

2.12 Hazardous Waste/Materials

2.12.1 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 clean up abandoned contaminated sites so that 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 (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 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, wastes, 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 (Porter-Cologne 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 California Code of Regulations 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.

2.12.2 Affected Environment

This section is based on the *Hazardous Waste Initial Site Assessment (ISA)* (December 2022).

2.12.2.1 Field Survey and Record Search Methodology

For purposes of the hazardous waste and materials assessment, the limits of Alternative 4 are considered the Study Area, as it involves highest disturbance among all the Build Alternatives (Alternative 2, 3, and 4). The following were conducted as part of the ISA:

- **Reconnaissance-Level Visits:** On November 18, 2022, a site reconnaissance visit consisting of the observation and documentation of existing conditions within the Study Area and adjacent areas was conducted.
- **Environmental Database Review:** A records search of federal and State environmental databases for the area within approximately 1 mile (mi) of the project segment of I-5 was conducted in October 2022. The search of the National Priority List (NPL) covered an area within 1 mi of the project area.
- **Agency Records Review:** Regulatory information available to the public from the United States Environmental Protection Agency (USEPA), the California Environmental Protection Agency (CalEPA), the California Department of Toxic Substances Control (DTSC) Hazardous Materials Division, the Santa Ana Regional Water Quality Control Board (RWQCB), and the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) was reviewed for Environmental Database Review-generated properties within and adjacent to the existing right-of-way (ROW) for Alternative 4. The RWQCB, the City of Santa Ana, Orange County Public Records, and the Orange County Fire Department were contacted to review archived records for potential Recognized Environmental Condition (REC) sites that did not have adequate information available online.

- **Historical Research:** Aerial photographs, Sanborn Fire Insurance Maps, and historical topographic maps of the area along and in the vicinity of the project segment of Interstate (I) 5 were reviewed.

The site visit and records searches did not identify any RECs that could affect development and/or construction of the Build Alternatives. As noted in the ISA, extensive prior improvements were made to I-5 between 1994 and 2005, including widening and changes to the interchanges and grade separations. It is likely that the I-5 improvements between 1994 and 2005 included hazardous waste investigations and remedial actions that would have mitigated contamination from past releases.

2.12.2.2 Results of the Initial Site Assessment

No RECs were identified within or adjacent to the Study Area that could affect development and/or construction of the Build Alternatives.

There is a possibility for non-ASTM International-scope hazardous materials to be encountered within the Study Area, including aerially deposited lead (ADL), polychlorinated biphenyls (PCBs), and Title 22 metals. Those types of hazardous materials are described below.

Polychlorinated Biphenyls

Pole-mounted or pad-mounted electrical transformers that typically contain PCBs were not readily observed with the Study Area. Electrical transformers present in the vicinity of the Study Area are assumed to be owned and operated by Southern California Edison (SCE). No staining or leaks were observed beneath transformers during the site reconnaissance visit.

Staining, Discolored Soils, and/or Corrosion

No staining, discolored soils, or corrosion were observed within the I-5 ROW during the site reconnaissance visit.

Aerially Deposited Lead

Based on review of historic topographic maps and aerial photographs, the project segment of I-5 was constructed prior to the prohibition of vehicular leaded fuels and has been heavily traveled. Therefore, exposed soils adjacent to paved areas within the I-5 ROW may contain ADL from vehicle exhaust.

Lead Chromate

Yellow pavement traffic markings (thermoplastic and paint) on I-5 and the arterials crossing I-5 potentially contain hazardous levels of lead chromate.

Lead-Based Paint

There may be lead-based paint (LBP) present on the existing bridge structures constructed before 1979 that cross the project segment of I-5.

Asbestos-Containing Materials

The use of asbestos in many building products was banned by the USEPA by the late 1970s. Asbestos-containing materials (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. ACMs were not directly observed within the existing project ROW. However, ACMs could potentially be present in the existing bearing pads of the bridge structures crossing the project segment of I-5 and in the near-surface soils within and adjacent to existing railroad ROW.

Soil and/or Groundwater Contamination

No soil or groundwater contamination has been identified within the Study Area.

Gas and Oil, and Groundwater Monitoring Wells

According to the DOGGR Well Finder database, there are no known active oil and gas wells within the Study Area or the immediate vicinity. Records indicated one plugged oil and gas well at the I-5/State Route (SR) 91 interchange.

