

3.10 Hazardous Materials and Wastes

This section describes the regulatory setting, the affected environment, the environmental consequences that would likely result from the proposed Fresno to Bakersfield Locally Generated Alternative (F-B LGA) and mitigation measures that would reduce project environmental consequences associated with hazardous materials and wastes.

This Draft Supplemental EIR/EIS compares the F-B LGA to the complementary portion of the Preferred Alternative that was identified in the *Fresno to Bakersfield Section California High-Speed Train Final Project Environmental Impact Report/Environmental Impact Statement* (EIR/EIS) (Authority and FRA 2014). As discussed in Section 1.1.3 of this Draft Supplemental EIR/EIS, the complementary portion of the Preferred Alternative consists of the portion of the BNSF Railway Alternative from Poplar Avenue to Hageman Road and the Bakersfield Hybrid from Hageman Road to Oswell Street (further referenced as the “May 2014 Project” in this Draft Supplemental EIR/EIS). Since the Fresno to Bakersfield Section Final EIR/EIS does not evaluate the May 2014 Project as a discrete subsection of the Fresno to Bakersfield Project (as it did for the Allensworth Bypass, for example), affected environment and impact summary discussion included in this section for the May 2014 Project has been extrapolated from the available information contained in the Fresno to Bakersfield Section Final EIR/EIS.

3.10.1 Regulatory Setting

This section identifies the federal, state, regional, and local regulations, laws, and orders that apply to hazardous materials and wastes. As described in the Fresno to Bakersfield Section Final EIR/EIS, the project would comply with applicable regulations.

3.10.1.1 Federal

Please see Section 3.10.2.1 of the Fresno to Bakersfield Section Final EIR/EIS for a discussion of applicable federal regulations. The project would comply with applicable regulations. Federal laws and regulations relevant to hazardous materials and wastes include the following:

- Resource Conservation and Recovery Act (RCRA) [42 U.S.C. § 6901 et seq.]
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) [42 U.S.C. § 9601 et seq.]
- Clean Air Act [42 U.S.C. § 7401 et seq.]
- Clean Water Act [Section 402(p) (33 U.S.C. § 1342(p))]
- Safe Drinking Water Act [42 U.S.C. § 300(f) et seq.]
- Toxic Substances Control Act [15 U.S.C. § 2601 et seq.]
- Federal Insecticide, Fungicide, and Rodenticide Act (7 USC § 136 et seq. and 40 CFR 152.1–171)
- Hazardous Materials Transportation Act [49 U.S.C. § 5101 et seq. and 49 CFR. Parts 101, 106, 107, and 171-180]
- Hazardous Materials Transportation Uniform Safety Act of 1990 (Public Law No. 101-615)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. § 11001 et seq. and 40 CFR 350.1 et seq.)
- Federal Compliance with Pollution Control [Executive Order 12088]

No new federal regulations for hazardous materials and wastes have been adopted since release of the Fresno to Bakersfield Section Final EIR/EIS.

3.10.1.2 State

Please see Section 3.10.2.2 of the Fresno to Bakersfield Section Final EIR/EIS for a discussion of applicable State regulations and Section 3.10.3.2 for the methodology for evaluating impacts under CEQA. The project would comply with applicable regulations. State laws and regulations relevant to hazardous materials and wastes include the following:

- California Code of Regulations, Title 14, § 1724.3, Well Safety Devices for Critical Wells
- California Code of Regulations, Title 27, Division 2, Chapter 3, Subchapter 4, Gas Monitoring and Control at Active and Closed Disposal Sites
- California Code of Regulations, Title 27, Division 2, Chapter 3, Subchapter 5, Closure and Post Closure Maintenance of Landfills
- California Public Resources Code § 21151.4
- Porter-Cologne Water Quality Act (California Water Code § 13000 et seq.)
- Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code § 25500 et seq.)
- Hazardous Waste Control Act (California Health and Safety Code § 25100 et seq.)
- Safe Drinking Water and Toxic Enforcement Act (Proposition 65, Cal. Health and Safety Code § 25249.5 et seq.)
- California Government Code Section 65962.5

No new state regulations for hazardous materials and wastes have been adopted since release of the Fresno to Bakersfield Section Final EIR/EIS.

3.10.1.3 Regional and Local

Please see Section 3.10.2.3 of the Fresno to Bakersfield Section Final EIR/EIS for a discussion of applicable regional and local regulations. The project would comply with applicable regulations. Regional and local policies relevant to hazardous materials and wastes include the following:

- **Kern County:**
 - Kern County General Plan, Safety Element, Section 4.4, Policy 2, Implementation Measure A; Section 4.9, Policies 1 and 2, Implementation Measures A and B (County of Kern 2009)
- **City of Bakersfield:**
 - Metropolitan Bakersfield General Plan, Safety Element, Public Safety, Hazardous Materials/Uses, Goal 4, Policies 7, 8, and 16 (City of Bakersfield and Kern County 2007)
 - Bakersfield Municipal Code, Title 8, Chapter 8.60, Certified Unified Program Agency (City of Bakersfield 2017)

No new regional or local regulations for hazardous materials and wastes have been adopted since release of the Fresno to Bakersfield Section Final EIR/EIS.

3.10.2 Methods for Evaluating Impacts

3.10.2.1 Hazardous Materials and Wastes Data Collection and Analysis

For the purpose of this assessment, hazardous materials are defined as any materials that, because of quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety, or to the environment, if released. 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 Section

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 Draft Supplemental EIR/EIS). Hazardous wastes include residues, discards, byproducts, contaminated products, or similar substances that exceed regulatory thresholds for properties of toxicity, ignitability, corrosivity, or reactivity. Federal and state regulations identify by name specific hazardous wastes that the United States Environmental Protection Agency (USEPA) has determined are hazardous and has designated as “listed wastes.”

