

3.10 Hazardous Materials and Wastes

This section provides a summary of the existing hazardous materials and wastes conditions in the resource study area (RSA) and describes the potential for hazardous materials and wastes impacts resulting from construction and operation of the Bakersfield to Palmdale Project Section (B-P) of the California High-Speed Rail (HSR) System. For the purposes of this analysis, hazardous materials include, but are not limited to, hazardous substances, hazardous wastes, and petroleum products that, if released, are harmful to human health and the environment.

Summary of Results

Construction of the B-P Build Alternatives, the César E. Chávez National Monument Design Option [CCNM Design Option], the Refined CCNM Design Option, the portion of the Fresno to Bakersfield Locally Generated Alternative [F-B LGA] alignment from the intersection of 34th Street and L Street to Oswell Street,¹ stations, or maintenance facilities would result in a temporary increase in the regional transport, use, and disposal of construction-related hazardous materials and wastes. Upset conditions, accidents, or encounters with existing contamination in the environment could occur during construction. Numerous laws, regulations, and ordinances govern the transport, use, storage, and disposal of hazardous materials and are designed to limit the potential for adverse effects. Compliance with federal, state, and local regulations, as well as implementation of standard project impact avoidance and minimization features (IAMF), would avoid or reduce potential impacts. Under the California Environmental Quality Act (CEQA), impacts would be less than significant.

No construction activities would take place on a site on the California Environmental Protection Agency's overall toxic waste sites list (Cortese List). There is one site in the Bakersfield to Palmdale Project Section corridor, U.S. Air Force Plant 42, that has been tentatively identified as a Cortese List site pursuant to Government Code § 65962.5. This parcel covers 5,832 acres of land, but only a portion of the parcel falls within the RSA of the B-P Build Alternatives. The release location is 0.45 mile east of the RSA and due to this distance and that groundwater has not been impacted, the project would not affect this site such that it would create a significant hazard to the public or environment.

Construction activities associated with any B-P Build Alternative, the CCNM Design Option, the Refined CCNM Design Option, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, or station could emit hazardous air emissions or introduce extremely hazardous substances or mixtures. When these activities occur within 0.25 mile of a school, it has the potential to create a health or safety hazard to students or employees. Mitigation would be required to avoid effects associated with the use or handling of acutely hazardous materials during construction near schools. With mitigation, impacts would be less than significant under CEQA.

Operational use of hazardous materials would be minimal at the stations and along the alignment. Use of hazardous materials during project operations would be focused at the maintenance

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The presence or release of hazardous materials on construction sites can expose workers, residents, and ecosystems to contaminants that may compromise their health. As a result, evaluation of the potential for rail projects to impact or be impacted by hazardous material sites is required by regulation. Encountering hazardous waste during construction is costly and can affect the cost-effectiveness of the project.

¹ The portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street is analyzed and considered as part of the HSR Bakersfield to Palmdale Project Section under all of the B-P Build Alternatives. The *Fresno to Bakersfield Section Final Supplemental EIR* (Authority 2018) approved the F-B LGA alignment from the City of Shafter through the Bakersfield F Street Station; however, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street has not been approved. As such, the approval of this portion of the alignment will occur separately as part of the approval of the Bakersfield to Palmdale Project Section.

facilities and would be governed by regulations that prescribe the proper use and disposal of such materials as well as project IAMFs. Under CEQA, impacts would be less than significant.

3.10.1 Introduction

The *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System (Statewide Program EIR/EIS)* (California High-Speed Rail Authority [Authority] and Federal Railroad Administration [FRA] 2005) concluded that the project would have a less than significant impact on hazardous materials and hazardous wastes when considered on a system-wide basis. However, it also acknowledged that, at the program level of study, it was not possible to identify specific hazardous material impacts or the nature and severity of contamination at specific sites. The Authority committed to project-level analysis that includes identifying and evaluating sites of potential environmental concern (PEC) through database searches, review of land use, site reconnaissance, and review of regulatory agency records. The Authority also committed to implementation IAMFs that avoid or reduce potential effects.

The consideration of past and current land uses in the RSA is key to understanding the potential for hazardous materials or waste contamination because particular types of land use are more prone to specific contamination concerns. In this EIR/EIS, Section 3.17, Cultural Resources discusses historical land uses, and Section 3.13, Station Planning, Land Use, and Development provides information on current land uses. Section 3.3, Air Quality and Global Climate Change, Section 3.6, Public Utilities and Energy, and Section 3.9, Geology, Soils, Seismicity, and Paleontological Resources present additional information regarding hazardous materials and wastes, including hazardous air pollutants, oil and natural gas resources, exposure to hazardous gas and hazardous minerals, and abandoned mines. Section 3.11, Safety and Security, discusses emergency response preparedness in the event of leaks, spills, or accidents involving hazardous materials or wastes; potential hazards due to a design feature or incompatible uses; and potential for inadequate emergency access. The *Bakersfield to Palmdale Project Section Hazardous Materials and Wastes Technical Report* (Authority and FRA 2017) provides comprehensive information on hazardous materials and hazardous wastes, the investigation process, and detailed elements of the affected environment. For information on how to access and review technical reports, please refer to the Authority's website at www.hsr.ca.gov.

3.10.2 Laws, Regulations, and Orders

This section identifies the federal, state, and regional regulations that pertain to hazardous materials and wastes in the RSA. Local policies are included in Volume 2, Appendix 2-H, of this EIR/EIS.

3.10.2.1 Federal

Federal Railroad Administration Procedures for Considering Environmental Impacts (64 Federal Register 28545)

The FRA *Procedures for Considering Environmental Impacts* states that an EIS should consider possible impacts on public safety including any impacts related to hazardous materials.

Resource Conservation and Recovery Act (42 U.S. Code § 6901 et seq.)

The Resource Conservation and Recovery Act regulates the identification, generation, transportation, storage, treatment, and disposal of solid, hazardous materials and hazardous wastes.

Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S. Code § 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. This act established the National Priorities List of contaminated sites and the "Superfund" cleanup program.

Clean Air Act (42 U.S. Code § 7401 et seq.)

The Clean Air Act protects the public from exposure to airborne contaminants known to be hazardous to human health. Under the Clean Air Act, the U.S. Environmental Protection Agency (USEPA) established National Emissions Standards for Hazardous Air Pollutants, which includes regulations on asbestos, among other air pollutants.

Clean Water Act—National Pollutant Discharge Elimination System (§ 402(p)) (33 U.S. Code Section 1342 (p))

The Clean Water Act regulates discharges and spills of pollutants, including hazardous materials, to surface waters and groundwater.

Safe Drinking Water Act (42 U.S. Code § 300(f) et seq.)

The Safe Drinking Water Act regulates discharges of pollutants to underground aquifers and establishes standards for drinking water quality.

Toxic Substances Control Act (15 U.S. Code § 2601 et seq.)

The Toxic Substances Control Act regulates manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. It addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCB), asbestos-containing materials (ACM), and lead-based paint.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act regulates worker safety and provides standards for safe workplaces and work practices, including those relating to hazardous materials handling. It also regulates lead and asbestos as they relate to employee safety to reduce potential exposure.

Federal Insecticide, Fungicide and Rodenticide Act (7 U.S. Code § 136 and 40 Code of Federal Regulations Parts 152.1 to 171)

The Insecticide, Fungicide, and Rodenticide Act regulates the manufacturing, distribution, sale, and use of pesticides.

Hazardous Materials Transportation Act (49 U.S. Code § 5101 et seq. and 49 Code of Federal Regulations Parts 101, 106, 107, and 171–180)

The Hazardous Materials Transportation Act regulates the transport of hazardous materials by motor vehicles, marine vessels, and aircraft.

Hazardous Materials Transportation Uniform Safety Act of 1990 (Public Law 101–615)

The Hazardous Materials Transportation Uniform Safety Act regulates the safe transport of hazardous material intrastate, interstate, and for foreign commerce. The statute includes provisions to encourage uniformity between different state and local highway routing regulations, to develop criteria for the issuance of federal permits to motor carriers of hazardous materials, and to regulate the transport of radioactive materials.

Emergency Planning and Community Right to Know Act (42 U.S. Code § 11001 et seq. and 40 Code of Federal Regulations Part 350.1 et seq.)

The Emergency Planning and Community Right to Know Act regulates facilities that use hazardous materials in quantities that require reporting to emergency response officials.

Federal Compliance with Pollution Control (U.S. Presidential Executive Order 12088)

Presidential Executive Order 12088, issued in 1978, requires federal agencies to take necessary actions to prevent, control, and abate environmental pollution from federal facilities and activities under control of federal agencies.

3.10.2.2 State

Well Safety Devices for Critical Wells (California Code of Regulations, Title 14, § 1724.3)

This regulation governs safety devices required on “critical wells” within 100 feet of an operating railway.

Gas Monitoring and Control at Active and Closed Disposal Sites (California Code of Regulations, Title 27, Subchapter 3, § 20917 et seq.)

The requirements set forth in Article 6 of this regulation determine the performance standards and the minimum substantive requirements for landfill gas monitoring and control as they relate to active solid waste disposal sites and to proper closure, post-closure maintenance, and ultimate reuse of solid waste disposal sites. These ensure that public health, safety, and the environment are protected from pollution generated by the disposal of solid waste.

Closure and Post-Closure Maintenance of Landfills (California Code of Regulations, Title 27, Subchapter 5)

This regulation provides post-closure maintenance guidelines, including requirements for an emergency response plan and site security at closed landfills. It regulates post-closure land use by requiring the protection of public health and safety and the built environment, and the prevention of gas explosions. Construction on the site must maintain the integrity of the final cover, drainage, and erosion control systems, and of the gas monitoring and control systems. All post-closure land use within 1,000 feet of a landfill site must be approved by the local enforcement agency.

California Public Resources Code § 21151.4

This code requires the lead agency to consult with any school district with jurisdiction over a school within 0.25 mile of the project about potential impacts on the school if the project might reasonably be anticipated to emit hazardous air emissions or to handle an extremely hazardous substance or a mixture containing an extremely hazardous substance.

Porter-Cologne Water Quality Control Act (California Water Code, § 13000 et seq.)

The Porter-Cologne Water Quality Control Act regulates water quality through the State Water Resources Control Board and regional water quality control boards. It provides oversight of water monitoring and contamination cleanup and abatement.

Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code, § 25500 et seq.)

This section of the California Health and Safety Code requires facilities using hazardous materials to prepare hazardous materials business plans.

Hazardous Waste Control Act (California Health and Safety Code, § 25100 et seq.)

This act is similar to the federal Resource Conservation and Recovery Act in that it regulates the identification, generation, transportation, storage, and disposal of materials deemed hazardous by the State of California.

Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health and Safety Code, § 25249.5 et seq.)

The Safe Drinking Water and Toxic Enforcement Act is similar to the federal Safe Drinking Water Act and Clean Water Act in that it regulates the discharge of contaminants to groundwater.

Cortese List Statute (California Government Code, § 65962.5)

This regulation requires the California Department of Toxic Substances Control to compile and maintain lists of potentially contaminated sites throughout the state, and includes the Hazardous Waste and Substances Sites List. The overall list is called the “Cortese” list.

California Occupational Safety and Health Act

The California Occupational Safety and Health Act is similar to the federal Occupational Safety and Health Act in that it regulates worker safety, including as it relates to hazardous materials handling.

California Code of Regulations Title 22, Division 4.5

California Code of Regulations Title 22, Division 4.5, contains the Environmental Health Standards for the Management of Hazardous Waste, which includes California waste identification and classification regulations. California Code of Regulations Title 22, Chapter 11, Article 3, “Soluble Threshold Limits Concentrations/Total Threshold Limits Concentration Regulatory Limits,” identifies the concentrations at which soil is determined to be a California hazardous waste.

3.10.2.3 *Regional and Local*

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

California Senate Bill 1082, passed in 1993, created the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program, or “Unified Program.” The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. The California Environmental Protection Agency and other state agencies set the standards for the programs and local governments implement the standards. The local implementing agencies are called Certified Unified Program Agencies and they regulate or oversee the following:

- Hazardous materials business plans
- California accidental release prevention plans or federal risk management plans
- Operation of underground storage tanks and above-ground storage tanks
- Universal waste and hazardous waste generators/handlers
- Onsite hazardous waste treatment
- Inspections, permits, and enforcement of the permits
- Proposition 65 reporting²
- Emergency response

The Certified Unified Program Agencies in the RSA include the Kern County Public Health Services Department, Environmental Health Division; the City of Bakersfield Fire Department Fire Prevention Division; and the Los Angeles County Department of Public Works. The Los Angeles Department of Public Works is a Unified Program Agency and Participating Agency to the Los Angeles County Certified Unified Program Agency, which is managed by the Los Angeles County Fire Department Health Hazardous Materials Division.

