

2.10 Hazardous Waste/Materials

2.10.1 Regulatory Setting

Hazardous materials, including hazardous substances and wastes, are regulated by many State and federal laws. Statutes govern the generation, treatment, storage and disposal of hazardous materials, substances, and waste, and also the investigation and mitigation of waste releases, air and water quality, human health, and land use.

The primary federal laws regulating hazardous wastes/materials are the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, and the Resource Conservation and Recovery Act (RCRA) of 1976. The purpose of CERCLA, often referred to as “Superfund,” is to identify and to clean up abandoned contaminated sites so public health and welfare are not compromised. The RCRA provides for “cradle-to-grave” regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition to the acts listed above, Executive Order 12088, Federal Compliance with Pollution Control Standards, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

California regulates hazardous materials, waste, and substances under the authority of the California Health and Safety Code and is also authorized by the federal government to implement RCRA in the State. California law also addresses specific handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning of hazardous waste. The Porter-Cologne Water Quality Control Act also restricts disposal of wastes and requires cleanup of wastes that are below hazardous waste concentrations but could impact ground and surface water quality. California regulations that address waste management and prevention and cleanup of contamination include Title 22, Division 4.5, Environmental Health Standards for the Management of Hazardous Waste; Title 23, Waters; and Title 27, Environmental Protection.

Worker and public health and safety are key issues when addressing hazardous materials that may affect human health and the environment. Proper management and disposal of hazardous material is vital if it is found, disturbed, or generated during project construction.

2.10.2 Affected Environment

This section is based on the *Initial Site Assessment* (March 2019) for the proposed project.

2.10.2.1 Field Survey Methodology

The records review included the review of databases provided by State Water Resources Control Board and State of California Department of Toxic Substances Control (DTSC). The records provided available information from the regulatory agencies regarding hazardous substance use, storage, or disposal within and in the vicinity of the Study Area¹. In addition, the *Draft Relocation Impact Report* (2019) was also reviewed to determine if any full and/or partial acquisitions are potentially of concern within the project limits. Any hazardous materials potentially of concern within the project limits are also discussed in this section.

2.10.2.2 Recognized Environmental Concerns within the Project Limits

Impacts Associated with Proposed Acquisition Parcels

Soil and/or groundwater contamination has been identified at properties that are proposed to be either fully or partially acquired as part of the Build Alternatives (including Design Option B). These properties are identified in Table 2.10.1, below.

Table 2.10.1: Potential Property Acquisitions with Hazardous Waste Concern

APN	Address	Business Name	Type of Operation	Acquisition Type	Type of Concern ¹
616-033-02	23891 Bridger Rd., Lake Forest	Chevron Gasoline Station	Gasoline Service	Full Acquisition – Build Alternative 2	Closed groundwater case; diesel and gasoline contaminations. It is likely that contaminated soil and groundwater may be encountered in the area during construction of the Build Alternative.
621-052-02	24012 Avenida de la Carlota, Laguna Hills	Retail Store, (Former Arco Gasoline Station)	Commercial	Full Acquisition – Build Alternative 4 (including Design Option B)	Closed groundwater case; gasoline contamination. It is likely that contaminated soil and groundwater may be encountered in the area during construction of the Build Alternative.
621-051-35	24196 Laguna Hills Mall, Laguna Hills	Firestone Complete Auto Care	Auto Repair	Partial Acquisition – Build Alternative 4 (including Design Option B)	Due to the usage of the property, potential contaminated soil may be encountered in the area during construction of the Build Alternative.

Sources: Initial Site Assessment (March 2019)

APN = Assessor's Parcel Number

Note: Refer to Section 2.2 Community Impacts section for locations of the Potential Property Acquisitions.

¹ The Study Area includes the maximum disturbance limits and parcels immediately adjacent to the limits.

2.10.2.3 Other Hazardous Waste/Materials Concerns

Aerially Deposited Lead

Leaded gasoline was used as a vehicle fuel in the United States through the 1980s. Lead emitted from vehicles until this time has adversely affected soils along roadways. The lead resulting from vehicle and industrial activities is termed aerially deposited lead (ADL). Surface and near-surface soils along heavily used roadways are likely to contain elevated lead concentrations. Therefore, the potential for lead contamination exists within exposed soils along Interstate 5 (I-5) due to ADL.

Asbestos-Containing Materials

The United States Environmental Protection Agency banned the use of asbestos in many building products by the late 1970s. ACMs represent a concern when they are subject to damage that results in the release of fibers. ACMs may be found in building materials such as rails, bearing pads, support piers, and expansion joint material in bridges, asphalt, and concrete. Based on the construction dates of the bridges and some structures that might be acquired and demolished for the Build Alternatives (including Design Option B) within the project limits, ACMs may be present in some of the bridges and structures within the project limits.