This analysis identified sites of potential environmental concern (PEC sites or PECs), included as Cortese sites identified pursuant to California Government Code Section 65962.5. Sites were identified using aspects of the methodology provided in the California Department of Transportation’s initial site assessment guidance document (California Department of Transportation 2006) and American Society for Testing and Materials (ASTM) Standard Practice E 1528-14 (ASTM 2014). Sites were identified as PECs where there is the possible presence of any hazardous material or waste under conditions that indicate the possibility of an existing release, a past release, or a threat of a release of the hazardous material or waste into structures on the property or into the ground, groundwater, or surface water of the property. This designation includes sites where hazardous materials or wastes are handled and stored in compliance with laws and regulations (ASTM 2014).

Hazardous materials could be released accidentally during project construction or operation due to the transport, use, or disposal of materials, or the demolition of buildings and roadways with asbestos-containing materials (ACMs) and/or lead-containing materials including lead-based paint. This analysis considered potential effects based on proximity of the F-B LGA alignment to known hazardous material and waste sites using a combination of environmental database record searches, analyses of historical topographic maps and aerial photography, site reconnaissance, and regulatory agency files review and consultation.

Study Area

The study area for hazardous materials and wastes includes the F-B LGA project footprint (temporary and permanent) for tracks, the passenger station, and maintenance facilities, including a maintenance of infrastructure facility (MOIF), plus a 150-foot buffer around the project footprint to account for hazardous material and waste issues on adjacent properties. Unless otherwise specified, “project footprint” is inclusive of permanent and temporary (construction) disturbance areas.

To be consistent with ASTM database-search standard practice, the PEC site database search used a one-mile buffer area on either side of the alignment centerline. Analysts attempted to identify potential large or regionally important PEC sites (such as Comprehensive Environmental Response, Compensation, and Liability Act National Priorities List sites) in the one-mile buffer where the extent of the site or contamination could extend well beyond the mapped address, or from outside the one-mile buffer to extend to locations in the study area. However, the database search results did not identify any such sites.

The study area for landfills was defined as 0.25 mile on either side of the project footprint, consistent with Title 27 of the California Code of Regulations. This study area was used to assess the potential for landfills to release methane gas that may present an explosion risk.

In addition, to evaluate potential impacts on schools in a manner consistent with the CEQA significance criteria and California Public Resources Code Section 21151.4, schools within 0.25 miles of the project footprint were identified.

3.10.2.2 Methods for Evaluating Effects under NEPA

In the Fresno to Bakersfield Section Final EIR/EIS, analysts applied specified thresholds for each resource topic to assess whether the intensity of each impact is negligible, moderate, or substantial for the Build Alternatives, and provided a conclusion of whether the impact was “significant.” Since the Fresno to Bakersfield Section Final EIR/EIS does not evaluate the May 2014 Project as a discrete subsection of the Fresno to Bakersfield Project (as it did for the Allensworth Bypass for example), it does not provide conclusions using intensity thresholds for the May 2014 Project. Therefore, intensity thresholds are not used for the F-B LGA. Instead, the evaluation of impacts under NEPA in this Draft Supplemental EIR/EIS focuses on a comprehensive discussion of the project’s potential impacts in terms of context, intensity, and duration and provides agency decision makers and the public with an apples-to-apples comparison between the May 2014 Project and the F-B LGA.

3.10.2.3 CEQA Significance Criteria

The significance criteria, as incorporated from the CEQA Guidelines Appendix G and identified in Section 3.10.2.2, are qualitative. These criteria use terms such as “create a significant hazard,” “result in a safety hazard,” and “impair implementation.” This methodology, combined with objective information (such as locations of hazardous materials sites and qualitative hazard assessments) is used to consider whether a significant impact under CEQA could occur.

Current conditions, including the hazardous material and waste sites identified in the available databases, provide the baseline against which the F-B LGA is compared. For this project, the criteria listed below are used in determining whether the project would result in a significant impact with respect to hazardous materials and waste. These criteria are also identified in the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-7 and 3.10-8).

- Creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Creates a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Is located on a site that is included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment
- Emits hazardous air emissions or handles extremely hazardous substances or mixtures containing extremely hazardous substances within 0.25 mile of a school and would pose a health or safety hazard to students or employees

Checklist items in Appendix G of the CEQA Guidelines pertaining to hazards, such as risk from nearby airports or wildland fires, are discussed in Section 3.11, Safety and Security.

3.10.3 Affected Environment

3.10.3.1 Summary of the May 2014 Project Affected Environment

The May 2014 Project is situated in the Central/San Joaquin Valley, an immense level plain between the Sierra Nevada and the Coastal Range mountains. The entirety of the May 2014 Project is located in the Tulare Lake Hydrologic Region, which is discussed in detail in Section 3.8, Hydrology and Water Resources. The affected environment for hazardous materials and wastes for the May 2014 Project includes the areas and communities in the incorporated cities of Shafter and Bakersfield, as well as unincorporated areas and communities in Kern County. The areas in Shafter and Bakersfield are considered urban or suburban. Most of the unincorporated areas between these cities are considered rural and are dominated by agricultural land uses. Under the May 2014 Project, one passenger station location, the Truxtun Avenue Station, is proposed in the urban area of Bakersfield.

The May 2014 Project study area includes both general areas of concern (i.e., sites affected by lead-based paint, ACM, arsenic and residual pesticides, polychlorinated biphenyls [PCBs], aerially deposited lead, hydrocarbons and solvents, semi-volatile organic compounds, and polyaromatic hydrocarbons), as well as specific sites of concern. General and specific areas of concern would occur along the alignment of the May 2014 Project in the same ways as described for the entire Fresno to Bakersfield Section in the Fresno to Bakersfield Section Final EIR/EIS.