Beyond the statewide regulations, Certified Unified Program Agencies and local agencies administer policies and regulations found in a number of local and regional plans, including general plans and municipal codes that address hazardous materials and wastes (Section 3.10.3). Policies and regulations serve as guides for the appropriate use of potentially hazardous materials, the cleanup of contaminated sites, and the preparation of emergency response plans.

Local Air Quality Management District Regulations

The Bakersfield to Palmdale Project Section passes through the jurisdiction of three air quality management districts: the San Joaquin Valley Air Pollution Control District, the Eastern Kern Air Pollution Control District, and the Antelope Valley Air Quality Management District. The air quality

² Proposition 65 is a California, voter-approved initiative that requires the state to publish a list of chemicals known to cause cancer or birth defects or other reproductive harm and requires businesses to notify Californians about significant amounts of chemicals in the products they purchase and use.

management districts develop and enforce regulations based on the measures identified in their clean air plans, such as regulations controlling construction dust.

3.10.3 Regional and Local Policy Analysis

The HSR project is an undertaking of the Authority in its capacity as a state agency and representative of a federal agency. Therefore, the HSR project is not subject to regional or local plans or policies. Council on Environmental Quality and Authority regulations, however, require the discussion of any inconsistency or conflict of a proposed action with regional or local plans and laws. Where inconsistencies or conflicts exist, the Council on Environmental Quality and the Authority require a description of the extent of reconciliation and the reason for proceeding if full reconciliation is not feasible (Code of Federal Regulations Title 40, Part 1506.2(d), and 64 *Federal Register* 28545, 14(n) (15)). The CEQA Guidelines also require that an EIR discuss the inconsistencies between the proposed project and applicable general plans, specific plans, and regional plans (CEQA Guidelines, § 15125(d)), but any inconsistency with such plans is not considered an environmental impact. An analysis of regional and local policies is included to provide the local planning context. Table 3.10-1 summarizes of the project's consistency with the local jurisdictions' planning documents relevant to this project. Appendix 2-H provides a detailed analysis of the project's consistency with specific policies in these documents.

Table 3.10-1 Regional and Local Policy Consistency Analysis Summary

Plan	Segments	Alternatives	Consistency
Kern County Area Plan for Hazardous Materials Incidents (2014)	Unincorporated Kern County/Community of Edison/City of Bakersfield	All B-P Build Alternatives, CCNM Design Option, Refined CCNM Design Option, and Bakersfield Station	Consistent
Metropolitan Bakersfield General Plan (Unincorporated Planning Area) (2007): Safety Element	Unincorporated Kern County/Community of Edison/City of Bakersfield	All B-P Build Alternatives and Bakersfield Station	Consistent
City of Bakersfield Municipal Code (2010)	City of Bakersfield	All B-P Build Alternatives and Bakersfield Station	Consistent
Kern County General Plan Circulation Element and Safety Element (2009)	Unincorporated Kern County	All B-P Build Alternatives, CCNM Design Option, and Refined CCNM Design Option	Consistent
City of Tehachapi General Plan (2012): Safety Element	City of Tehachapi	All B-P Build Alternatives	Consistent
Antelope Valley Areawide General Plan (2015): Conservation and Open Space Element	Unincorporated Los Angeles County	All B-P Build Alternatives	Consistent
Los Angeles County Code of Ordinances (1987)	Unincorporated Los Angeles County	All B-P Build Alternatives	Consistent
City of Lancaster General Plan (2009): Plan for Public Health and Safety Element	City of Lancaster	All B-P Build Alternatives	Consistent
City of Palmdale General Plan (1993): Safety Element	City of Palmdale	All B-P Build Alternatives and Palmdale Station	Consistent

B-P = Bakersfield to Palmdale Project Section

3.10.4 Methods for Evaluating Impacts

For this assessment, hazardous materials are defined as any materials that if released pose a significant, present, or potential hazard to human health and safety or to the environment because of quantity, concentration, or physical and chemical characteristics. Hazardous materials include but are not limited to hazardous substances, hazardous wastes, and any material that a handler or the administering regulatory agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment (California Health and Safety Code, § 25501[o]). Although often treated separately from hazardous materials, petroleum products (including crude oil and refined products such as fuels and lubricants) and natural gas are considered in this analysis because they might also pose a potential hazard to human health and safety if released into the environment (further discussed in Section 3.11, Safety and Security, of this EIR/EIS).

Hazardous wastes include residues, discards, byproducts, contaminated products, or similar substances that exceed regulatory thresholds for toxicity, ignitability, corrosivity, or reactivity. Federal and state regulations identify specific wastes by name that the USEPA has determined are hazardous and has designated them as “listed wastes.”

The analysis considers potential effects based on proximity of the alternatives to known hazardous material and waste release sites. The methodology for the assessment of existing sites of potential environmental concern, or PEC sites, follows portions of *ASTM International 1528-14 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process* (ASTM 2014) and the California Department of Transportation’s *Standard Environmental Reference*, “Chapter 10, Hazardous Materials, Hazardous Waste, and Contamination, Initial Site Assessment” guidance document (California Department of Transportation 2014). Key steps included reviewing regulatory database reports, historical environmental records, and environmental agency files; conducting site reconnaissance from public rights-of-way; and ranking the specific PEC sites in the RSA as having High, Moderate, or Low potential to result in effects. Table 3.10-2 identifies the ranking system applied to the PEC sites in the RSA. The *Bakersfield to Palmdale Project Section Hazardous Materials and Wastes Technical Report* provides a detailed account of these methods (Authority and FRA 2017).

Table 3.10-2 Ranking Applied to Potential Environmental Concern Sites in the Resource Study Area

Site Condition	High	Moderate	Low ¹
Review indicates that contamination is present and will be encountered during construction	X		
Review indicates that contamination is or may be present, but will not be encountered during excavation		X	
Abatement of building materials may be required prior to construction ¹	X		
Review indicates that abatement of building materials will not be required ¹			X

¹ Specific properties belonging in these ranking categories cannot be determined at this time and would be the focus of future parcel-by-parcel due-diligence investigations prior to the property acquisition phase. For the purposes of this analysis, parcels have been ranked according to the presence of structures. Additional surveys are required for properties receiving a HIGH ranking.

This analysis is not intended to represent or satisfy the requirements of a Phase 1 Environmental Site Assessment (ESA), as defined by ASTM International Standard E 1527-13 (ASTM 2013), nor is it intended to satisfy the requirements of an All-Appropriate Inquiry, as defined in Code of Federal Regulations Title 40, Part 312, ASTM International *1528-14 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process* (ASTM 2014). It did not include interviews with property owners, field samples, or analysis or investigation of individual buildings or structures. Therefore, specific properties that would require abatement of building materials could not be determined at this time. For the purposes of this analysis, any property with a

structure present is ranked as High and would require additional surveys prior to the property acquisition phase.

Note that PEC sites do not include those sites where contamination may be present and may be encountered during construction (e.g., sites where hazardous materials or wastes are or were handled, stored, or generated, but no release has been recorded). These areas are generally discussed at the beginning of Section 3.10.5. A detailed hazardous materials assessment of individual parcels that are potentially subject to property transfer or acquisition would occur after completion of the National Environmental Policy Act (NEPA) and CEQA environmental review process, during final design.

3.10.4.1 Definition of Resource Study Area

The RSA is the area in which all environmental investigations specific to hazardous materials and wastes are conducted to determine the resource characteristics and potential impacts of the project section. For the Bakersfield to Palmdale Project Section and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, the RSA for hazardous materials and wastes analysis consists of the project footprint plus a 150-foot radius to account for potential hazardous materials and waste issues on adjacent properties. The RSA also includes the vertical construction profile that encompasses all potential areas requiring excavation, trenching, or other subsurface work that would require assessment of potential hazardous materials contamination.

The database search for PEC sites included a 1-mile radius on either side of the alternative centerlines to cover areas in the ASTM-specified minimum search distances. In this broader area, potentially large or highly contaminated PEC sites were reviewed, such as those included in the Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List, where contamination could extend well beyond the address that was mapped and into the RSA. In this analysis, the database search results did not identify any such sites. Therefore, Section 3.10.5, Affected Environment, and Section 3.10.6, Environmental Consequences, discuss the conditions and potential effects in the RSA, defined as the project footprint and a 150-foot buffer.

To evaluate potential effects on schools in a manner consistent with the CEQA significance criteria, the study area for school locations was increased to include the project footprint plus a 0.25-mile buffer around the footprint. The study area was also increased to 0.25 mile on either side of the project footprint to analyze the potential for a change in land use adjacent to a landfill, consistent with Title 27 of the California Code of Regulations.

3.10.4.2 Impact Avoidance and Minimization Features

As noted in Section 2.4.2.1, High-Speed Rail Project Impact Avoidance and Minimization Features, the B-P Build Alternatives incorporate standardized HSR features to avoid or reduce impacts. These features are referred to as IAMFs. The Authority would implement IAMFs during project design and construction, and, as such, the analysis of effects of the B-P Build Alternatives in this section factors in all applicable IAMFs. Appendix 2-E, Impact Avoidance and Minimization Features, provides a detailed description of IAMFs that are included as part of the B-P Build Alternatives design. IAMFs applicable to hazardous materials and waste are identified below and discussed further under each impact statement in Section 3.10.6, Environmental Consequences.

- **HMW-IAMF#1: Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments.** During the right-of-way acquisition phase, Phase 1 environmental site assessments (ESA) shall be conducted in accordance with standard ASTM methodologies to characterize each parcel. The determination of parcels that require a Phase 2 ESA (e.g., soil, groundwater, soil vapor subsurface investigations) would be informed by a Phase 1 ESA and may require coordination with state and local agency officials. If the Phase 2 ESA concludes that the site is impacted, remediation or corrective action (e.g., removal of contamination, in-situ treatment, or soil capping) would be conducted with state and local agency officials (as necessary) and in full compliance with applicable state and federal laws and regulations.

- **HMW-IAMF#2: Work Barriers.** Prior to Construction (any ground disturbing activities), the Contractor shall verify to the Authority through preparation of a technical memorandum the use of work barriers. Nominal design variances, such as the addition of a plastic barrier beneath the ballast material to limit the potential release of volatile subsurface contaminants, may be implemented in conjunction with site investigation and remediation.
- **HMW-IAMF#3: Undocumented Contamination.** Prior to Construction, the Contractor shall prepare a CMP establishing provisions for the disturbance of undocumented contamination. The plan would be submitted to the Authority for review and approval. Undocumented contamination could be encountered during construction activities and the Contractor would work closely with local agencies to resolve any such encounters and address necessary clean-up or disposal. Copies of all required hazardous material documentation shall be provided within 30 days to the Authority.
- **HMW-IAMF#4: Demolition Plans.** Prior to Construction that involves demolition, the Contractor shall prepare demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would include a plan for lead and asbestos abatement. The plans shall be submitted to the Project Construction Manager (PCM) on behalf of the Authority for verification that appropriate demolition practices have been followed consistent with federal and state regulations regarding asbestos and lead paint abatement.
- **HMW-IAMF#5: Spill Prevention.** Prior to Construction (any ground disturbing activities), the Contractor shall prepare a CMP addressing spill prevention. A Spill Prevention, Control, and Countermeasure (SPCC) plan (or Soil Prevention and Response Plan if the total above-ground oil storage capacity is less than 1,320 gallons in storage containers greater than or equal to 55-gallons) shall prescribe BMPs to follow to prevent hazardous material releases and clean-up of any hazardous material releases that may occur. The plans would be prepared and submitted to the PCM on behalf of the Authority and shall be implemented during Construction.
- **HMW-IAMF#6: Transport of Materials.** During Construction, the Contractor would comply with applicable state and federal regulations, such as the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act. Prior to Construction the Contractor would provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport.
- **HMW-IAMF#7: Permit Conditions.** During Construction, the Contractor would comply with the State Water Resources Control Board Construction Clean Water Act Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. Prior to Construction, the Contractor shall provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs that would be implemented during Construction.
- **HMW-IAMF#8: Environmental Management System.** To the extent feasible, the Authority is committed to identifying, avoiding, and minimizing hazardous substances in the material selection process for construction, operation, and maintenance of the HSR system. The Authority would use an Environmental Management System to describe the process that would be used to evaluate the full inventory of hazardous materials as defined by federal and state law employed on an annual basis and would replace hazardous substances with nonhazardous materials. The Contractor shall implement the material substitution recommendation contained in the annual inventory.
- **HMW-IAMF#9: Hazardous Materials Plans.** Prior to Operations and Maintenance activities, the Authority shall prepare hazardous materials business plans, such as a plan defined in Title 19 California Code of Regulations or a SPCC Plan.