Lead-Based Paint

There may be lead-based paint (LBP) in buildings, structures and bridge structures constructed prior to 1979 within the Study Area and on properties that are proposed for full and partial acquisitions for the Build Alternatives. Therefore, LBP will pose a concern to the Build Alternatives.

Lead Chromate

Lead chromate in yellow paint used for traffic striping prior to 1997 typically exceeds the hazardous waste criteria. It is possible for elevated lead chromate concentrations to be present within paint used in striping and other thermoplastic materials used along I-5 and associated roads. Yellow striping paint potentially containing chromium and/or lead was observed within the project limits.

Known Groundwater Contamination

Because contaminated groundwater is reported beneath the potential property acquisitions with hazardous waste concerns, especially the gasoline stations listed in Table 2.10.1 and offsite of these gasoline stations, there would be potential for encountering contaminated groundwater and any unknown hazardous materials in groundwater during construction of the Build Alternatives (including Design Option B) if dewatering would be required.

Polychlorinated Biphenyls

Polychlorinated biphenyls (PCBs), classified as chlorinated hydrocarbons, were manufactured from 1929 until their production was banned in 1979. PCBs were used in hundreds of industrial and commercial applications due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties. Equipment that might contain PCBs includes electrical transformers and capacitors, motor oil and hydraulic fluid, and thermal insulation material (e.g., fiberglass and felt). The

properties within the project limits were developed during 1960s and 1970s; therefore, the electrical equipment within the project limits may contain PCBs.

2.10.3 Environmental Consequences

2.10.3.1 Temporary Impacts

As described in the following sections, temporary impacts related to hazardous materials/wastes during construction of the Build Alternatives could occur within the project limits for both the Build Alternatives and Design Option B, and on specific individual properties identified for full or partial acquisition.

Build Alternatives (Alternatives 2 and 4 [including Design Option B])

Impacts Associated with Proposed Acquisition Parcels

Alternative 2 would involve the disturbance of potentially contaminated soil and/or groundwater at property (Assessor's Parcel No. [APN] 616-033-02). Similar to Alternative 2, Alternative 4 (including Design Option B) would involve the disturbance of potentially contaminated soil and/or groundwater at properties (APNs 621-052-02 and 621-051-35). Minimization measure HAZ-1, discussed later in this section, applies to both Build Alternatives 2 and 4 (including Design Option B) and would avoid and/or minimize potential impacts related to impacts associated with acquisitions during construction of the Build Alternatives (including Design Option B).

Other Hazardous Waste/Materials Concerns

Potential hazardous materials impact for both Build Alternatives (including Design Option B) are identical, are described in detail below, and include ADL, ACMs, LBP, lead chromate, unknown groundwater contamination, PCBs and unknown contaminants. These potential hazardous waste impacts will be addressed through the minimization measures and Project Features discussed below.

Aerially Deposited Lead

ADL from the historical use of leaded gasoline exists along roadways throughout California. There is the likely presence of soils with elevated concentrations of lead as a result of ADL deposition on the State Highway System right-of-way within the project limits. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the ADL Agreement between the California Department of Transportation (Caltrans) and the Department of Toxic Substances Control (DTSC), July 2016. This ADL Agreement allows such soils to be safely reused within the project limits as long as all requirements of the ADL Agreement are met.

As part of the HAZ-2 discussed later in this section, sampling would be undertaken during final design to confirm whether ADL levels in the affected soil are within the limits identified in the ADL Agreement or if off-site transport of the affected soil would be required.

Asbestos-Containing Materials and Lead-Based Paint

ACMs and LBP may be present in some of the bridges and structures that will be modified or demolished within the project limits. Removal or disturbance of ACMs and LBP could affect construction workers and the surrounding environment.

With implementation of minimization measure HAZ-3, potential effects associated with encountering ACM and LBP within the project limits would be addressed.

Lead Chromate

Yellow striping and pavement-marking materials (paint, thermoplastic, permanent tape, and temporary tape) potentially containing elevated concentrations of chromium and or lead was observed within the current right-of-way within the project limits. Removal of these materials during construction could affect construction workers and the surrounding environment. The following Project Feature, PF-HAZ-1, would address this impact:

PF-HAZ-1 Caltrans Standard Specifications Section 14-11.12: Should construction activities result in the disturbance of traffic striping and pavement-marking materials, the generated wastes would be disposed of at an appropriate, permitted disposal facility as determined by a lead specialist.

