies are the California Highway Patrol (CHP) and the California Department of Transportation (Caltrans).

Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) assumes primary responsibility for developing and enforcing workplace safety regulations in California. Because California has a federally-approved OSHA program, it is required to adopt regulations that are at least as stringent as those found in Title 29 of the Code of Federal Regulations (CFR). Cal/OSHA standards are generally more stringent than federal regulations.

Cal/OSHA regulations (8 CCR) concerning the use of hazardous materials in the workplace require employee safety training, safety equipment, accident and illness prevention programs, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation. Cal/OSHA enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances, and communicating hazard information relating to hazardous substances and their handling. State laws, like federal laws, include special provisions for hazard communication to employees in research laboratories, including training in chemical work practices. Specific, more detailed training and monitoring is required for the use of carcinogens, ethylene oxide, lead, asbestos, and certain other chemicals listed in 29 CFR.

Cal/OSHA also regulates asbestos removal to ensure the health and safety of workers removing asbestos containing materials and also must be notified of asbestos abatement activities. Cal/OSHA also administers California's hazardous waste operations and emergency response (HAZWOPER) rules for general industry workplaces, which mirror federal rules, with additional requirements for training, safety and health plans, and personal protective equipment that are stricter than the federal rules (Title 8 CCR Section 5192).

Regional and Local

Bay Area Air Quality Management District (BAAQMD)

In the San Francisco Bay Area, the BAAQMD regulates airborne pollutants, including asbestos, particulate matter, toxic air contaminants, and volatile organic compounds through both regulations, permitting, inspection and law enforcement. The BAAQMD must be notified ten days in advance of any proposed demolition or abatement work.

Contra Costa Health Services (CCHS) Hazardous Materials Business Plan Program

The Hazardous Materials Business Plan Program is the means by which the CCHS oversees the regulatory programs for Hazardous Materials Business Plans. The California Hazardous Materials Release Response Plans and Inventory Law of 1985 (Business Plan Act) requires that any business that handles hazardous materials prepare a business plan, which must include the following:

- Details, including floor plans, of the facility and business conducted at the site;
- An inventory of hazardous materials that are handled or stored on site;
- An emergency response plan; and
- A safety and emergency response training program for new employees with annual refresher courses.

Local Plans and Policies

Contra Costa County Airport Land Use Commission

The purpose of an Airport Land Use Commission (ALUC) is to conduct airport land use compatibility planning. ALUCs protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible uses. The statutes governing ALUCs are set forth in Division 9, Part 1, Chapter 4, Article 3.5, Sections 21670 – 21679.5 of the California Public Utilities Code (PUC).

Contra Costa County General Plan

Contra Costa County has established goals, policies, and programs in regards to hazardous materials, which are outlined in the Safety Element of the *Contra Costa County General Plan* ("General Plan") as follows:

- *Goal 10-I:* To provide public protection from hazards associated with the use, transport, treatment and disposal of hazardous substances.
- *Policy 10-62:* Storage of hazardous materials and wastes shall be strictly regulated.
- *Policy 10-63:* Secondary containment and periodic examination shall be required for all storage of toxic materials.

Contra Costa County Code

The ordinance code for Contra Costa County is current through Ordinance 2005-34 and the October, 2005 code update, and includes ordinances relating to Hazardous Materials Release Plans and Responses.

450-2.002 Purpose: Health and Safety Code Chapter 6.95 requires, among other things, that any business which handles a specified quantity of a hazardous material establish a business plan for emergency response to a release or threatened release of a hazardous material, which includes an inventory of hazardous materials handled by the business and report to the administering agency and the State Office of Emergency Services, occurrences of specified releases or threatened releases of hazardous materials.

The purpose of this division is to impose regulations in addition to Health and Safety Code Chapter 6.95, for the protection of the public and emergency rescue personnel in the

county and to facilitate implementation of said chapter, as authorized by Health and Safety Code Section 25500. (Ordinances. 88-74 § 2, 87-5 § 2)

4.7.4 Significance Criteria

According to Appendix G of the CEQA *Guidelines*, the Project would result in a significant effect on hazardous materials if it would:

- a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous material into the environment;
- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 miles of an existing or proposed school;
- d) Be located on a site that is included on a list of hazardous materials sites compiled pursuant to government code section 65962.5 and as a result, would create a significant hazard to the public or the environment;
- e) For a project within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport, or public use airport, the project would result in a safety hazard or excessive noise for people residing or working in the project area; or
- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- g) Expose people or structures, either directly or indirectly, to a significant risk of loss or injury involving wildland fires.