3.10.4.3 Method for Determining Impacts under NEPA

Pursuant to NEPA regulations (Code of Federal Regulations Title 40, Parts 1500–1508), project effects are evaluated based on the criteria of context and intensity. Context refers to the affected environment in which a proposed project occurs. Intensity refers to the severity of the effect, which is examined in terms of the type, quality, and sensitivity of the resource involved; the location and extent of the effect; and the duration of the effect (temporary, short-, or long-term). Beneficial effects are identified and described where applicable. An impact has no effect when there is no measurable effect. An impact would be identified and described according to the context and intensity of effects caused by the project after consideration of mitigation measures. Context and intensity, and implementation of mitigation measures are considered together when determining the magnitude of an impact under NEPA. The effectiveness of measures to avoid, reduce, and/or mitigate effects is considered when determining impact effects under NEPA. Thus, if a measure sufficiently mitigates an adverse effect, there is no effect, or it could be beneficial.

3.10.4.4 Method for Determining Significance under CEQA

CEQA requires that an EIR identify the significant environmental impacts of a project (CEQA Guidelines § 15126). One of the primary differences between NEPA and CEQA is that CEQA requires a threshold-based analysis of the impacts (see Section 3.1.3.4 for further information). Accordingly, Section 3.10.9, CEQA Significance Conclusions, summarizes the significance of the environmental impacts associated with hazardous materials and wastes for the B-P Build Alternatives (including the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street), the CCNM Design Option, and the Refined CCNM Design Option. The Authority is using the following thresholds to determine if a significant impact on hazardous materials and waste would occur as a result of the project. Would the project:

- Create a significant hazard to the public or the environment due to the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment due to the reasonably foreseeable upset and accident conditions that involve the release of hazardous materials into the environment?
- Be located on a site that is on the Cortese List and the project activities that take place on that site have the potential to create a significant hazard to the public or the environment due to the release of hazardous materials or wastes associated with the listed site?
- Emit hazardous air emissions or handles extremely hazardous substances or mixtures containing extremely hazardous substances within 0.25 mile of a school that such use would pose a health and safety hazard to students or employees?

These significance criteria are qualitative and use terms such as “create a significant hazard” and “pose a health and safety hazard.” This methodology is combined with objective information (such as locations of hazardous materials sites and qualitative hazard assessments) to consider whether a significant impact could occur under CEQA.

There are no solid waste landfills within 0.25 mile of the project footprint. Therefore, no potential for release of landfill methane gas that may present an explosion risk to the project exists.

Checklist items in Appendix G of the CEQA Guidelines pertaining to hazards, such as risk from nearby airports or wildland fires and the potential to interfere with an emergency response or evacuation plan are discussed in Section 3.11, Safety and Security.

3.10.5 Affected Environment

This section describes the existing or baseline environmental conditions in the RSA for hazardous materials and wastes. The *Bakersfield to Palmdale Project Section Hazardous Materials and Wastes Technical Report* (Authority 2017) provides additional history and detail.

The affected environment related to hazardous materials and wastes includes portions of the four Cities of Bakersfield, Tehachapi, Lancaster, and Palmdale. It also includes unincorporated areas

and communities in Los Angeles and Kern Counties characterized by agriculture, desert, and mountains. The areas in Bakersfield, Tehachapi, Lancaster, and Palmdale are considered urban or suburban. Most of the unincorporated areas between these cities are considered rural and feature some agricultural land uses.

3.10.5.1 *Fresno to Bakersfield Locally Generated Alternative from the Intersection of 34th Street and L Street to Oswell Street*

The affected environment for the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street is included in Section 3.10.3 of the *Fresno to Bakersfield Section Draft Supplemental EIR/EIS* (Authority and FRA 2017, pg. 3-10.4). However, the affected environment discussions included in Sections 3.10.5.2 through 3.10.5.6 below also reflect this portion of the F-B LGA alignment between the intersection of 34th Street and L Street and Oswell Street.

3.10.5.2 *General Areas of Concern*

General hazardous materials and wastes are present in the RSA due to current and past land uses, such as agriculture and industrial uses. Based on the review of historical topographic maps, historical fire insurance maps, and historical aerial photographs, general areas of concern were identified where any of the following may occur: lead-based paint; ACM; residual pesticides; PCBs; aerially deposited lead; hydrocarbons and solvents; and semi-volatile organic compounds, poly aromatic hydrocarbons, and pesticides. Hazardous materials of general environmental concern that are likely to be encountered in the RSA include ACMs, lead-based paint, aerially deposited lead, pesticides, mercury, and hazardous materials and wastes typically associated with roads, railway and utility corridors, agricultural areas, and industrial facilities. The following discussion summarizes the types of substances and conditions that could be expected for each of the general areas of concern. As discussed in Section 3.10.4, the methodology did not include interviews with property owners, field sampling, or analysis or investigation of individual buildings or structures. Because of this, specific properties where these conditions may be present and may require abatement or special treatment could not be determined at this time. A detailed hazardous materials assessment of individual parcels that are potentially subject to property transfer or acquisition would occur after completion of the NEPA and CEQA environmental review process, during the final design and project implementation.

Potential Building Material Hazardous Substances

The RSA includes industrial, commercial, and residential buildings that may contain asbestos and/or lead. Buildings constructed before 1980 may be contaminated with asbestos. Asbestos is a mineral fiber that was used in a variety of building construction materials for insulation and as a fire-retardant prior to the 1980s. Buildings constructed before 1978 might be contaminated with lead-based paint. Lead used as a pigment and drying agent in paint may still be present on buildings in the RSA. In addition, weathering and routine maintenance of painted structures may have contaminated nearby soils with lead.

Potential Roadway Corridor Hazardous Substances

Yellow paint and tape used for pavement markings on roadways before 1997 might exceed the hazardous waste criteria for lead under Title 22, California Code of Regulations. If so, such materials would need to be disposed in a disposal facility authorized to accept this type of waste. In addition to lead-containing materials, ACM might be found in roadway materials, such as the material used before the 1980s for expansion joints in the pavement.

Leaded gasoline was used as a vehicle fuel in the U.S. from the 1920s until the 1990s (Lee 1991). Although lead is no longer used in gasoline formulations, lead emissions from automobiles are a recognized source of contamination in soils along roadways (i.e., aerially deposited lead). Surface and near-surface soils along heavily used roadways have the potential to contain elevated concentrations of lead. Aerially deposited lead is generally found within 30 feet from the edge of the road pavement (California Department of Toxic Substances Control 2016).

Potential Railway Corridor Hazardous Substances

Contaminants common in railway corridors include wood preservatives (e.g., creosote, arsenic), PCBs, volatile organic compounds, semi-volatile organic compounds, polycyclic aromatic hydrocarbon compounds, petroleum hydrocarbons, and heavy metals. ACMs might also occur in ballast rock and soils associated with railroad tracks. In addition, soils in and adjacent to these corridors might contain herbicide residues as a result of historic and ongoing weed-abatement practices. Railways are located in and along the RSA in Bakersfield, Tehachapi, Lancaster, and Palmdale.

Potential Utility Corridor Hazardous Substances

The RSA includes several urban areas and associated public utilities. Contaminants common to utility corridors include wood preservatives, herbicide residues, ACMs, volatile organic compounds, petroleum hydrocarbons, and PCB-containing equipment. Domestically, PCBs were produced from 1929 until production was banned in 1979. They belong to a broad family of manufactured organic chemicals known as chlorinated hydrocarbons. PCBs, which have a range of toxicity, vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Because of their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications. Equipment in the RSA that might contain PCBs includes transformers, capacitors, and other electrical equipment; oil used in motors and hydraulic systems; and thermal insulation material (e.g., fiberglass, felt, foam, cork). In particular, older pole-mounted electrical transformers typically contain PCBs.

Potential Agricultural Operation Hazardous Substances

Before manufacturers can sell pesticides in the U.S., the USEPA must evaluate the pesticides thoroughly to ensure they meet federal safety standards to protect human health and the environment. The USEPA grants a “registration” or license that permits a pesticide’s distribution, sale, and use only after the company meets the scientific and regulatory requirements.

In evaluating a pesticide registration application, the USEPA assesses a wide variety of potential human health and environmental effects associated with use of the product. Potential registrants must generate scientific data necessary to address concerns pertaining to the identity, composition, potential adverse effects, and environmental fate of each pesticide.

Within the RSA, numerous agricultural enterprises have historically stored, handled, and applied pesticides and herbicides on row crops and orchards. Pesticide residues might persist in RSA soils. Areas that may be of concern include: pesticide-handling areas that lack concrete pads, berms, or cribs to contain spills or leaks during handling and storage; and rinse water from washout facilities for pesticide-application equipment that has not been properly collected and treated before discharge. Equipment repair and petroleum storage areas may also be of concern.

Potential Industrial Facility Hazardous Substances

The RSA includes a number of industrial areas, which are commonly clustered along railroad rights-of-way and associated with the larger communities of Bakersfield, Lancaster, and Palmdale. Such industrial areas often represent areas where businesses have used hazardous materials over long periods of time. Often, PEC sites are associated with these areas. PEC sites can also include small industrial facilities that demonstrate poor housekeeping practices and small-quantity generators of hazardous wastes that the Certified Unified Program Agency regulates. Automobile service facilities that collect used engine oil and health care providers that produce medical wastes are examples of such small-quantity generators. In addition to the concentrated use of hazardous materials and the generation of hazardous wastes, it is assumed that hazardous material transport and storage activity is more intense in industrial areas than in other areas.

Hazardous Materials and Wastes Transportation Routes

State Routes 14 and 58, the BNSF Railway, and the Union Pacific Railroad are the major transportation corridors in the RSA used for hazardous materials transport. Hazardous materials,

hazardous wastes, and petroleum products are a subset of the tremendous volume of goods routinely shipped along these transportation corridors. Most hazardous materials and wastes are transported without incident; however, spills and other accidental releases have been documented within the RSA.

3.10.5.3 Sites of Potential Environmental Concern

Bakersfield Station Site—F Street (Locally Generated Alternative)

As described in the *Fresno to Bakersfield Section Draft Supplemental EIR/EIS*, 89 PEC sites were identified in the RSA for that section, including six High-risk PEC sites and 74 Medium-risk PEC sites (Authority and FRA 2017).³ Figure 3.10-A-2, Sheets 1 and 2, in Appendix 3.10-A show the locations of these sites.

Palmdale Station Site

Sixteen PEC sites were identified in the Palmdale Station RSA, including 14 High-ranked PEC sites and 2 Moderate-ranked PEC sites. Figure 3.10-A-3 in Appendix 3.10-A shows the locations of these sites.

Bakersfield to Palmdale Project Section Build Alternatives

Table 3.10-3 summarizes the number of High-, Moderate-, and Low-ranked PEC sites by alternative according to the criteria shown in Table 3.10-2. As discussed in Section 3.10-4, low-ranked sites, where abatement of building materials would not be required, could not be identified at this time and would be investigated prior to property acquisition. Table 3.10-A-1 in Appendix 3.10-A provides additional information about each of these sites and Figure 3.10-A-1 (Sheets 1 through 21) in Appendix 3.10-A shows their locations.

Table 3.10-3 Summary of Potential Environmental Concern Sites by Ranking and Bakersfield to Palmdale Project Section Build Alternative¹

Type of PEC Site	Alternative 1	Alternative 2	Alternative 3	Alternative 5	CCNM Design Option ²	Refined CCNM Design Option ³
High	50	50	50	48	+/- 0	+1
Moderate	46	45	46	39	+/- 0	+/- 0
Low	N/A	N/A	N/A	N/A	N/A	N/A
Total PEC Sites	96	95	96	87	+/- 0	+1

¹ Totals in this table do not include PEC sites in the Bakersfield or Palmdale Station areas (north of Oswell Street in Bakersfield and south of Avenue O in Palmdale), which are discussed below. They do include PEC sites in the maintenance facility RSAs.