According to the ISA prepared for the proposed Project, near-surface groundwater occurs as a large pumping depression from Anaheim municipal water supply extraction at a depth of approximately 50 to 100 feet below ground surface (bgs), centered roughly in the central area of the project area between Euclid Avenue and the Santa Ana River. There is a smaller pumping depression from Santa Ana municipal supply extraction at the southeastern end of the project area where depth to shallow groundwater is approximately 50 to 80 feet bgs.

Other Observations

An existing railroad has been present within the I-5 ROW since prior to 1896. Elevated levels of petroleum hydrocarbons, lead concentrations, and hazardous materials associated with treated wood, as well as herbicide/pesticide residues, are likely to be present within the I-5 ROW soils associated with the railroad. As a result,

active and inactive railroad beds likely have concentrations of petroleum products and lead elevated above natural background conditions.

The Union Pacific Railroad (UPRR) crosses I-5 at the UPRR Underpass (Bridge No. 55-0846, Post Mile 38.50/38.66) in Anaheim, just south of the I-5/West Broadway interchange. The Southern California Regional Rail Authority/Metrolink crosses I-5 at the Lincoln Avenue Underpass (Bridge No. 55-672, Post Mile 32.06/32.07) in Santa Ana, just north of the I-5/SR-55 interchange. The Build Alternatives would not involve activities within 25 feet of these railroad facilities.

2.12.3 Environmental Consequences

2.12.3.1 Temporary Impacts

Build Alternatives (Alternatives 2, 3, and 4)

Temporary impacts related to hazardous materials/wastes during construction could occur within the maximum disturbance limits for Alternative 4, as described in the following sections. It should be noted that since Alternative 4 involves the highest disturbance among all the Build Alternatives, the analysis provided below is for Alternative 4. Alternatives 2 and 3 would also include ground disturbance, but to a lesser extent than Alternative 4 (and Alternative 2 to a lesser extent than Alternative 3 as it only involves ground disturbance for two park-and-ride facilities). Therefore, in order to provide a conservative analysis, the same impacts would apply.

Impacts within the Maximum Disturbance Limits

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 on the State Highway system ROW within the limits of Alternatives 3 and 4. Soil determined to contain lead concentrations exceeding stipulated thresholds must be managed under the July 1, 2016, ADL Agreement between the California Department of Transportation (Caltrans) and the California DTSC. 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 discussed in Section 2.12.2.2, there is the potential for lead contamination to exist within exposed soils along the I-5 ROW due to ADL. Project Feature PF-HAZ-1 specifically requires that ADL studies be conducted along the I-5 ROW within the proposed disturbance limits during final design to determine whether contamination exists in association with ADL.

PF-HAZ-1 A California Department of Transportation (Caltrans) special provision will be included as part of the Project Specifications and Estimates (PS&E) package to ensure proper removal, handling, and disposal of aerially deposited lead (ADL) containing material at a permitted disposal facility or reused per the Soil Management Agreement for Aerially Deposited Lead-Contaminated Soils (Agreement).

Hazardous Materials/Wastes During Construction

Typical hazardous materials anticipated to be used during construction of the Build Alternatives (e.g., solvents, paints, fuels) and hazardous wastes generated during construction would be handled in accordance with applicable federal, State, and local regulations and Caltrans policies regarding the use, storage, handling, disposal, and transport of those materials. As a result, the Build Alternatives would not result in adverse impacts related to the use of hazardous materials or the generation of hazardous wastes during construction.

Polychlorinated Biphenyls

There may be PCBs in pad- and pole-mounted transformers within the maximum disturbance limits for the Build Alternatives. Leaking transformers were not observed during the site reconnaissance visit. No electrical transformers or equipment are anticipated to be removed or relocated under the Build Alternatives. If any leaking transformers are noted during construction of the Build Alternatives, those leaks will be considered a PCB hazard unless tested and confirmed otherwise and must be handled accordingly. Measure HAZ-1 would minimize the effects of PCB hazards during construction of Alternative 4 and is described in further detail in Section 2.12.4 below. As a result of implementing measure HAZ-1, the Build Alternatives would not result in adverse impacts related to PCBs.

Pavement-Marking Materials

Yellow traffic striping and pavement-marking materials (paint, thermoplastic, permanent tape, and temporary tape) that would be removed from the I-5 mainline and ramps during construction of the Build Alternatives may contain elevated concentrations of metals lead chromate. Removal of these materials during construction could affect construction workers and the surrounding environment. However, Project Feature PF-HAZ-2 would ensure this effect is minimal.