Analysis Methodology

The following section identifies specific impacts pertaining to hazards or hazardous materials and assesses the change from the existing conditions. The impact analysis of the Project impacts is based on the significance criteria listed above.

Topics with No Impact or Otherwise Not Addressed in this EIR

Certain significance criteria do not apply to the Project and are not discussed further; the Project site is not located within 0.25 miles of a school (Criterion c); the Project site is not included on a list of hazardous materials sites (Criterion d); and the Project would not obstruct any existing access roads and therefore would not interfere with any emergency response or evacuation plans (Criterion f).

4.7.5 Impact Analysis

Routine Transport and Storage

Impact HAZ-1: The Project would use hazardous materials (i.e., solvents) onsite during construction that could be released to the environment through improper handling or storage. (Criterion a, in part) (*Potentially Significant prior to Mitigation*)

Construction activities would require the use of certain hazardous materials such as fuels, oils, solvents and glues. Inadvertent release of large quantities of these materials into the environment could adversely impact soil, surface waters, or groundwater quality. However, the onsite storage and/or use of large quantities of materials capable of impacting soil and groundwater are not typically required for a project of this proposed size and type. Regardless, as discussed in the Section 4.8, *Hydrology and Water Quality*, in this chapter, the Project would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) which would include best management practices (BMPs) that cover the methods to handle hazardous materials during construction. Implementation of these BMPs as described in the mitigation measure below, as well as compliance with federal, state, and local regulations, would reduce the potential impact to less than significant.

Mitigation Measure HAZ-1: The use of construction best management practices shall be implemented as part of construction to minimize the potential negative effects of accidental release of hazardous materials to groundwater and soils. These shall include the following:

- 1) Follow manufacturer's recommendations on use, storage and disposal of chemical products used in construction;
- 2) Avoid overtopping construction equipment fuel gas tanks;
- 3) During routine maintenance of construction equipment, properly contain and remove grease and oils; and
- 4) Properly dispose of discarded containers of fuels and other chemicals.

Significance after Mitigation: Less than Significant.

Accidental Upset - General

Impact HAZ-2: Project operations would generate general household and maintenance hazardous waste. (Criterion a, in part) (*Less than Significant, No Mitigation Required*)

The Project proposes to develop currently undeveloped land to accommodate 144 single-family residential units, dedicated open space and a neighborhood park. Residential land uses include the use, storage and disposal of a variety of household chemicals and hazardous materials. These materials would include familiar items such as limited quantities of fuels, solvents, toners, paints, lubricants, kitchen and restroom cleaners and other maintenance materials. Hazardous wastes

used in the residential or maintenance areas may include small quantities of lubricants or fuels used in maintaining personal resident's vehicles, pesticides or herbicides, solvents, paints and lubricants. These common consumer products would be used for the same purposes as in any residential setting. The types of hazardous materials generally handled in the residences typically constitute small quantities and the health effects associated with them are generally not as serious as industrial uses. Implementation of the Project would not cause an adverse effect on the environment with respect to the use, storage, or disposal of general household hazardous substances generated from proposed building uses and therefore the impact would be considered less than significant.

Mitigation: None required.

Accidental Upset - Pipelines

Impact HAZ-3: The Project would be developed where existing crude oil pipelines transect the Project site, which could present a hazard to the public or environment in the event of accidental upset. (Criterion b, in part) (Potentially Significant prior to Mitigation)

The Project site includes a wedge shaped parcel on the eastern boundary of the Project site which is crossed by five gas pipelines that carry a variety of petroleum products, including crude oil and its refined products, such as gasoline and diesel. The five pipelines are operated by Chevron, Santa Fe Pacific Partners L.P. ("SFPP") (two pipelines), Kinder Morgan Energy Partners, L.P. ("KMP"), and Crimson-Chevron KLM ("KLM"). In the event of failure of the pipeline within the vicinity of the Project site, there could be a hazard to the public or environment from an inadvertent release of crude oil. While the transfer of bulk hazardous materials through underground pipelines is generally considered to be the safest means possible (CCCCDD, 2005), According to a risk assessment conducted for the Chevron crude oil pipeline, the frequency of unintentional releases for all spills, regardless of volume, is estimated to be 2.88 per 1,000 mile-years. For the 1.6-mile segment between KLM and the Valero refinery, the frequency of release is every 217 years, a majority of which would be very small (CCCCDD, 2005). Historical data indicates that the likelihood of a release from a crude oil pipeline resulting in fire is low. Between 2002 and 2004, out of a total of 483 releases meeting U.S. DOT reporting criteria, two releases from crude oil pipelines resulted in explosions, and six resulted in fires (CCCCDD, 2005). Over the past 20 years (2000-2019), serious incidents from pipelines across the country have been on a declining trend (USDOT, 2020).