² This column shows the change in the number of PEC sites with the addition of the CCNM Design Option to Alternative 1, 2, 3, or 5.

³ This column shows the change in the number of PEC sites with the addition of the Refined CCNM Design Option to Alternative 1, 2, 3, or 5. As discussed in Section 3.10.4, low-ranked sites, where abatement of building materials would not be required, could not be identified at this time and would be investigated prior to property acquisition.

N/A = not available

PEC = potential environmental concern

RSA = resource study area

Table 3.10-4 shows the number of parcels in the project footprint that have a structure on site, and therefore could potentially require lead or asbestos abatement. Additional surveys for lead and asbestos containing building materials are necessary, and abatement may be required at these parcels.

³ Because the *Fresno to Bakersfield Section Draft Supplemental EIR/EIS* for the LGA utilized a different methodology than was used in this analysis, PEC definitions for the sites in the LGA station site RSA differ from the definitions utilized as part of this document. See Section 3.10.2, Methods for Evaluating Impacts of the *Fresno to Bakersfield Section Draft Supplemental EIR/EIS* for the LGA for specific definitions and criteria used (Authority and FRA 2017, pp 3.10-2 to 3.10-4).

Table 3.10-4 Summary of Potentially High Potential Environmental Concern Sites Requiring Abatement of Building Materials^{1,2}

Location of Parcels	Alternative 1	Alternative 2	Alternative 3	Alternative 5	CCNM Design Option ³	Refined CCNM Design Option ⁴
Kern County	53	55	58	59	+/- 0	+1
Los Angeles County	306	299	302	303	+/- 0	+/- 0
Total	359	354	360	362	+/- 0	+1

Source: Henderson, 2016

¹ Specific properties belonging in these ranking categories cannot be determined at this time, and would be the focus of future parcel-by-parcel due-diligence investigations prior to the property acquisition phase. For the purposes of this analysis, parcels have been ranked according to the presence of structures. Additional surveys would be required for properties receiving a High ranking.

² Includes all potentially high PEC sites requiring abatement of building materials from Bakersfield Station to Palmdale Station.

³ This column shows the change in the number of potentially high PEC sites requiring abatement of building materials with the addition of the CCNM Design Option to Alternatives 1, 2, 3 or 5.

⁴ This column shows the change in the number of potentially high PEC sites requiring abatement of building materials with the addition of the Refined CCNM Design Option to Alternative 1, 2, 3 or 5.

PEC = potential environmental concern

Maintenance Facilities

There are no PEC sites in the Lancaster North A and B maintenance facility RSA. There are nine PEC sites in the Avenue M Light Maintenance Facility zone RSA, including six High-ranked and three Moderate-ranked PEC sites. These PEC sites are accounted for in Table 3.10-3. Table 3.10-A-1 in Appendix 3.10-A provides additional information about each of these sites, and Figure 3.10-A-1 (Sheet 21) in Appendix 3.10-A shows their locations. There are no PEC sites in the Edison or Tehachapi maintenance of infrastructure siding (MOIS) facility RSAs.

3.10.5.4 Landfills

An assessment was done to locate solid waste landfill sites within 0.25 mile of the project footprint, consistent with California Code of Regulations Title 27, as these sites require analysis for their potential to release methane gas that may present an explosion risk. The online California Department of Resources, Recycling, and Recovery's Detailed Facility Search was used to determine if soil waste disposal facilities were present within 0.25 mile of the project footprint (California Department of Resources, Recycling, and Recovery 2016, 2019). Per the detailed facility search, there are no solid waste landfills within 0.25 mile of the project footprint from the Bakersfield Station to the Palmdale Station.

3.10.5.5 Oil and Gas Wells

The Bakersfield to Palmdale Project Section passes through the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) District 4 and the northwestern portion of District 1. Thousands of oil and gas wells exist in these two districts, most of which are in Kern County (DOGGR 2019). The RSA also traverses a portion of the Edison Oil Field in the community of Edison. In addition, multiple oil and natural gas pipelines appear in the RSA. Table 3.10-5 lists the number of oil and gas wells in the RSA for each B-P Build Alternative beginning at Bakersfield Station and ending at Palmdale Station, as indicated by the DOGGR database (DOGGR 2019). Figure 3.10-1 shows their locations.

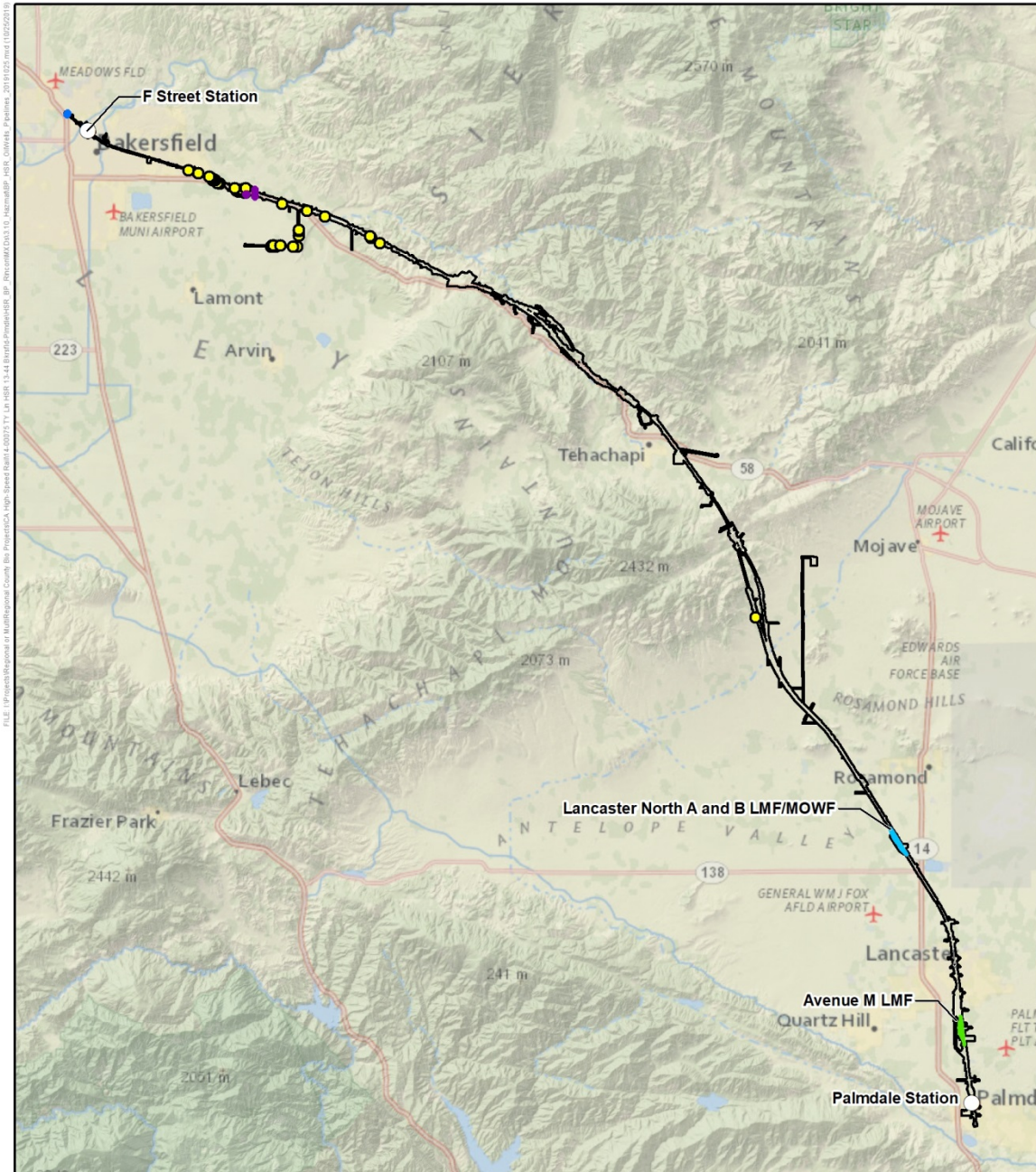
Table 3.10-5 Oil and Gas Wells in the Resource Study Area by Bakersfield to Palmdale Project Section Build Alternative¹

Well Status	Alternative 1	Alternative 2	Alternative 3	Alternative 5	CCNM Design Option ²	Refined CCNM Design Option ³
Active	7	5	7	7	+/- 0	+/- 0
Plugged	2	4	2	2	+/- 0	+/- 0
Idle	1	1	1	1	+/- 0	+/- 0
Cancelled	28	30	29	28	+/- 0	+/- 0
Total	38	40	39	38	+/- 0	+/- 0

¹ Includes oil and gas wells from Bakersfield Station to Palmdale Station; however, there are no oil and gas wells in the RSAs for the station sites or maintenance facility sites.

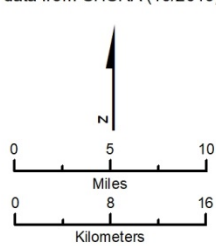
² This column shows the change in the number of oil and gas wells with the addition of the CCNM Design Option.

³ This column shows the change in the number of oil and gas wells with the addition of the Refined CCNM Design Option.



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 SOURCE: Esri/National Geographic (2019); Tiger (2015); Phase 4B CCNM Engineering data from CHSRA (10/2019); DOC (6/2017).

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- Study Area (150 ft buffer of construction footprint)
- Approximate Station Location
- Oil and Gas Wells
- Lancaster North A and B
- Avenue M LMF
- Oil Pipelines**
- Kern Oil and Refining
- Shell Oil Company

Figure 3.10-1 Oil and Gas Wells and Pipelines in the Resource Study Area

No oil and gas wells are located in the RSA for either of the Bakersfield Station options or the Palmdale Station. No oil and gas wells are in the RSA for any maintenance facility site (the Lancaster North A and B site, the Avenue M Light Maintenance Facility site, the Edison MOIS sites, or Tehachapi MOIS site).

3.10.5.6 Educational Facilities

School locations are important to consider because individuals particularly sensitive to hazardous materials exposure use these facilities. Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at schools. The California Public Resources Code requires projects that might reasonably be expected to emit or handle hazardous materials within 0.25 mile of a school to discuss potential effects with the school district.

The number of educational facilities (defined as colleges, high schools, middle schools, elementary schools, preschools, or nursery schools) located in the 0.25-mile study area is as follows:

- **Bakersfield Station—F Street LGA**—Eight educational facilities, none of which are within the project footprint
- **Palmdale Station**—Five educational facilities, one of which is within the project footprint (R. Rex Parris High School)
- **Alternatives 1, 3, and 5**—17 educational facilities, four of which are within the project footprint (Edison Middle School/Edison School District, University of Antelope Valley, Life Source International Charter, and Embry-Riddle Aeronautical University)
- **Alternative 2**—17 educational facilities, three of which are within the project footprint (University of Antelope Valley, Life Source International Charter, and Embry-Riddle Aeronautical University)
- **CCNM Design Option**—No educational facilities were identified
- **Lancaster North A and B Sites**—No educational facilities were identified
- **Avenue M Light Maintenance Facility Zone**—No educational facilities were identified
- **MOIS Sites**—No educational facilities were identified

Table 3.10-6 lists the educational facilities within 0.25 mile of the project footprint. Figure 3.10-2 (Sheets 1 and 2) shows the location of these educational facilities relative to the project.