PF-HAZ-2 A Caltrans special provision will be included as part of the PS&E package to ensure proper removal, handling, and disposal of the generated traffic striping waste at a permitted disposal facility.

As a result, the Build Alternatives would not result in adverse impacts related to yellow traffic striping and pavement-marking materials.

Asbestos-Containing Materials and Lead Based Paint related to Structures

Based on the construction dates of the structures within the disturbance limits, ACMs and LBP may be present in bridges. Although no bridge structures are expected to be affected by construction of the Build Alternatives, ACMs and LBP represent a concern when they are subject to damage. Project Feature PF-HAZ-3 requires proper testing, monitoring, removal, and disposal of ACMs and LBP.

PF-HAZ-3 A Caltrans special provision will be included as part of the PS&E package to ensure proper removal, handling, and disposal of asbestos-containing materials (ACMs) and lead-based paints (LBPs) at a permitted disposal facility.

As a result, the Build Alternatives would not result in adverse impacts related to ACMs and LBP.

Discovery of Unknown Hazardous Material Sources

During construction of the Build Alternatives, there is the potential for discovery of unknown hazards. Measure PF-HAZ-4 will ensure impacts related to unknown hazards are minimal.

PF-HAZ-4 During excavation, 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 of the Caltrans *Construction Manual* (February 2021). Adequate protection for construction workers will be provided with the implementation of a Health and Safety Plan and Soil Management Plan.

As a result, the Build Alternatives would not result in adverse impacts related to unknown hazards.

Treated Wood Waste

The Study Area could contain treated wood waste from existing and historical railroad usage, guardrail posts, and utility poles in the maximum disturbance limits. Treated wood waste, including wood railroad ties, power poles, or guardrail posts (including previously salvaged treated wood) has the potential to contain hazardous materials. Project Feature PF-HAZ-5 requires proper management or disposal of treated wood waste if removed during construction of Alternatives 3 and 4.

PF-HAZ-5 The California Department of Toxic Substances Control (DTSC) Hazardous Materials Division guidance for the Management of Treated Wood Waste will be included as part of the PS&E package to ensure proper management or disposal of treated wood waste in accordance with current DTSC guidance.

As a result, Alternatives 3 and 4 would not result in adverse impacts related to treated wood waste.

Potentially Contaminated Soil and/or Groundwater

No soil or groundwater contamination has been identified within the Study Area. However, as discussed in Section 2.9, Water Quality and Storm Water Runoff, groundwater dewatering during construction may be required. If temporary excavations require dewatering, there is the potential of discharging pollutants (primarily by entraining silt and clay, but also from encountering chemicals and other contaminants) through release of construction water directly to the environment. As specified in Project Feature PF-WQ-4 in that section, if dewatering is required, construction site dewatering will comply with one of two orders or any subsequent orders that apply to groundwater discharges to surface waters within the Santa Ana Region, depending on the depth and quality of the groundwater.

As a result, the Build Alternatives would not result in adverse impacts related to contaminated soil and/or groundwater.

No Build Alternative (Alternative 1)

The No Build Alternative would not result in the disturbance or removal of any soils, groundwater, or structures and, therefore, would not result in temporary impacts related to hazardous waste and materials.

2.12.3.2 Permanent Impacts

Build Alternatives (Alternatives 2, 3, and 4)

Routine maintenance activities during operation of the Build Alternatives 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 would not result in adverse impacts related to hazardous waste or materials.

No Build Alternative (Alternative 1)

The No Build Alternative would not change the existing physical environment, and therefore, there would be no permanent impacts related to hazardous waste under this alternative. Similar to the Build Alternatives, routine maintenance activities would continue under the No Build Alternative, including compliance with applicable regulations regarding the handling and disposal of potentially hazardous materials.

2.12.4 Avoidance, Minimization, and/or Mitigation Measures

The Build Alternatives will incorporate Project Features PF-HAZ-1 through PF-HAZ-5 outlined above in Section 2.12.3.1 to help address potential impacts. In addition, minimization measure HAZ-1 will also be implemented to ensure the Build Alternatives would not result in adverse impacts related to PCBs.

HAZ-1 Electrical transformers and equipment will be evaluated during the PS&E phase for polychlorinated biphenyl (PCB) content or releases if transformers and/or equipment will be removed or relocated as part of the project. Leaking transformers observed during construction of the project will be tested for PCBs and handled in accordance with all applicable regulations.

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