3.10.3.2 Fresno to Bakersfield Locally Generated Alternative

The F-B LGA study area for hazardous materials and waste is shown in Figure 3.10-1 and Figure 3.10-2 (Sheets 1 through 14). They provide details for each site in the F-B LGA study area from the northern area in Shafter to the southern area in Bakersfield. In addition to the areas shown in these figures, the study area also includes the vertical construction profile that encompasses potential areas requiring excavation, trenching, or other subsurface work that would require assessment of potential hazardous materials contamination. As described in Section 3.13, Station Planning, Land Use, and Development, in addition to agricultural uses, existing land uses along the alignment also include transportation facilities, industrial uses, parks, community facilities, commercial uses, and some residential uses. Historically this area was generally agricultural in nature, but other land uses have expanded with increasing population in and surrounding Shafter and Bakersfield.

This section discusses the existing hazardous materials and wastes setting, including the regional context and general areas of concern, specific PEC sites in the study area, and the proximity of schools to the use and handling of hazardous materials associated with the F-B LGA. Additional history and details related to the regional setting are presented in the *Fresno to Bakersfield Draft Supplemental Hazardous Materials and Waste Technical Report* (Authority and FRA 2017).

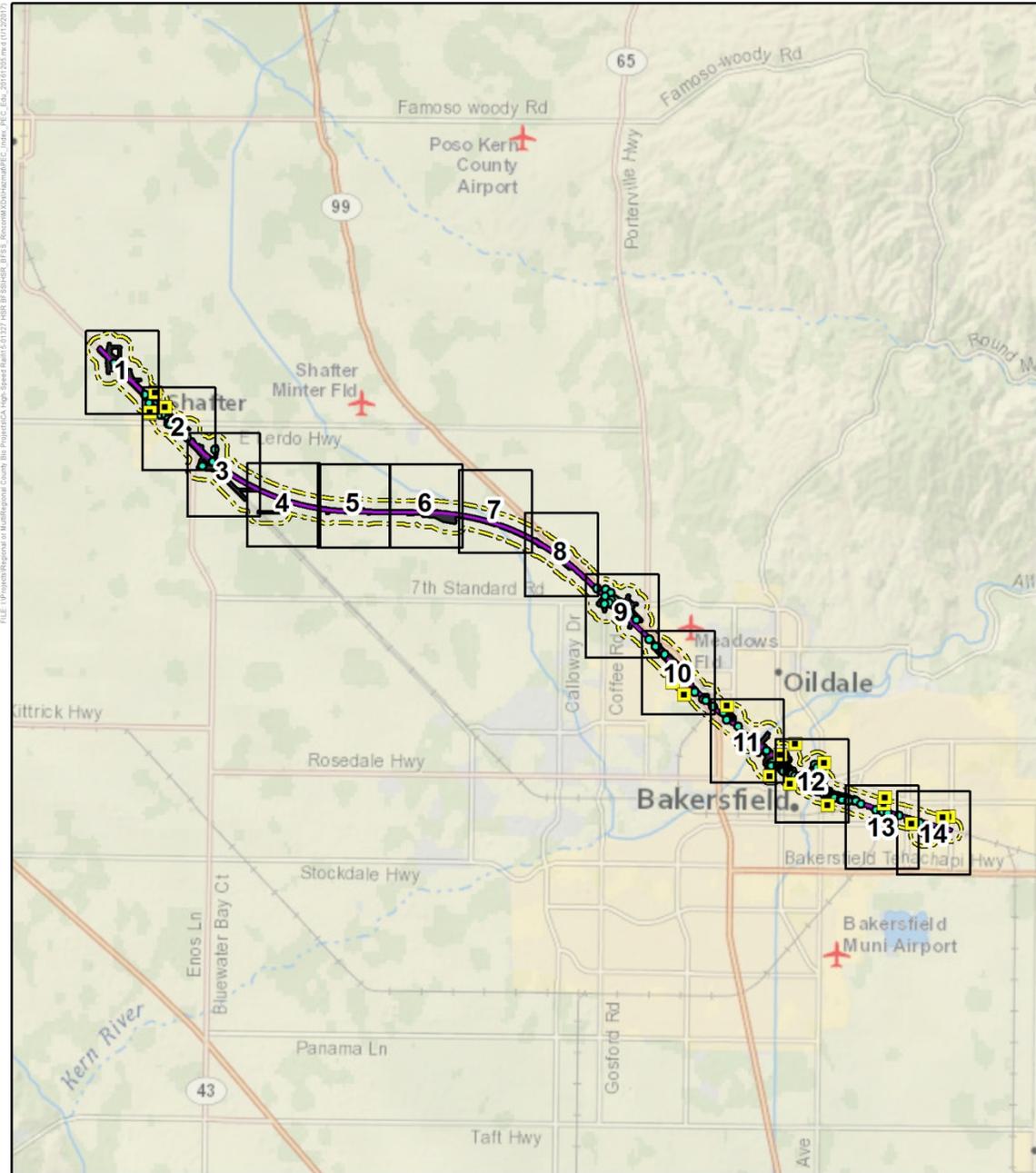
As with the May 2014 Project, the F-B LGA is situated in the Central/San Joaquin Valley, an immense level plain between the Sierra Nevada and the Coastal Range mountains. The entirety of the F-B LGA is located in the Tulare Lake Hydrologic Region, which is discussed in detail in Section 3.8, Hydrology and Water Resources, of this Draft Supplemental EIR/EIS. The affected environment for hazardous materials and wastes for the F-B LGA includes the areas and communities in the incorporated cities of Shafter and Bakersfield, as well as unincorporated areas and communities in Kern County. The areas in the cities of Shafter and Bakersfield are considered urban or suburban. Most of the unincorporated areas between these cities are considered rural and are dominated by agricultural land uses. Under the F-B LGA, one passenger station location, the F Street Station, is proposed in the urban area of Bakersfield.