Table 3.10-6 Educational Facilities in Study Area (Project Footprint + 0.25 mile)

Facility	Distance from Footprint (mile)	Direction from Alternative or Station Footprint
Blanton Education Center	0.23	South-southeast of Bakersfield Station
Bethel Christian School	0.06	South of Bakersfield Station
Williams Elementary School	0.24	Northeast of Bakersfield Station
Bakersfield Play Center	0.14	Northeast of Bakersfield Station
Longfellow Elementary School	0.10	East of Bakersfield Station
Bright Futures Preschool	0.14	North-northeast of Bakersfield Station
Ramon Garza Elementary	0.19 0.10	Northwest of Alternatives 1, 2, 3, 5 North of Bakersfield Station
Sierra Middle School	0.17 0.14	Northwest of Alternatives 1, 2, 3, 5 North of Bakersfield Station
Foothill High School	0.09	North of Alternatives 1, 2, 3, 5

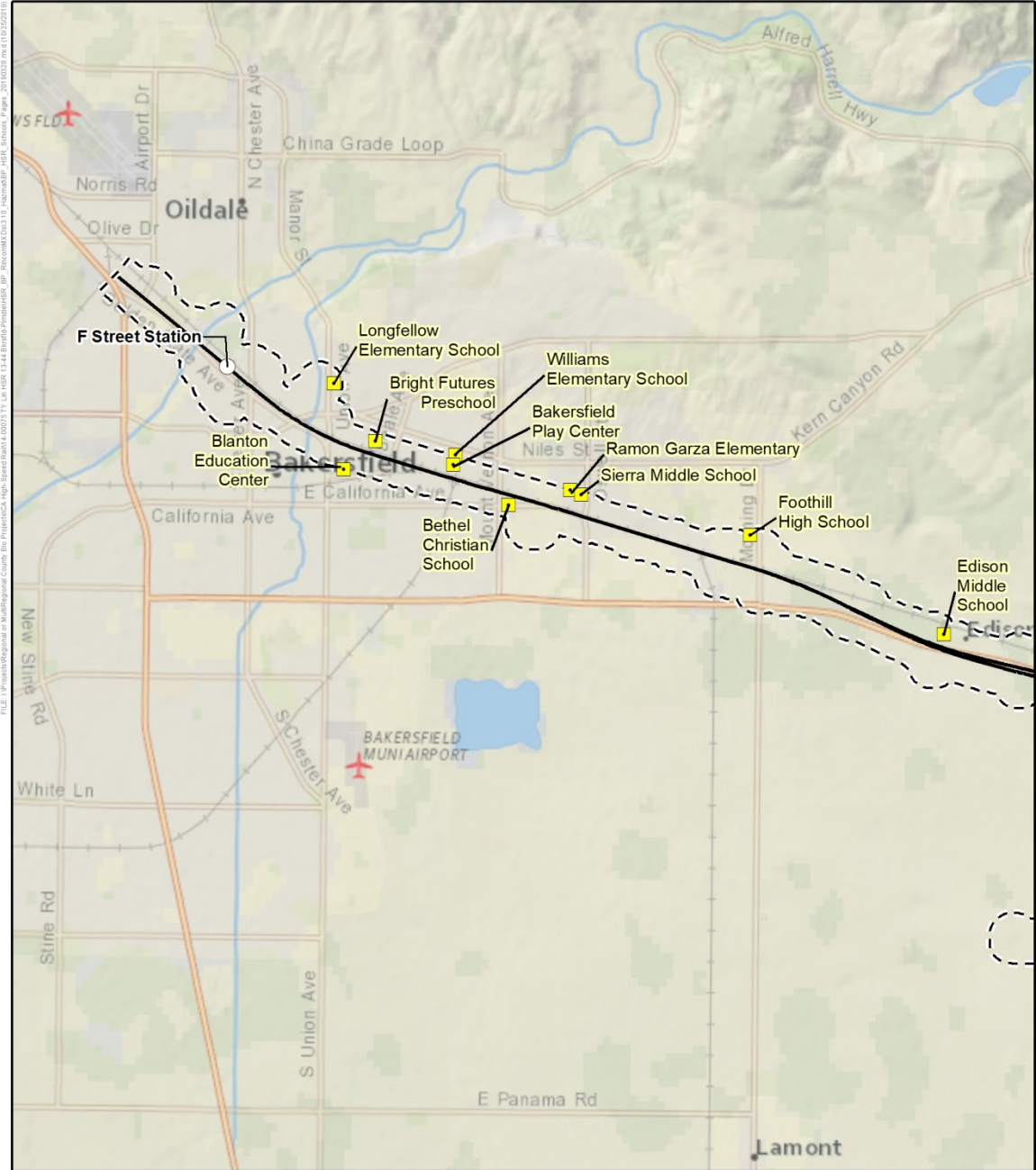
Facility	Distance from Footprint (mile)	Direction from Alternative or Station Footprint
Edison Middle School	0.00* 0.06	In project footprint of Alternatives 1, 3, 5 North of Alternative 2
Mariposa Elementary School	0.25 0.22	West of Alternatives 1, 2, 3 West of Alternative 5
Antelope Valley Adventist School	0.25 0.19	West of Alternatives 1, 2, 3 West of Alternative 5
Sacred Heart School	0.17 0.10	West of Alternatives 1, 2, 3 West of Alternative 5
Antelope Valley High School	0.13 0.12	East of Alternatives 1, 2, 3 East of Alternative 5
Antelope Valley Foundation for the Developmentally Disabled (dba Daystar)	0.06	West of Alternatives 1, 2, 3, 5
Global Citizens Kids Preschool Academy	0.01 0.04	North/west of Alternatives 1, 2, 3 North/west of Alternative 5
Desert Montessori School	0.24 0.22	West of Alternatives 1, 2, 3 West of Alternative 5
University of Antelope Valley	0.00*	In project footprint of Alternatives 1, 2, 3, 5
Crossroads Community Day/Lancaster Alternative and Virtual Academies	0.09	West of Alternatives 1, 2, 3, 5
Life Source International Charter School	0.00*	In project footprint of Alternatives 1, 2, 3, 5
Joshua Elementary School	0.13 0.18	East of Alternatives 1, 2, 3 East of Alternative 5
Charter College	0.01	South/east of Alternatives 1, 2, 3, 5
Embry-Riddle Aeronautical University	0.00*	In project footprint of Alternatives 1, 2, 3, 5
R. Rex Parris High School	0.00*	In project footprint of Palmdale Station
Palm Tree Elementary School	0.01	Southwest of Palmdale Station Area
Palmdale Learning Plaza School	0.01	West of Palmdale Station Area
Tumbleweed Elementary School	0.22	East of Palmdale Station Area
Yucca Elementary School	0.11	Northwest of Palmdale Station Area

Source: California Department of Education, 2019

*Distance of 0.00 indicates that the educational facility is located in the project footprint of one or more of the alternatives.

Distances measured from project footprint to campus edge.

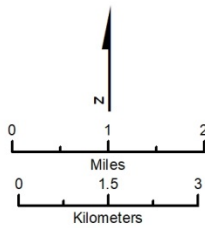
F-B LGA = Fresno to Bakersfield Locally Generated Alternative



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 SOURCE: Esri/National Geographic (2019); Tiger (2015); Phase 4B CCNM Engineering data from CHSRA (10/2019); CDE (12/2015).

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Sheet 1 of 2



- Educational Facilities
- - - Study Area
- ⋯ Quarter mile buffer of construction footprint
- Proposed Station Location
- Bakersfield to Palmdale (Centerlines)

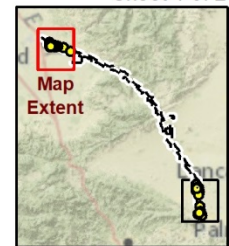
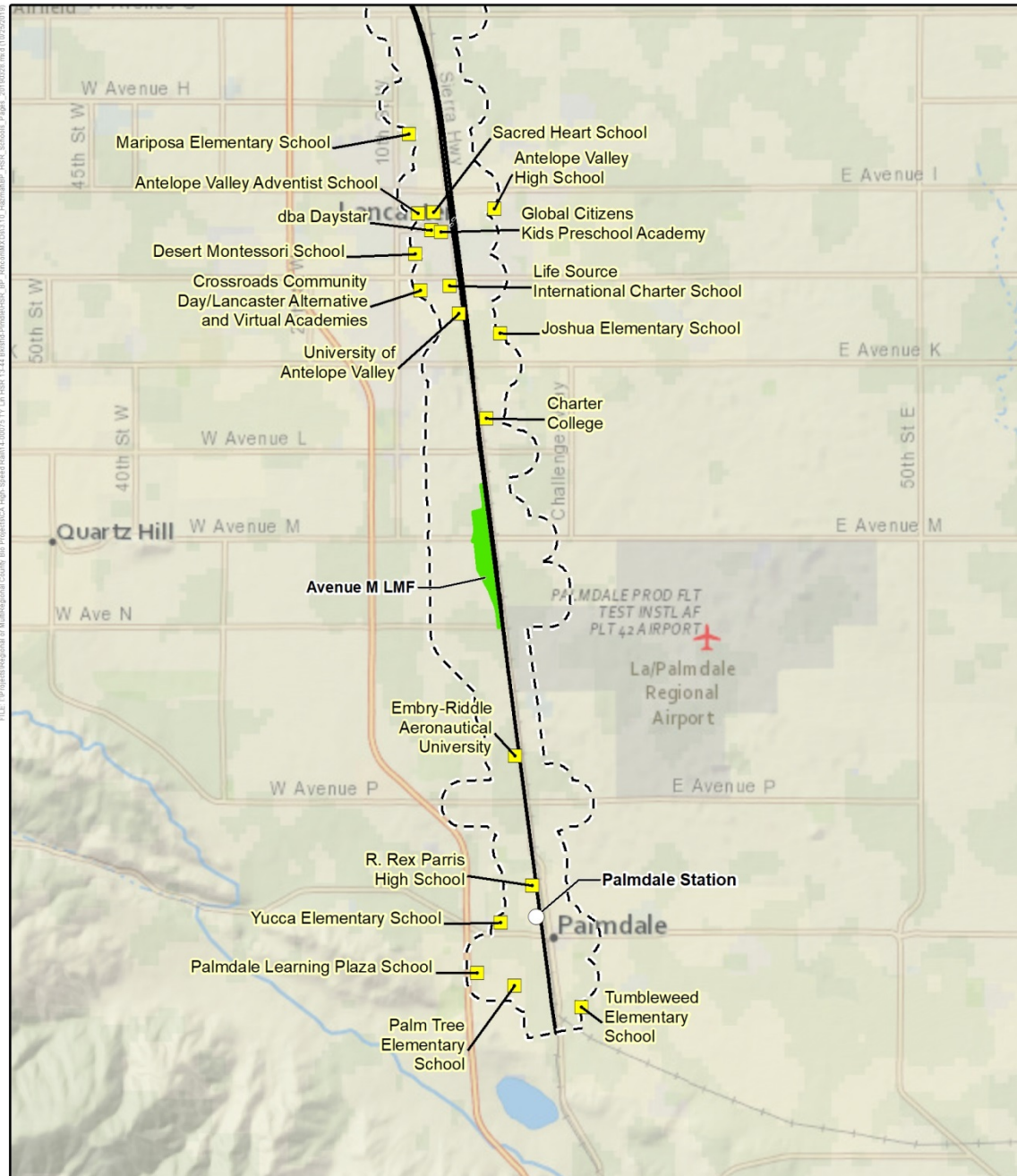


Figure 3.10-2 Educational Facilities in the Resource Study Area

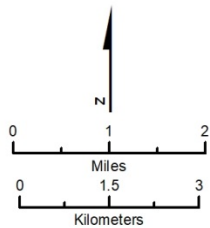
(Sheet 1 of 2)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
 SOURCE: Esri/National Geographic (2019); Tiger (2015); Phase 4B CCNM Engineering data from CHSRA (10/2019); CDE (12/2015).

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Sheet 2 of 2



- Educational Facilities
- Study Area
(Quarter mile buffer of construction footprint)
- Proposed Station Location
- Avenue M LMF
- Bakersfield to Palmdale (Centerlines)

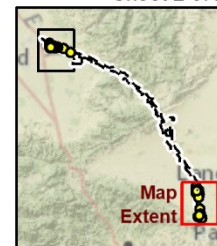


Figure 3.10-2 Educational Facilities in the Resource Study Area
 (Sheet 2 of 2)

3.10.6 Environmental Consequences

3.10.6.1 Overview

The impacts of the Bakersfield to Palmdale Project Section, including the stations, portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, and maintenance facilities are described and organized in Section 3.10.6.3 as follows:

Construction Impacts

- Impact HMW#1—Temporary Effects from the Routine Transport, Use, or Disposal of Hazardous Materials and Wastes
- Impact HMW#2—Temporary Effects Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials
- Impact HMW #3—Temporary Effects Due to Project Location on Potential Environmental Concern Sites or Sites on the Cortese List
- Impact HMW#4—Temporary Hazardous Materials and Waste Activities in the Proximity of Schools

Operations Impacts

- Impact HMW#5—Intermittent Effects Due to the Routine Transport, Use, or Disposal of Hazardous Materials and Wastes
- Impact HMW#6—Intermittent Effects Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials
- Impact HMW#7—Intermittent Effects of Hazardous Materials and Waste Activities in the Proximity of Schools

3.10.6.2 No Project Alternative

Under the No Project Alternative, described in Chapter 2, Alternatives, the population in the RSA would continue to grow, and changes and improvements to the transportation infrastructure would be implemented. The anticipated growth includes other projects, as listed in Section 3.19, Cumulative Impacts. These future improvements would generate a similar mix and quantity of hazardous wastes as those arising from the HSR system, proportional to the magnitude of the improvements. Because many of the PEC sites identified in Section 3.10.5.3, Sites of Potential Environmental Concern, are associated with the major highway and rail transportation corridors in the project vicinity, these same sites could result in impacts on future No Project Alternative transportation improvements with the same corridors.