The analysis and modeling conducted for the entire pipeline determined that the ratio of site casualties to societal risk was 0.09, which is substantially less than the significant threshold of 1.0 (Quest, 2008). Therefore, the risk of an unintentional release occurring on or near the Project site, which represents a much smaller segment of the total pipeline than the length analyzed for the Chevron pipeline, would be even less. In addition, a risk assessment was conducted for the Seal Island Estates development located just north of the Project site, along Seal Island Drive, which is also immediately adjacent to the existing petroleum pipelines. The findings of the assessment

concluded that, with conservative assumptions, the level of risk was substantially less than one in one million and therefore determined to be acceptable (Quest, 2008). Therefore, the potential for the Project to create a significant hazard in the event of accidental upset due to its proximity to existing pipelines is less than significant.

In addition, the preliminary proposed grading plan calls for placement of fill and excavation over the existing pipelines, beneath or in close proximity to Central Avenue, which generally defines the northeast edge of the proposed development area (Milestone, 2020). Proposed elevating and widening of Central Avenue is currently anticipated to involve up to 17 feet of additional fill and up to 3.5 feet of excavation. If not engineered appropriately, these construction activities could cause excessive stresses on these pipelines which were not originally designed for this grading scenario. However, a recent geotechnical evaluation of the fill placement provided a preliminary conclusion that the proposed grading would not damage the pipelines (Milestone, 2020; Chen, 2020). This conclusion, however, is predicated on preliminary subsurface data and the report determined that a final design level design-level engineering analysis based on supplemental subsurface investigations would be necessary to verify the geotechnical conditions relative to pipeline locations to verify pipeline safety (Milestone, 2020; Chen, 2020). The conclusions and recommendations of the Milestone report are reflected in **Mitigation Measure HAZ-2**. Abiding by the analyses and conclusions of the Milestone 2020 report, which were developed using a conservative methodology, will reduce the risk of damage to the pipelines. Furthermore, incorporating geotechnical measures (e.g. use of lightweight fill, protection barriers, etc.) could be implemented to further reduce risk of damage to the pipelines. A design-level geotechnical report that would include the engineering analysis for pipeline safety would be required for the proposed project by **Mitigation Measure GEO-2**.

With implementation of this mitigation measures, the potential impact related to pipeline safety from grading changes would be less than significant.

Mitigation Measure HAZ-2: The Project shall ensure the following fill and excavation parameters are met to reduce the risk of damage to pipelines:

- 1) Before the commencement of any grading activities, the tops of the five pipelines shall be accurately located on site, and confirmed to be a minimum of 6 feet below the existing ground surface. If it is determined that the any pipeline top is less than six feet below the surface, and will be at risk of impact during proposed grading excavation, one of the following additional safety measures shall be undertaken: deepening the pipeline, providing mechanical protection such as steel or concrete barriers, or elevating the proposed final road elevation.
- 2) Maximum fill heights over the Santa Fe Pacific Partners L.P. (“SFPP”); Kinder Morgan Energy Partners, L.P (“KMP”); and Crimson-Chevron KLM (“KLM”) and Chevron pipelines shall exert a calculated stress of more than what the pipelines can safely tolerate, as determined by a professional engineer in accord with applicable industry standards and safety regulations based on observed pipe material and other factors
- 3) Prior to final design and construction, a refined analysis of field determined bay mud thickness and bay mud consolidation properties shall be conducted. Though not

anticipated, if bay mud is found to exert a calculated stress of more than what the pipeline can safely tolerate, as determined by a professional engineer in accord with applicable industry standards and safety regulations based on observed pipe material and other factors, then one or both of the following additional safety measures shall be undertaken: reduce proposed fill thickness or use lightweight fill such as cellular concrete or Geofam encasement (or its equivalent).

- 4) The as-built burial depths of the pipelines and the final proposed subgrade elevations shall result in all pipelines having a minimum burial depth in accord with prevailing regulatory code or pipe owner requirement, whichever is more stringent. If any pipeline does not have a cover in accordance with regulatory minimums, one of the following additional safety measures shall be undertaken: deepening the pipeline, providing mechanical protection such as steel or concrete barriers, or elevating the proposed final road elevation.