General Areas of Concern

General hazardous materials and wastes are present in the study area due to current and past land uses, such as agriculture and industrial uses. Similar to the general areas of concern described in the Fresno to Bakersfield Section Final EIR/EIS, general areas of concern under the F-B LGA are identified where any of the following may occur: lead-based paint, ACM, polychlorinated biphenyls (PCBs), aerially deposited lead, hydrocarbons and solvents, semi-volatile organic compounds, polyaromatic hydrocarbons, and arsenic and residual pesticides. Mercury and other heavy metals not mentioned above are not assessed under general areas of concern because the portions of regional waterways in the study area are not known to be contaminated with these materials (Regional Water Quality Control Board 2006).

This analysis identifies sites of potential environmental concern (PEC sites or PECs), included as Cortese sites identified pursuant to California Government Code Section 65962.5. Additionally, as discussed further under "Specific Sites of Concern", screening criteria used to evaluate sites for the purposes of this analysis include identifying sites as "high" and "medium" priority; these sites were visited during field reconnaissance to evaluate present conditions. Figure 3.10-1 and Figure 3.10-2, identify the locations of these sites, which are individually discussed in the following analysis as relevant to potential impacts of the proposed project. The following discussions provide information specific to the F-B LGA, and reference the Fresno to Bakersfield Section Final EIR/EIS where applicable to the F-B LGA.

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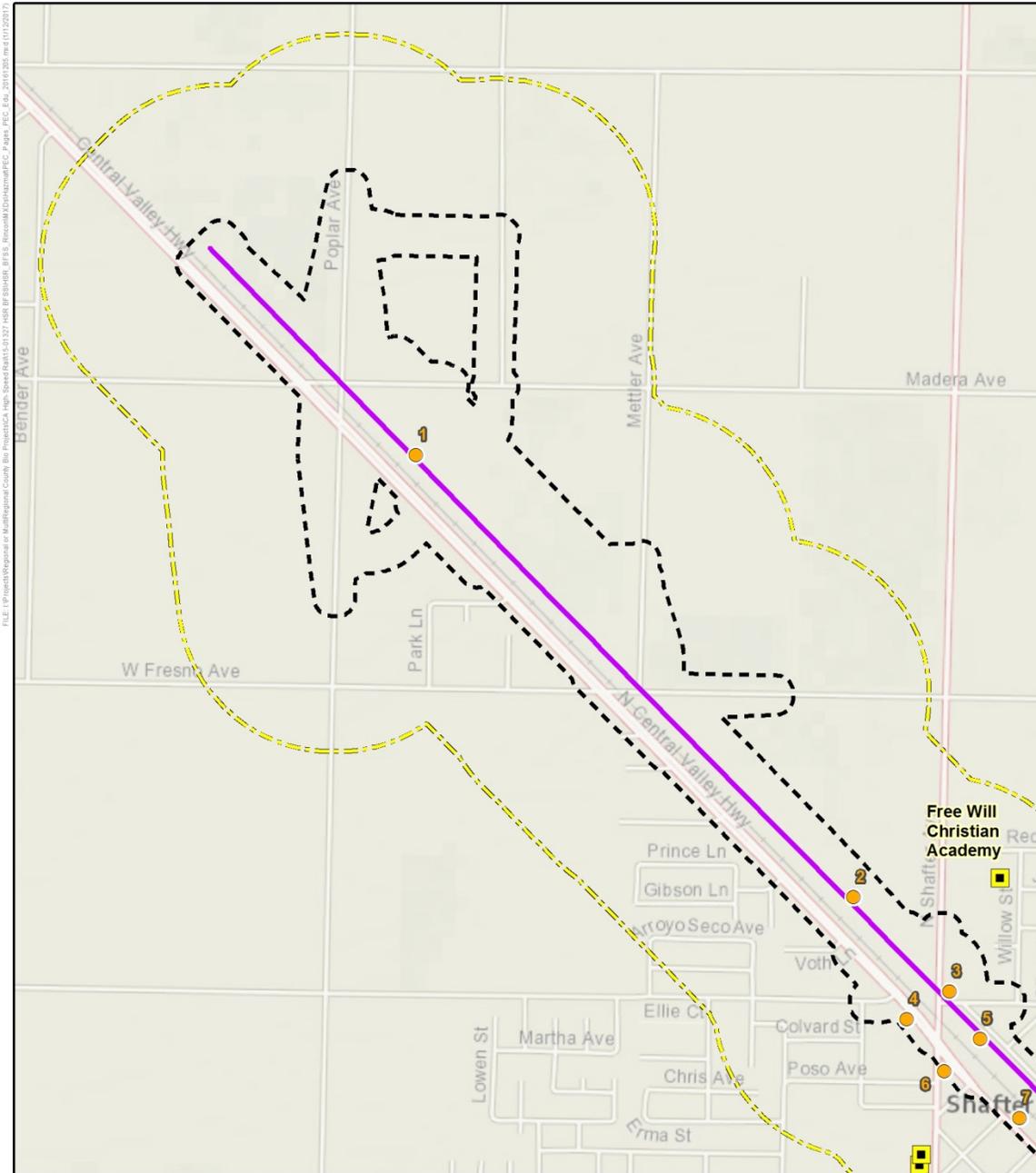


SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017



Figure 3.10-1 Overview of Potential Environmental Concern Sites and Educational Facilities in the Study Area