It is reasonable to assume that by 2040, some of the existing PEC sites would be investigated further and, if necessary, remediated with appropriate regulatory agency oversight. However, it is unlikely that investigation and cleanup of all potentially hazardous materials in the RSA, including contaminated soil or groundwater, would occur under the No Project Alternative. Accidental spills or releases of hazardous materials and wastes could occur with continued operation of commercial and industrial facilities or during transportation of hazardous materials and wastes. Such accidents might result in new PEC sites that could affect future improvements under the No Project Alternative. However, implementation of standard best management practices (BMP) and compliance with existing regulations would reduce potential impacts.

3.10.6.3 Bakersfield to Palmdale Project Section

This section evaluates direct and indirect impacts associated with hazardous materials and wastes that would result from construction and operation of the Bakersfield to Palmdale Project Section, including stations, Alternatives 1, 2, 3, and 5, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, the CCNM Design Option, the Refined CCNM Design Option, maintenance facilities, and other ancillary facilities. Impacts are

assessed after consideration of the IAMFs listed in Section 3.10.4, but before consideration of the project mitigation measure identified in Section 3.10.7.

Fresno to Bakersfield Locally Generated Alternative from the Intersection of 34th Street and L Street to Oswell Street

The hazardous materials impacts for the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street are addressed in Section 3.10.4 of the *Fresno to Bakersfield Section Draft Supplemental EIR/EIS* (Authority and FRA 2017). However, the analysis within Section 3.10.6.3 of this EIR/EIS below also reflects this portion of the F-B LGA alignment between the intersection of 34th Street and L Street and Oswell Street in Bakersfield.

Construction Impacts

Impact HMW#1—Temporary Effects from the Routine Transport, Use, or Disposal of Hazardous Materials and Wastes

During construction of the Bakersfield to Palmdale Project Section, there would be some temporary transport, use, and disposal of hazardous materials (e.g., diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals) associated with preparation and installation of the proposed rail facilities. These materials are commonly used at construction sites. Furthermore, hazardous waste generated during construction might consist of welding materials, fuel and lubricant containers, paint and solvent containers, and cement products containing strong basic or acidic chemicals.

Hazardous wastes (including ACM and lead) might also be generated during demolition, excavation, tunneling, or other activities that result in currently in-situ contaminated media becoming waste. Waste generation may also include soil or groundwater contaminated by petroleum hydrocarbons, pesticides, herbicides, asbestos, heavy metals, or other hazardous materials discussed in Section 3.10.5, Affected Environment. Any disposal of contaminated materials unearthed during construction would be disposed of at appropriate disposal sites in accordance with state and federal regulations.

Demolition of buildings, structures, and roadways containing asbestos and lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Structures intended for demolition would be surveyed for asbestos and lead during right-of-way acquisition in accordance with HMW-IAMF#4: Demolition Plans. A demolition plan for any location with positive results for asbestos or lead would be prepared. The plan would specify how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting all requirements and BMPs to protect human health and the environment.

The transportation, use, and disposal of these hazardous materials and wastes would be subject to state and federal regulations described in Section 3.10.2, Laws, Regulations, and Orders. All hazardous materials, soils, drums, trash, and debris would be handled and disposed of in accordance with these regulations. Compliance with existing regulations would protect the public and environment from exposure to substantial hazards.

In addition, HMW-IAMF#6 (Transport of Materials), HMW-IAMF#7 (Permit Conditions), and HMW-IAMF#8 (Environmental Management Systems) are included as part of the project design and would be implemented for all B-P Build Alternatives and other project components to avoid or reduce effects. These IAMFs would reduce potential effects resulting from the routine transport, use or disposal of hazardous materials and wastes during construction through the following mechanisms:

- **HMW-IAMF#6: Transport of Materials**—By requiring a written hazardous materials and waste plan describing responsible parties and procedures for hazard waste and hazardous materials transport. This reduces the likelihood of hazardous waste spills.
- **HMW-IAMF#7: Permit Conditions**—By requiring a written hazardous materials and waste plan describing responsible parties and procedures for hazard materials and hazardous waste transport, labeling, containment, and storage BMPs pursuant to State Water

Resources Control Board Clean Water Act Section 402: Construction General Permit conditions and requirements.

- **HMW-IAMF#8:** Environmental Management System—By requiring an annual review of hazardous materials, determining if there are acceptable nonhazardous materials substitutes, and implementing the material substitution recommendation in the annual inventory if nonhazardous materials are available.

Compliance with existing regulatory requirements and implementation of project IAMFs would reduce potential temporary hazards associated with construction activities related to the transport, use, or disposal of hazardous materials and hazardous wastes. There are no differences among the alternatives that would alter the likelihood or magnitude of potential construction effects associated with the transport, use, or disposal of hazardous materials and waste.

CEQA Conclusion

With implementation of IAMFs and compliance with existing regulatory requirements, the impact would be less than significant under CEQA because the contractor would transport, use, and dispose of hazardous materials following procedures that avoid or reduce the potential for spills and releases that would expose persons or the environment to substantial hazards. Therefore, the project would not create a significant hazard to the public or the environment due to the routine transport, use, or disposal of hazardous materials and CEQA does not require any mitigation.

Impact HMW#2—Temporary Effects Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials

Reasonably foreseeable upset or accident conditions involving the release of hazardous materials could occur, resulting in temporary impacts, if existing hazardous materials are disturbed during construction, including at specific PEC sites (Section 3.10.5, Affected Environment).

Upsets and accidents associated with the temporary transport, use, and disposal of hazardous materials and wastes (Impact HMW#1) could occur during construction activities. Spills or releases could result that might create hazards to persons and the environment.

Trenching, tunneling, and other ground-disturbing activities during project construction could reveal undocumented soil or groundwater contamination. Adverse effects could result if construction activities inadvertently dispersed contaminated material into the environment. For example, dewatering activities during construction could cause contaminated groundwater to migrate farther in the groundwater table or result in releasing contaminated groundwater to streams.

The state of California enforces standard accident and hazardous materials recovery training and procedures. Private state-licensed, certified, and bonded transportation companies and contractors follow these procedures when dealing with situations involving hazardous materials. Further, pursuant to Code of Federal Regulations Title 40, Part 112, a spill prevention, containment, and countermeasures plan (or, for smaller quantities, a spill prevention and response plan that identifies BMPs for spill and release prevention) would be required. These plans provide procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases and are put in place before commencement of the project. As required under state and federal law, plans for notification and evacuation of site workers and local residents in the event of a hazardous materials release would be in place throughout construction.

The project would conform to permit requirements and spill prevention plans prepared under State Water Resources Control Board Construction General Permit (2009-0009 DWQ) to avoid spills and releases of hazardous materials and wastes. Inspections would be conducted to verify consistent implementation of general construction permit conditions and BMPs to avoid and reduce the potential for spills and releases and of the immediate cleanup and response thereto.

BMPs may include but would not be limited to the designation of special storage areas and labeling, containment berms, coverage from rain, and contained concrete washout areas. Compliance with various federal, state, and local regulations, described in Section 3.10.2, Laws, Regulations, and Orders, would avoid or reduce the risk of a spill or accidental release of hazardous materials.

In addition to the regulatory requirements outlined above, the following IAMFs would assist in reducing effects arising from reasonably foreseeable upset and accident conditions involving the release of hazardous materials, into the environment, and are included as part of the project design for all B-P Build Alternatives and other project components. These IAMFs would reduce potential effects during construction through the following mechanisms:

- **HMW-IAMF#1: Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments**—By requiring completion of a Phase 1 Environmental Site Assessment to characterize each construction site during the right-of-way acquisition phase, as a Phase 2 ESA if recommended by the Phase 1 ESA. If documentation exists about potential hazardous waste on any parcel to be acquired, appropriate testing and remediation (if necessary) will be conducted in coordination with state and local agency officials.
- **HMW-IAMF#2: Work Barriers**—By requiring additional construction procedures that limit the potential release of subsurface containments during construction.
- **HMW-IAMF#3: Undocumented Contamination**—By requiring preparation of a construction management plan addressing procedures for disturbing undocumented contaminated soil. The contractor will work closely with state and local agencies to resolve any such encounters and address necessary clean-up or disposal.
- **HMW-IAMF#4: Demolition Plans**—By requiring a demolition plan for the safe dismantling and removal of building components and debris including a plan for lead and asbestos abatement, which can be prevalent in older structures.
- **HMW-IAMF#5: Spill Prevention**—By requiring a written CMP including a construction-period spill-prevention plan. The plan will identify construction best management procedures designed to contain and prevent accidental spills, including procedures to clean up any accidental hazardous material release.
- **HMW-IAMF#6: Transport of Materials**—By requiring a written hazardous materials and waste plan describing responsible parties and procedures for hazard waste transport. This reduces the likelihood of hazardous waste spills.
- **HMW-IAMF#7: Permit Conditions**—By requiring a written hazardous materials and waste plan describing responsible parties and procedures for hazard waste transport.
- **HMW-IAMF#8: Environmental Management System**—Through implementation of an annual review of hazardous materials used during construction and operation, and determining if there are acceptable nonhazardous materials substitutes.

In addition, the following hydrology and water resources IAMFs would assist in reducing effects from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment through the following mechanism:

- **HYD-IAMF#3: Prepare and Implement a Construction Stormwater Pollution Prevention Plan**—by requiring preparation and implementation of a Stormwater Pollution Prevention Plan, which would include measures to limit fueling and other activities using hazardous materials to areas distant from surface water, provide drip pans under equipment, make daily checks on vehicle condition. In addition, develop and implement a spill prevention and emergency response plan to handle potential fuel or other hazardous materials spills.

Implementation of project IAMFs and compliance with existing regulations would reduce potential temporary effects associated with Bakersfield to Palmdale Project Section construction activities related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. The effect among B-P Build Alternatives would be the

same, because each alternative has the same chance to result in temporary effects involving the release of hazardous materials, which are unknown at this time, and standard design features and compliance with existing regulations would be implemented to reduce the risk and any measurable effect.

CEQA Conclusion

With implementation of IAMFs and compliance with existing regulatory requirements, the impact would be less than significant under CEQA because the contractor would transport, use, and dispose of hazardous materials following procedures that avoid or reduce the potential for spills and releases that would expose persons or the environment to substantial hazards. Therefore, the project would not create a significant hazard to the public or the environment due to the reasonably foreseeable upset and accident conditions that involve the release of hazardous materials into the environment. CEQA does not require any mitigation.

Impact HMW#3—Temporary Effects Due to Project Location on Potential Environmental Concern Sites or Sites on the Cortese List

Construction of portions of the HSR may occur at or near PEC sites (some of which may have ongoing remediation activities). Although the number and type of sites that might be affected would differ by alternative and design option (Section 3.10.5, Affected Environment), IAMFs would be implemented as part of all the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street. Stations and maintenance facilities and would avoid or reduce potential effects associated with construction near PEC sites as further described below.

The Cortese List provides location information about hazardous materials release sites. There is one site in the Bakersfield to Palmdale Project Section corridor, U.S. Air Force Plant 42, that has been tentatively identified as a Cortese List site pursuant to Government Code § 65962.5 (California Environmental Protection Agency 2019). This parcel covers 5,832 acres of land, but only a portion of the parcel falls within the RSA of the B-P Build Alternatives. The actual petroleum hydrocarbons, volatile organic compounds, and semi-volatile organic compounds release location is 0.45 mile east of the RSA, and due to this distance and that groundwater has not been impacted (U.S. Air Force 2012), the PEC is considered low-risk. None of the alignment alternatives, station, or maintenance facilities would affect this site such that it would create a significant hazard to the public or environment.

Construction activities could encounter contaminants or interfere with ongoing remediation efforts. Unless construction activities are coordinated with site remediation activities, there could be a temporary increased risk of damage to or interference with remediation site controls (e.g., soil containment areas). Construction could also increase the risk of damage to or interference with groundwater remediation facilities (e.g., extraction and monitoring wells, pumps, pipelines). Construction at sites with existing contamination could also result in the generation of additional waste materials and expose workers to hazardous materials.