Significance after Mitigation: Less than Significant.

Airport Hazard

Impact HAZ-4: The Project site is within the Contra Costa County Airport Land Use Plan and the Buchanan Field Airport Influence Area, and could result in a safety hazard or excessive noise for people residing in the area. (Criterion e) (*Less than Significant, No Mitigation Required*)

The Project site is located approximately 1.3 miles northwest of the Buchanan Field Airport. Also, the Project site is located within the Buchanan Field Airport Influence Area, but is not located within a safety zone or within a composite noise contour as depicted in the Contra Costa County Airport Land Use Compatibility Plans. Prior to Project approval by the County, the proposed Project would be required to submit proposed Project plans to the ALUC to assess whether the development is compatible with the *Contra Costa County Airport Land Use Compatibility Plan*, as discussed in Section 4.9, *Land Use and Planning*, in this chapter. The proposed Project would not result in a safety hazard for people residing in the area and impacts would be less than significant.

Mitigation: None required.

Wildland Fires

Impact HAZ-5: The Project would not 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. (Criterion g.) (*Less than Significant, No Mitigation Required*)

The proposed Project is located in an area determined by ABAG to be a wildland urban interface fire threatened area. The Project site is currently undeveloped land and includes a prominent hill towards the western boundary of the site with the majority of the Project site sloping off to the east. Vegetation includes some trees, but is mostly covered by grasses and weeds. Pondered areas and wetlands cover the easterly portions of the Project site. However, the Project is located in an urbanized area and is surrounded by residential and industrial development.

Parts of the Project site currently show signs of illegal motocross activity that poses a fire threat from vehicles traveling over dry vegetation, where hot undercarriages could ignite grass, and improperly discarded smoking materials. The Project proposes development of single-family homes with a 3.8-acre neighborhood park, two open space parcels, and retention of the hilltop, which would remove the areas where illegal use has occurred. Additionally, the proposed Project would comply with regulations in the Fire Code to provide adequate emergency access. Further, the Project site mapped in a non “Very High Fire Hazard Severity Zone” (VHFHSZ) by CAL FIRE (Local Responsibility Area); the nearest VHFWSZ is located more than 2.5 miles west of the Project site. Therefore, any impact regarding exposure or structures to a significant risk of loss, injury or death involving wildland fires would be less than significant.

Mitigation: None required.

Cumulative Impacts

Impact C-HAZ-1: The Project, in conjunction with cumulative development, would not result in cumulative impacts related to hazards and hazardous materials to which the Project would have a cumulatively considerable contribution. (All Criteria) (*Less than Significant, No Mitigation Required*)

Geographic Context

The cumulative geographic context for hazardous materials for the Project consists of the Project site and its immediately adjacent area. This is because impacts relative to hazards and hazardous materials are typically local or site-specific and depend on the nature and extent of the hazardous materials release and existing and future soil and groundwater conditions. For example, hazardous materials incidents tend to be limited to a smaller more localized area surrounding the immediate spill location and extent of the release, and could only be cumulative if two or more hazardous materials releases spatially overlapped.

Cumulative Analysis

Implementation of the Project, combined with cumulative past, present and other reasonably foreseeable development in the vicinity, as specified in Section 4.0, *Introduction to the Environmental Analysis* (4.0.6, Cumulative Analysis), could result in potentially significant project-level hazardous material impacts related to construction activities. The Project development, with implementation of the identified Mitigation Measures HAZ-1 and HAZ-2, in addition to Mitigation Measure GEO-2, however, would ensure the Project would make no considerable contribution to a cumulative impact to the public or the environment within the vicinity of the Project site.

Other foreseeable development within the area would increase the number of people in proximity to these uses, thereby increasing their risk of exposure. However, the potential for accidental upset during construction and the handling of limited quantities of hazardous materials associated with residential use, and the potential release of hazardous materials associated with heavy industry and other land uses requiring the use, transport, and storage of those materials (including railways and pipelines) would be required to comply with its applicable regulatory framework. This includes federal and State regulatory requirements for transporting hazardous materials or cargo (including fuel and other materials used in all motor vehicles) on public roads (Cal EPA and Caltrans) or disposing of hazardous materials (Cal EPA, DTSC, Contra Costa County). Overall, the contribution from the proposed Project to any cumulative hazardous materials impact would not be considerable. Therefore, the proposed Project's potential to contribute to a significant cumulative hazardous materials effect in the County would not be cumulatively considerable. The impact would be less than significant.

Mitigation: None required.

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