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

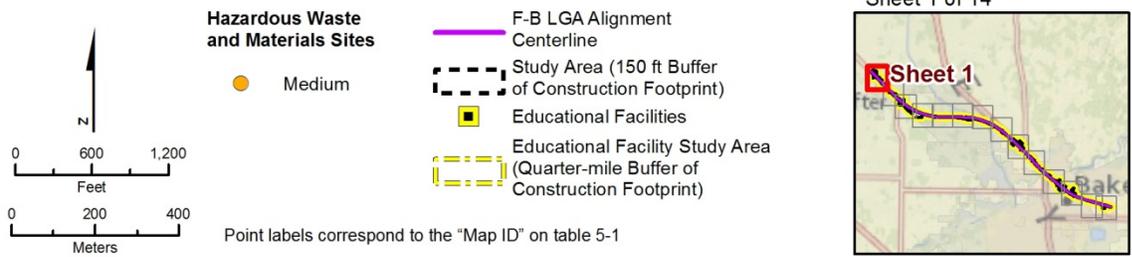
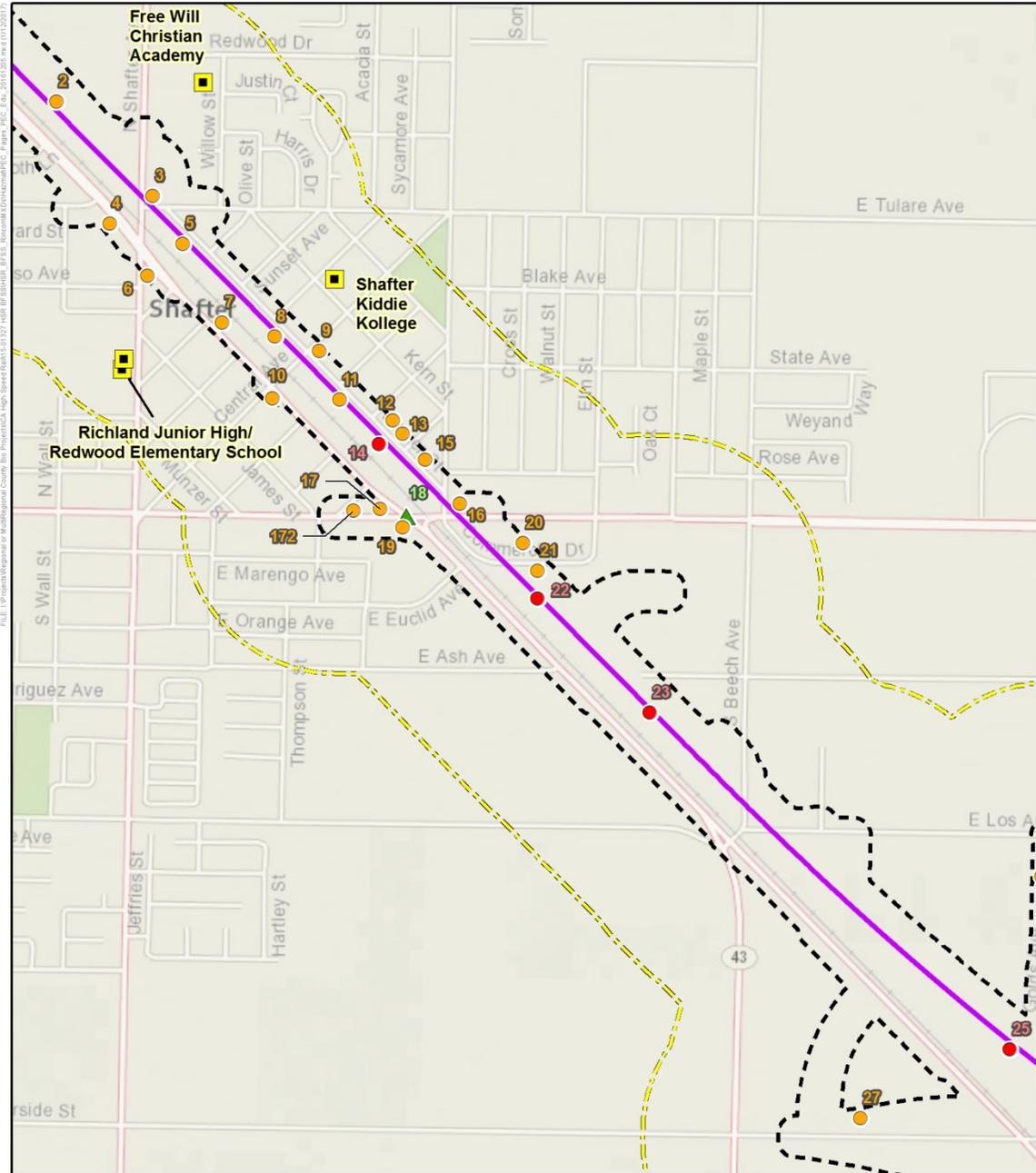


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 1 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