Potential hazards associated with constructing the HSR system near established oil and gas fields, as further discussed in Section 3.11, Safety and Security, oil and gas wells, fuel pipelines, and refineries primarily involve encountering contaminated soils during grading, which could generate the release of hazardous gases such as methane, carbon dioxide, and hydrogen sulfide. However, in accordance with Safety and Security IAMF #4 (Oil and Gas Wells), active and abandoned oil and gas wells within 200 feet of the HSR tracks would be inspected prior to construction, and any active wells would be abandoned and relocated in accordance with the DOGGR standards in coordination with the well owners. All abandoned wells within 200 feet of the HSR tracks would be inspected and re-abandoned, as necessary, in accordance with DOGGR standards.

Project-related effects of hazardous waste-containing chemical compounds would generally be limited to the areas where the materials would be excavated, handled, and stored, because exposure would most likely be in these areas. The size of these impacted areas would depend upon the volume and nature of the release materials and the general condition of the release site (e.g., paved, unpaved, sloped, flat, bermed). The individuals most at risk would be construction

workers, operations personnel, or others in the immediate vicinity during excavation, transportation, or storage of the hazardous wastes, or during construction. The routes through which these individuals could be exposed include inhalation, ingestion, or dermal contact.

Implementation of HMW-IAMF#1 (Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments) would be implemented as part of all the B-P Build Alternatives, stations, and maintenance facilities and would avoid or reduce potential effects associated with construction near PEC sites. HMW-IAMF#1 requires that, during the right-of-way acquisition phase, Phase 1 ESAs be conducted in accordance with standard ASTM methodologies to characterize each parcel. The determination of parcels that require a Phase 2 ESA (e.g., soil, groundwater, soil vapor subsurface investigations) would be informed by a Phase 1 ESA and may require coordination with state and local agency officials. If the Phase 2 ESA concludes that the site is impacted, remediation or corrective action (e.g., removal of contamination, in-situ treatment, or soil capping) would be conducted with state and local agency officials (as necessary) and in full compliance with applicable state and federal laws and regulations.

In addition, implementation of HMW-IAMF#3 (Undocumented Contamination) would reduce effects associated with the discovery of unanticipated contamination by requiring preparation of a construction management plan that would establish procedures for resolving (through clean-up or disposal) undocumented contaminated soil. In addition, the contractor would work closely with state and local agencies to resolve any such encounters and to address necessary clean-up or disposal.

Therefore, while the number of PEC sites differs among the B-P Build Alternatives, the CCNM Design Option, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, stations, and maintenance facilities, compliance with existing regulatory requirements and implementation of project IAMFs discussed above would reduce the potential to create a significant hazard to the public or the environment due to the release of hazardous materials or wastes associated with the listed site.

CEQA Conclusion

The impact under CEQA would be less than significant because environmental site assessments would be required to determine a site's potential for contamination and whether further testing or remediation are required to avoid exposing persons or the environment to substantial hazards. In addition, specific procedures would be in place to deal with undocumented contamination such that persons or the environment would not be exposed to substantial hazards. Therefore, the project would not create a significant hazard to the public or the environment due to the release of hazardous materials or wastes associated with PEC sites. CEQA does not require any mitigation.

Impact HMW#4—Temporary Hazardous Materials and Waste Activities near Schools

Impacts associated with the project could be significant if construction emits hazardous air emissions or introduces extremely hazardous substances or mixtures containing extremely hazardous substances within 0.25 mile of a school such that a health or safety hazard to students or employees would be introduced.

Temporary hazardous material and waste activities within 0.25 mile of schools could occur during the construction period for any of the alignment alternatives or station sites. As noted in Section 3.10.5.6 and identified in Table 3.10-6, 17 schools are within 0.25 mile of the project footprint for Alternatives 1, 2, 3, and 5 and eight schools are within 0.25 mile of the Bakersfield Station—F Street (F-B LGA), five schools are within 0.25 mile of the Palmdale Station, and no schools are within 0.25 mile of maintenance facility sites, the CCNM Design Option, or Refined CCNM Design Option. There are no site-specific differences or proposed actions for the B-P Build Alternatives that would alter how potential effects associated with the presence of schools would occur.

Potentially hazardous materials and items containing potentially hazardous materials commonly used in railway construction would be used or stored in the project right-of-way. Additionally, demolition of existing structures could require the removal of ACM and lead-based paint from the project site. County and municipal codes require any business that stores hazardous materials to provide either a hazardous materials inventory statement or a hazardous materials management

plan to the Certified Unified Program Agencies of the respective city or county, which, for the Bakersfield to Palmdale Project Section, would be the County of Kern, the County of Los Angeles, and the City of Bakersfield. Additionally, the Certified Unified Program Agencies require a business plan in accordance with state regulations (California Health and Safety Code, § 25100 et seq.). Compliance with California Public Resources Code § 21151.4 would allow any school within 0.25 mile of project activities to comment on the project and express related concerns that may result in potential prescriptive actions, such as limits on the materials used or restrictions on the transport and the storage of such materials.

Engineering controls would be applied to contain off-site emissions that might affect an adjacent school. Examples of engineering controls that could be applied include emission control for diesel off-road equipment and diesel generators, dust control through wetting or covering, short- and long-term ambient air monitoring in neighborhoods near and downwind from the construction or maintenance sites, and field olfactory measuring and quantification of odor strength in the ambient air. The project would comply with this and all other applicable federal, state, and local regulations and the IAMFs described under Impact HMW#2.

In the unlikely and extreme case that a release of hazardous materials or waste occurs within 0.25 mile of a school, a health or safety hazard to students or employees could be temporarily introduced. Factors affecting the potential for schools to be affected by a release include the potential for exposure as well as the type of material, weather conditions, timing (whether school is in session and students are on site), as well as the potential quantity of the release. Mitigation Measure HMW-MM#1 (Limit use of extremely hazardous materials near schools during construction) described in Section 3.10.7, would be implemented to avoid or reduce potential effects. This measure would effectively address potential impacts by ensuring hazardous substances or a mixture thereof would not be used in a quantity equal to or greater than the state threshold quantity (Health and Safety Code Section 25532) within 0.25 mile of a school, thereby minimizing the potential for students to be exposed to such substances in the case of an accidental spill or release. Although multiple factors affect the nature and severity of a potential release (as noted above, these factors include the type of material, weather conditions, timing and quantity), regulating the use of hazardous materials near schools through implementation of Mitigation Measure HMW-MM#1 would minimize potential for an accidental release to affect school sites.

CEQA Conclusion

The impact under CEQA would be potentially significant, because construction activities would occur within 0.25 mile of schools and could require the use of hazardous materials or generate hazardous waste. The Authority would implement IAMFs that would establish conformance with all regulations associated with hazardous material and waste transport, use, disposal, and emissions and would require the incorporation of a spill response plan prior to construction activities. The IAMFs would reduce but not completely avoid the potential of emissions or for the handling and release of hazardous substances near schools. The Authority would implement HMW-MM#1, which would limit the use of extremely hazardous materials near schools (including recreational play areas) during construction (Section 3.10.7). With implementation of Mitigation Measure HMW-MM#1, the impact under CEQA would be less than significant, because the contractor would be prohibited from handling or storing extremely hazardous substances in a quantity equal to or greater than the state threshold within 0.25 mile of a school, and the contractor would be required to monitor all use of extremely hazardous substances.

Operations Impacts

Impact HMW#5—Intermittent Effects Due to the Routine Transport, Use, or Disposal of Hazardous Materials and Wastes

Operation and maintenance of any of the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, or stations would involve the transport, use, and disposal of small quantities of hazardous materials or wastes associated with routine maintenance of rail facilities. The HSR system would be dedicated to passenger transport, not the transport of freight

or hazardous substances. Therefore, no impact would result from the transport of hazardous materials or hazardous wastes on the train itself.

Routine maintenance activities along the alignment alternatives and at stations would involve the intermittent use of small amounts of hazardous materials such as solvents, paints, vehicle fuels, and pesticides that are not expected to be acutely hazardous. Therefore, substantial amounts of hazardous materials would not be routinely transported, used, or disposed. Operation of the HSR itself and the stations would not create a significant hazard to the public or the environment due to the routine transport, use, or disposal of hazardous materials.

Operation of any of the proposed maintenance facilities (regardless of the site) would involve the use and disposal of hazardous materials and petroleum products associated with the maintenance of HSR equipment. Hazardous materials and wastes and storage equipment could include fuel storage tanks, storage tanks for lubricants and used oils, wash racks, storage tanks for degreasing solvents and for used solvents, paints/coatings, and associated solvents. Compared with operating the train itself and its stations, operation of the maintenance facilities may involve a somewhat larger quantity of materials and wastes (for maintaining and repairing rail vehicles). HMW-IAMF#8 (Environmental Management System) requires an annual review of hazardous materials used during operation to determine if there are acceptable nonhazardous materials substitutes. In addition, the routine transport, use, and disposal of the substances used by the project are regulated by a number of federal, state, and local laws.

Per HMW-IAMF#9 (Hazardous Materials Plans), and in compliance with applicable laws and regulations, plans that would be implemented by the Authority include a California hazardous materials business plan (pursuant to California Health and Safety Code Section 25500) that specifies the requirements for material inventory management, inspections, training, recordkeeping, and reporting. Also, if necessary, the project would register with the State of California as a hazardous waste generator and implement the requirements for storage, labeling, contingency planning, training, shipping, reporting, and disposal pursuant to Title 22 California Code of Regulations Section 66260. Compliance with existing regulatory requirements and implementation of project IAMFs, including HMW-IAMF#8 (Environmental Management Systems) and HMW-IAMF#9 (Hazardous Materials Plans), would reduce or avoid potential effects, because hazardous materials and wastes would be properly handled.

CEQA Conclusion

With implementation of IAMFs and compliance with existing regulatory requirements, the impact would be less than significant under CEQA because the operator would transport, use, and dispose of hazardous materials following procedures that avoid or reduce the potential for spills and releases that would expose persons or the environment to substantial hazards. Therefore, the project would not create a significant hazard to the public or the environment due to the routine transport, use, or disposal of hazardous materials and CEQA does not require any mitigation.

Impact HMW#6—Intermittent Effects Due to Reasonably Foreseeable Upset and Accident Conditions that Involve the Release of Hazardous Materials

During project operation, hazardous or potentially hazardous materials would be present as discussed under Impact HMW#5. Although the transport and use of hazardous materials are governed by numerous regulations, there is a chance that a spill or accidental release could occur. Compliance with federal and state regulations, as well as requiring spill contingency and cleanup plans (HMW-IAMF#9: Hazardous Materials Plans), reduces the risk of a spill or accidental release of hazardous materials that would expose persons or the environment to substantial hazards and therefore any measurable effect.

CEQA Conclusion

With implementation of IAMFs and compliance with existing regulatory requirements, the impact would be less than significant under CEQA for any of the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, because the operator would

transport, use, and dispose of hazardous materials following standard procedures that avoid or reduce the potential for spills and releases that would expose persons or the environment to substantial hazards. Therefore, none of the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, stations, or maintenance facilities would create a significant hazard to the public due to the reasonably foreseeable upset and accident conditions that involve the release of hazardous materials into the environment. CEQA does not require any mitigation.

Impact HMW#7—Intermittent Effects of Hazardous Materials and Waste Activities in the Proximity of Schools

During operation of the HSR, use of hazardous materials and generation of hazardous waste would be limited mostly to the maintenance and repair of trains at the maintenance facility sites. As discussed in Section 3.10.5.6, no educational facilities are within 0.25 mile of the potential maintenance facility sites. The trains would operate on electric power. No acutely hazardous materials would be required to operate the passenger rail service.

CEQA Conclusion

The impact under CEQA would be less than significant, because no acutely hazardous materials would be required to operate the passenger rail service under any of the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, or at the stations. No educational facilities are within 0.25 mile of the potential maintenance facilities sites. Therefore, project operations would not emit hazardous air emissions or handle extremely hazardous substances or mixtures containing extremely hazardous substances that would pose a health and safety hazard to students or employees within 0.25 mile of a school. CEQA does not require any mitigation.

3.10.7 Mitigation Measures

As described under Impact HMW#4 in Section 3.10.6.3, hazardous materials could be handled in proximity to a school during project construction. To mitigate potential temporary construction impacts on schools within 0.25 mile of the project footprint during construction of any station, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, or B-P Build Alternative, the Authority would implement Mitigation Measure HMW-MM#1. Mitigation Measure HMW-MM#1 is consistent with California Public Resources Code § 21151.4 and would be effective in reducing the magnitude of the potential impact. Implementing the mitigation measure is not expected to result in secondary impacts. With Mitigation Measure HMW-MM#1, potential impacts within 0.25 mile of an existing school would be less than significant under CEQA.