Known Groundwater Contamination

Some dewatering may be required as part of excavating the footing for the pile driving for the proposed bridge structure and/or of excavation at Potential Property Acquisitions with Hazardous Waste Concerns, especially the two gasoline stations, listed in Table 2.10.1, and their associated offsite contaminated groundwater plume. There is potential to encounter unknown hazardous materials in groundwater. The following Project Feature, PF-HAZ-2, would address this potential impact:

PF-HAZ-2 Caltrans Standard Specification Section 13-4.03G: Controls dewatering work and discharge activities associated with dewatering.

Polychlorinated Biphenyls

As discussed earlier, the Study Area was developed during the 1970s; therefore, the electrical equipment within the Study Area may contain PCBs. Any leaking transformers and/or electrical equipment within the Study Area are considered a PCB hazard unless tested and confirmed otherwise, and must be handled accordingly. Implementation of Ionization Measure HAZ-4 would address this impact.

Unknown Contaminants

The potential for hazardous waste to be encountered during construction with respect to the petroleum pipeline or historical use would be addressed through compliance with the Unknown Hazards Procedures in Caltrans Construction Manual (July 2017); see Project Feature PF-HAZ-3 below.

PF-HAZ-3 Caltrans Standard Specification Section 13-4.03E (2) and Unknown Hazards Procedures in Caltrans Construction Manual (July 2017): During construction, the construction contractor will monitor soil excavation for visible soil staining, odor, and the possible presence of unknown hazardous material sources. If hazardous material contamination or sources are

suspected or identified during project construction activities, the construction contractor will be required to cease work in the area and to have an environmental professional evaluate the soils and materials to determine the appropriate course of action required, consistent with the Unknown Hazards Procedures in Chapter 7 in the Caltrans' Construction Manual (July 2017).

With implementation of the Project Features discussed above, all potential impacts related to hazardous materials would not be adverse.

No Build Alternative

The No Build Alternative would not involve ground or structure disturbance; therefore, no temporary impacts related to hazardous waste materials would occur.

2.10.3.2 Permanent Impacts

Build Alternatives (Alternatives 2 and 4 [including Design Option B])

Routine maintenance activities during operation of the Build Alternatives (including Design Option B) would be required to follow applicable regulations with respect to the use, storage, handling, transport, and disposal of potentially hazardous materials. Therefore, the operation of the Build Alternatives (including Design Option B) would not result in adverse impacts related to hazardous waste or materials.

No Build Alternative

The No Build Alternative would not change the existing physical environment; therefore, no permanent impacts would occur. As currently exists, routine maintenance activities would continue and would be required to follow applicable regulations with respect to handling and disposal of potentially hazardous materials.

2.10.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the Project Features as outlined above in this section and the minimization measures as listed below would avoid and/or minimize potential impacts.

HAZ-1 During PA&ED phase, a qualified consultant will prepare a Phase II Site Investigation (SI) work plan for the properties with potential contamination that would be either partially or fully acquired by the proposed project. Caltrans anticipates the SI will be completed during the design phase. These properties include:

Build Alternative 2: APN 616-033-02 (Chevron Gasoline Station), 23891 Bridger Rd., Lake Forest, Full Acquisition

Build Alternative 4 (including Design Option B): APN 621-052-02 (Former Arco Gasoline Station), 24012 Avenida De La Carlota, Laguna Hills, Full Acquisition; and

APN 621-051-35 (Firestone Complete Auto Care), 24196 Laguna Hills Mall, Laguna Hills, Partial Acquisition

The SI will identify any Recognized Environmental Concerns associated with on- or off-site releases and provide appropriate minimization, avoidance, and mitigation measures to prevent unnecessary exposure to contaminants during construction activities. Depending on the results of the SIs, subsequent sampling to determine the presence and/or absence of contaminated soil and/or groundwater or to characterize the extent of contamination on site may be required. The results of these studies will be used as part of the evaluation of any property to be acquired.

- HAZ-2** During early stage of design phase, a Phase II/Site Characterization Specialist should conduct sampling along the project area to determine whether or not contamination is present and if it is within the limits identified in the Caltrans/DTSC ADL Agreement. Results of the sampling would be used to determine the disposal and/or reused methods for the excavated material.
- HAZ-3** An ACM survey and LBP survey will be conducted on any structures or bridges that are proposed to be modified as a result of this project. The surveys would be conducted during the early stage of the design phase by a certified specialist.
- HAZ-4** Any transformer to be relocated/removed during site construction/ demolition should be conducted under the purview of the local purveyor to identify property-handling procedure regarding PCBs.

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