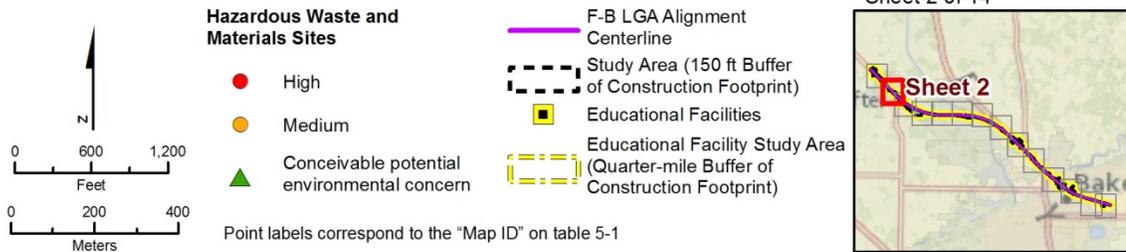
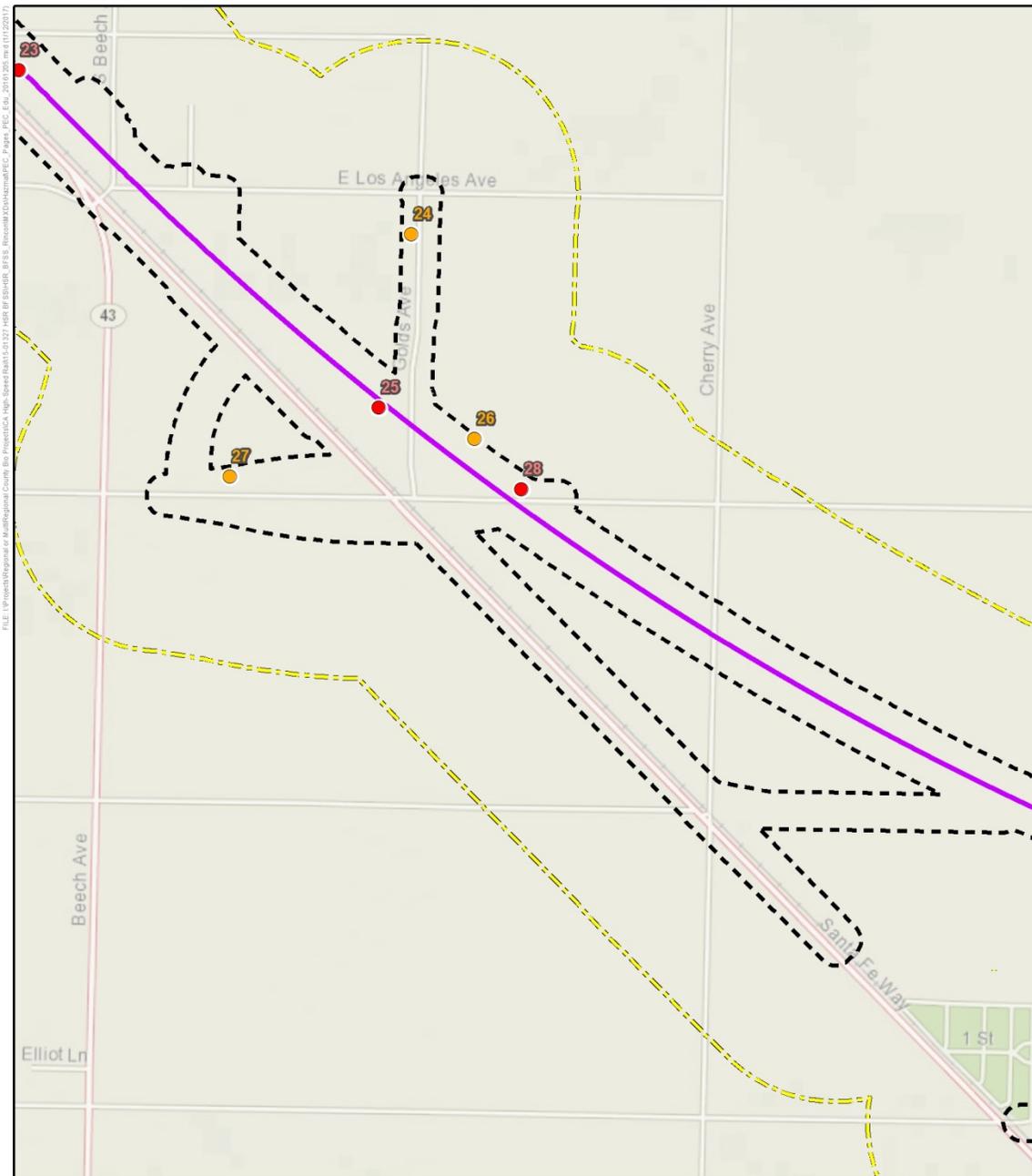
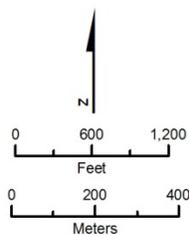


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 2 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017



Hazardous Waste and Materials Sites

- High
- Medium

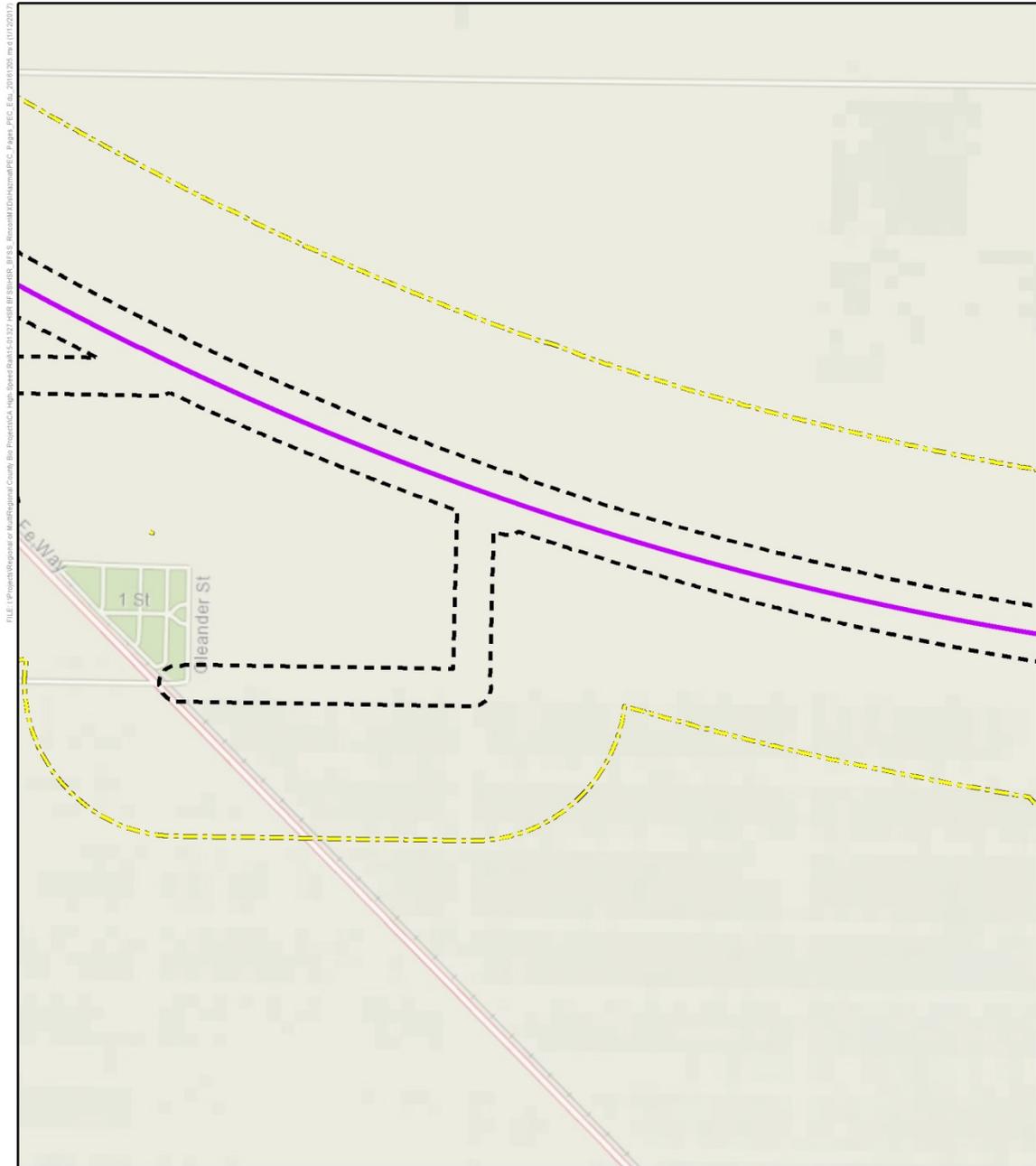
Point labels correspond to the "Map ID" on table 5-1