3.10.7.1 Fresno to Bakersfield Locally Generated Alternative Mitigation Measures from 34th Street and L to Oswell Street

The *Fresno to Bakersfield Section Final Supplemental EIR* (Authority 2018) and the *Final Supplemental EIS* (Authority 2019) identified mitigation measures that are applicable to the entire length of the F-B LGA from just north of Poplar Avenue to Oswell Street. Not all measures identified in the Final Supplemental EIR and the Final Supplemental EIS are applicable to the portion of the F-B LGA from 34th Street and L Street to Oswell Street. The following hazardous materials and wastes-related mitigation measures applicable to the portion of the F-B LGA from 34th Street and L Street to Oswell Street:

- **F-B LGA HMW-MM#1:** The Contractor shall not handle or store an extremely hazardous substance (as defined in California Public Resources Code Section 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of Section 25532 of the Health and Safety Code within 0.25 mile of a school. Prior to construction activities, signage will be installed to delimit all work areas within 0.25 mile of a school, informing the Contractor not to bring extremely hazardous substances into the area. The Contractor would be required to

monitor all use of extremely hazardous substances. The above construction mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code Section 21151.4, and would be effective in reducing the impact to a less-than-significant level.

3.10.7.2 Bakersfield to Palmdale Project Section Mitigation Measures

HMW-MM#1: Limit Use of Extremely Hazardous Materials near Schools during Construction

Prior to Construction, the Contractor will prepare a memorandum regarding hazardous materials best management practices related to construction activity for approval by the Authority. The memorandum will confirm that the Contractor will not handle or store an extremely hazardous substance (as defined in California Public Resources Code § 21151.4) or a mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified pursuant to subdivision (j) of § 25532 of the Health and Safety Code within 0.25 mile of a school. The memorandum will acknowledge that prior to construction activities, signage would be installed to delimit all work areas within 0.25 mile of a school, informing the Contractor not to bring extremely hazardous substances into the area. The Contractor would be required to monitor all use of extremely hazardous substances. The above construction mitigation measure for hazardous materials and wastes is consistent with California Public Resources Code § 21151.4, and would be effective in reducing the impact to a less than significant level. The memorandum will be submitted to the Authority prior to any construction involving an extremely hazardous substance.

3.10.7.3 Impacts from Implementing Mitigation Measures

This mitigation measure would not result in additional impacts because it documents compliance with existing regulations, which would not result in any additional exposure to hazardous materials. With Mitigation Measure HMW-MM#1, potential impacts within 0.25 mile of an existing school would be less than significant under CEQA.

3.10.8 NEPA Impact Summary

This section summarizes the impacts of the Bakersfield to Palmdale Project Section and compares them to the anticipated impacts of the No Project Alternative.

Under the No Project Alternative, the general increase in population over time in the RSA would result in the increased use of hazardous materials and disposal of hazardous waste during construction and operation of future infrastructure and development projects. These future improvements would generate a similar mix and quantity of hazardous wastes as those arising from the HSR system, proportional to the magnitude of the improvements. Because many of the PEC sites identified in Section 3.10.5.3, Sites of Potential Environmental Concern, are associated with the major highway and rail transportation corridors in the project vicinity, these same sites could result in impacts on future No Project Alternative transportation improvements with the same corridors. It is reasonable to assume that by 2040, some of the existing PEC sites would be investigated further and, if necessary, remediated with appropriate regulatory agency oversight. However, it is unlikely that investigation and cleanup of all potentially hazardous materials in the RSA, including contaminated soil or groundwater, would occur under the No Project Alternative. Accidental spills or releases of hazardous materials and wastes could occur with continued operation of commercial and industrial facilities or during transportation of hazardous materials and wastes. Such accidents might result in new PEC sites that could affect future improvements under the No Project Alternative. However, implementation of standard BMPs and compliance with existing regulations would avoid or reduce potential effects.

Construction and operation of the Bakersfield to Palmdale Project Section would result in the increased transport, use, and disposal of hazardous materials and wastes, which could result in spills or releases. There are no differences in the B-P Build Alternatives or maintenance facility sites that would alter the likelihood or magnitude of potential construction effects associated with the transport, use, or disposal of hazardous materials and waste. Adherence to regulations and

implementation of project IAMFs regarding the transport, use, and disposal of hazardous materials and wastes would require the Contractor or operator to follow procedures that reduce the potential for spills and releases of hazardous materials and wastes that would expose persons or the environment to substantial hazards.

Construction activities associated with any station, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, or B-P Build Alternative could emit hazardous air emissions or use extremely hazardous substances or mixtures within 0.25 mile of a school. As identified in Table 3.10-6 in Section 3.10.5.6, Alternatives 1, 2, 3, and 5 (with or without the CCNM Design Option or Refined CCNM Design Option) are within 0.25 mile of 17 schools. Eight schools are within 0.25 mile of the Bakersfield Station–F Street (F-B LGA) and five schools are within 0.25 mile of the Palmdale Station. Mitigation measure HMW-MM#1 would reduce potential effects associated with the use or handling of acutely hazardous materials during construction of any alternative or station near schools because it prohibits bringing extremely hazardous substances within 0.25 mile of a school and limits the quantity of other hazardous materials that may be used within 0.25 mile of a school consistent with regulations.

During construction of the B-P Build Alternatives (regardless of the CCNM Design Option or Refined CCNM Design Option), existing PEC sites would be investigated further and, if necessary, remediated with appropriate regulatory agency oversight. As discussed in Table 3.10-3, Alternative 1, 2, 3, and 5 (with or without the CCNM Design Option or Refined CCNM Design Option) have 96, 95, 96, and 87 total PEC sites, respectively. As shown in Figure 3.10-A-2 and Figure 3.10-A-3 in Appendix 3.10-A, 89 PEC sites were identified in the Bakersfield Station Site–F Street LGA RSA and 16 PEC sites were identified in the Palmdale Station RSA. However, with adherence to regulations and implementation of project IAMFs, none of the B-P Build Alternatives, the CCNM Design Option, the Refined CCNM Design Option, or the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street would create a substantial hazard to the public or environment, because environmental site assessments would be required to determine a site's potential for contamination and whether further testing or remediation would be required to avoid exposing persons or the environment to substantial hazards. In addition, all of the B-P Build Alternatives (including the CCNM Design Option and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street) include specific procedures that would be in place to deal with undocumented contamination such that persons or the environment would not be exposed to substantial hazards.

Table 3.10-7 provides a comparison of the potential impacts of each of the B-P Build Alternatives, summarizing the more detailed information provided in Section 3.10.6.3.

Table 3.10-7 Comparison of Bakersfield to Palmdale Project Section Build Alternative Impacts for Hazardous Material and Wastes

Impacts	Alternative 1	Alternative 2	Alternative 3	Alternative 5	CCNM Design Option	Refined CCNM Design Option
Construction						
Impact HMW#1: Temporary effects due to the routine transport, use, or disposal of hazardous materials and Wastes	Standard design features and compliance with existing regulations would be implemented to reduce the risk from the routine transport, use, or disposal of hazardous materials and waste.					
Impact HMW#2: Temporary effects due to reasonably foreseeable upset and accident conditions that involve the release of hazardous materials	Standard design features and compliance with existing regulations would be implemented to reduce the risk from reasonably foreseeable upset and accident conditions related to construction activities that involve the release of hazardous material into the environment.					
Impact HMW#3: Temporary effects due to project location on PEC sites or hazardous material sites compiled pursuant to Government Code § 65962.5 ¹	96 PEC sites	95 PEC sites	96 PEC sites	87 PEC sites	+/- 0 PEC sites	+1 PEC site
Impact HMW#4: Temporary hazardous materials and waste activities in the proximity of schools ²	17 schools within 0.25 mile of the project footprint	17 schools within 0.25 mile of the project footprint	17 schools within 0.25 mile of the project footprint	17 schools within 0.25 mile of the project footprint	+/- 0 schools within 0.25 mile of the project footprint	+/- 0 schools within 0.25 mile of the project footprint
Operations						
Impact HMW#5: Intermittent effects due to the routine transport, use, or disposal of hazardous materials and wastes	Standard design features would be implemented to reduce the risk from the transport, use, or disposal hazardous materials and wastes.					
Impact HMW#6: Intermittent effects due to reasonably foreseeable upset and accident conditions that involve the release of hazardous materials	No impact would result during operations, because the operator would transport, use, and dispose of hazardous materials following procedures that avoid or reduce the potential for spills and releases that would expose persons or the environment to substantial hazards.					

Impacts	Alternative 1	Alternative 2	Alternative 3	Alternative 5	CCNM Design Option	Refined CCNM Design Option
Impact HMW#7: Intermittent effects of hazardous materials and waste activities in the proximity of schools	Operation of the HSR system would be limited to mostly the maintenance and repair of trains and the maintenance facility sites, in addition to the transport of passenger vehicles. No acutely hazardous materials would be required to operate the passenger rail service under any of the B-P Build Alternatives or at the stations and no educational facilities are within 0.25 mile of the potential maintenance facilities sites, CCNM Design Option, and Refined CCNM Design Option.					

¹ Although the number of PEC sites in the RSA differs among alternatives, standard design features and compliance with existing regulations would be implemented to reduce the risk from Alternatives 1, 2, 3, 5, the CCNM Design Option, and the Refined CCNM Design Option.

² There are no site-specific differences or proposed actions for Alternatives 1, 2, 3, 5, the CCNM Design Option, the Refined CCNM Design Option, or stations that would alter the likelihood or magnitude of potential effects associated with the presence of schools. Implementation of Mitigation Measure HMW-MM#1 would reduce the potential for an accidental release to affect school sites.

PEC = areas of potential environmental concern

RSA = resource study area

3.10.9 CEQA Significance Conclusions

This section summarizes impacts identified in Section 3.10.6 and evaluates whether they are significant according to CEQA. Table 3.10-8 provides a summary of the CEQA determination of significance for all construction and operational impacts. Unless otherwise noted, impact conclusions are the same for the B-P Build Alternatives, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, the CCNM Design Option, and the Refined CCNM Design Option. Impacts are assessed after implementation of project IAMFs described in Section 3.10.6.3.

Table 3.10-8 Summary of CEQA Significance Conclusions and Mitigation Measures for Hazardous Materials and Wastes

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Construction			
Impact HMW#1: Temporary effects due to the routine transport, use, or disposal of hazardous materials	Less than significant	N/A	Less than significant
Impact HMW#2: Temporary effects due to reasonably foreseeable upset and accident conditions that involve the release of hazardous materials	Less than significant	N/A	Less than significant for all
Impact HMW#3: Temporary effects from construction near PEC sites and Hazardous Material Sites compiled pursuant to Government Code § 65962.5 (Cortese List)	Less than significant	N/A	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measure	Level of Significance after Mitigation
Impact HMW#4: Temporary hazardous materials and waste activities in the proximity of schools	Potentially significant (construction only) for all B-P Build Alternatives and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street Less than significant for the CCNM Design Option and Refined CCNM Design Option	Mitigation Measure HMW-MM#1 (construction only) for the B-P Build Alternatives and the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street	Less than significant for the B-P Build Alternatives, the portion of the F-B LGA alignment from the intersection of 34th Street and L Street to Oswell Street, the CCNM Design Option, and the Refined CCNM Design Option
Operations			
Impact HMW#5: Intermittent effects due to the routine transport, use, or disposal of hazardous materials	Less than significant	N/A	Less than significant
Impact HMW#6: Intermittent effects due to reasonably foreseeable upset and accident conditions that involve the release of hazardous materials	Less than significant	N/A	Less than significant
Impact HMW#7: Intermittent effects of hazardous materials and waste activities in the proximity of schools	Less than significant	N/A	Less than significant

B-P = Bakersfield to Palmdale Project Section

F-B LGA = Fresno to Bakersfield Locally Generated Alternative

N/A = not applicable

As there are no schools within 0.25 mile of any of the maintenance facility sites, potential CEQA impacts associated with these sites would be less than significant without mitigation measures for all potential impacts described in Impact HMW#4.

All potential impacts associated with hazardous materials and wastes under CEQA would be mitigated, reduced, or avoided through compliance with existing laws and regulations and the implementation of the IAMFs and Mitigation Measure HMW-MM#1.