- F-B LGA Alignment Centerline
- - - Study Area (150 ft Buffer of Construction Footprint)
- - - Educational Facility Study Area (Quarter-mile Buffer of Construction Footprint)

Sheet 3 of 14

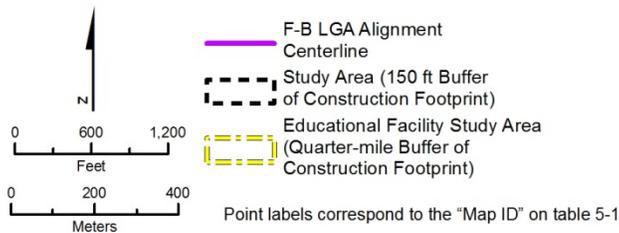


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 3 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

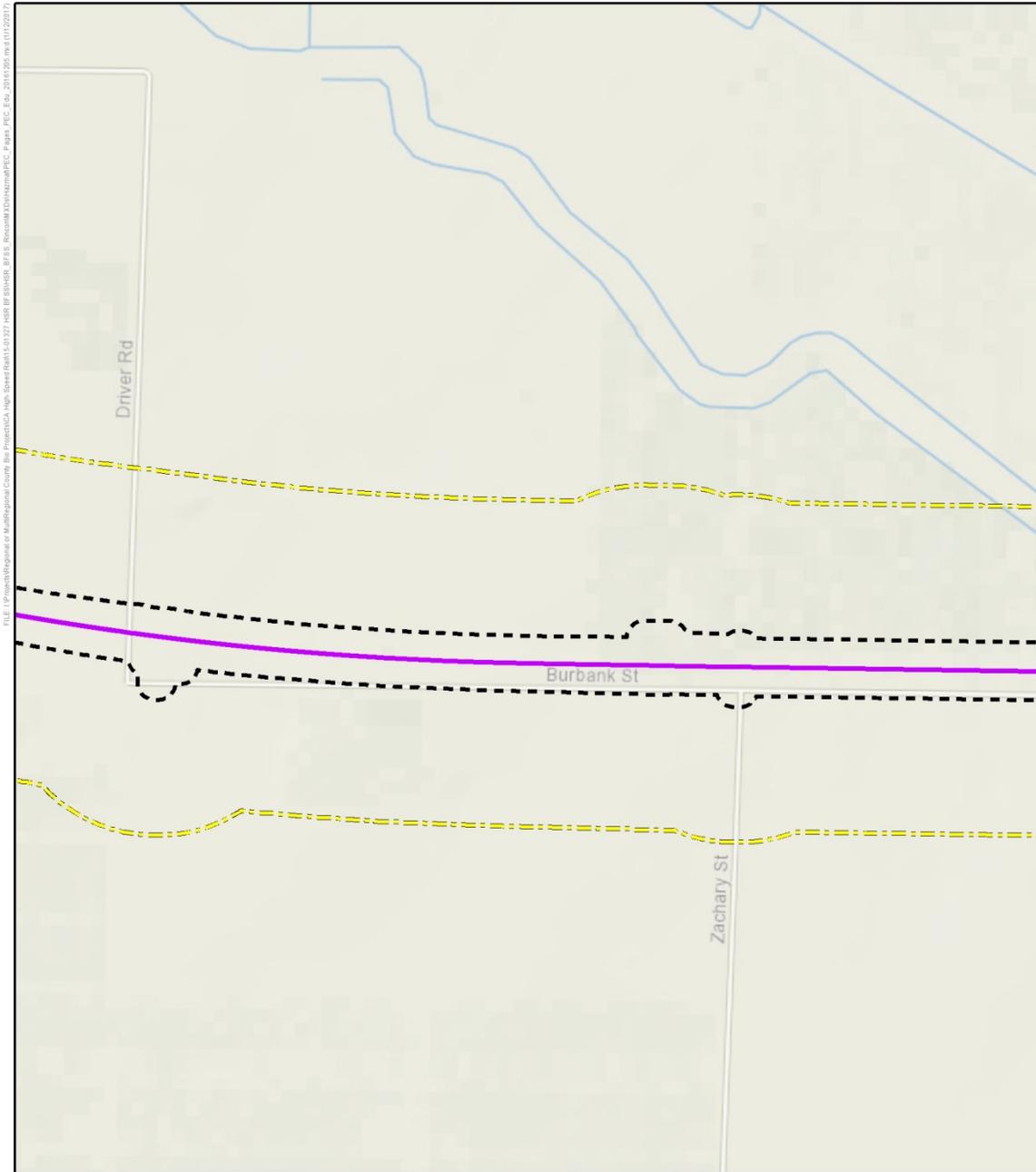
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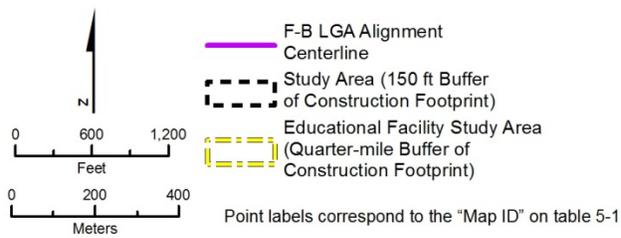


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 4 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

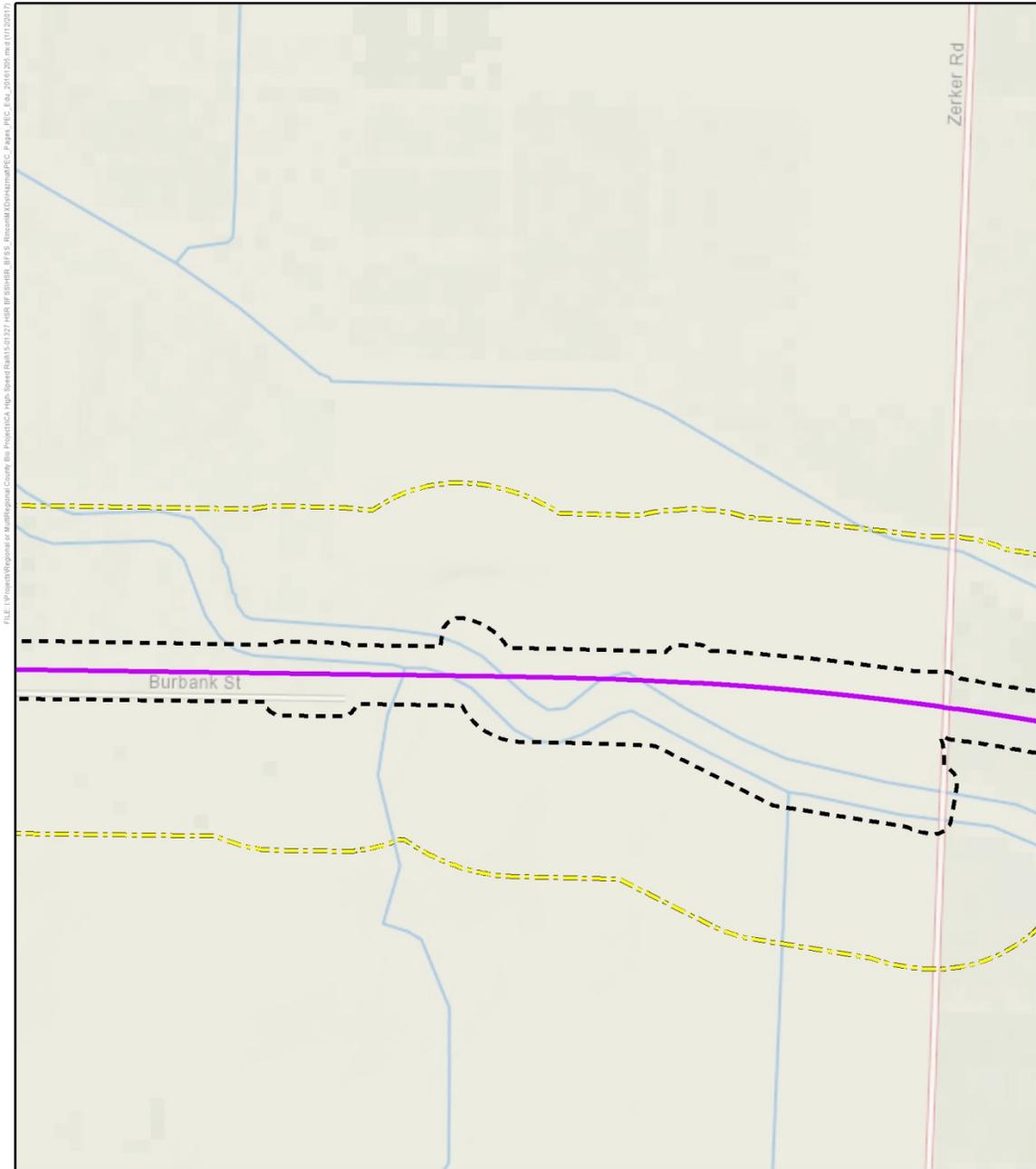
January 12, 2017



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Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 5 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

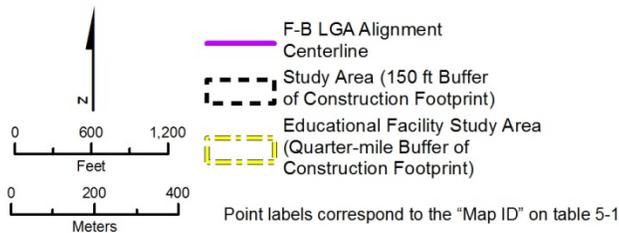
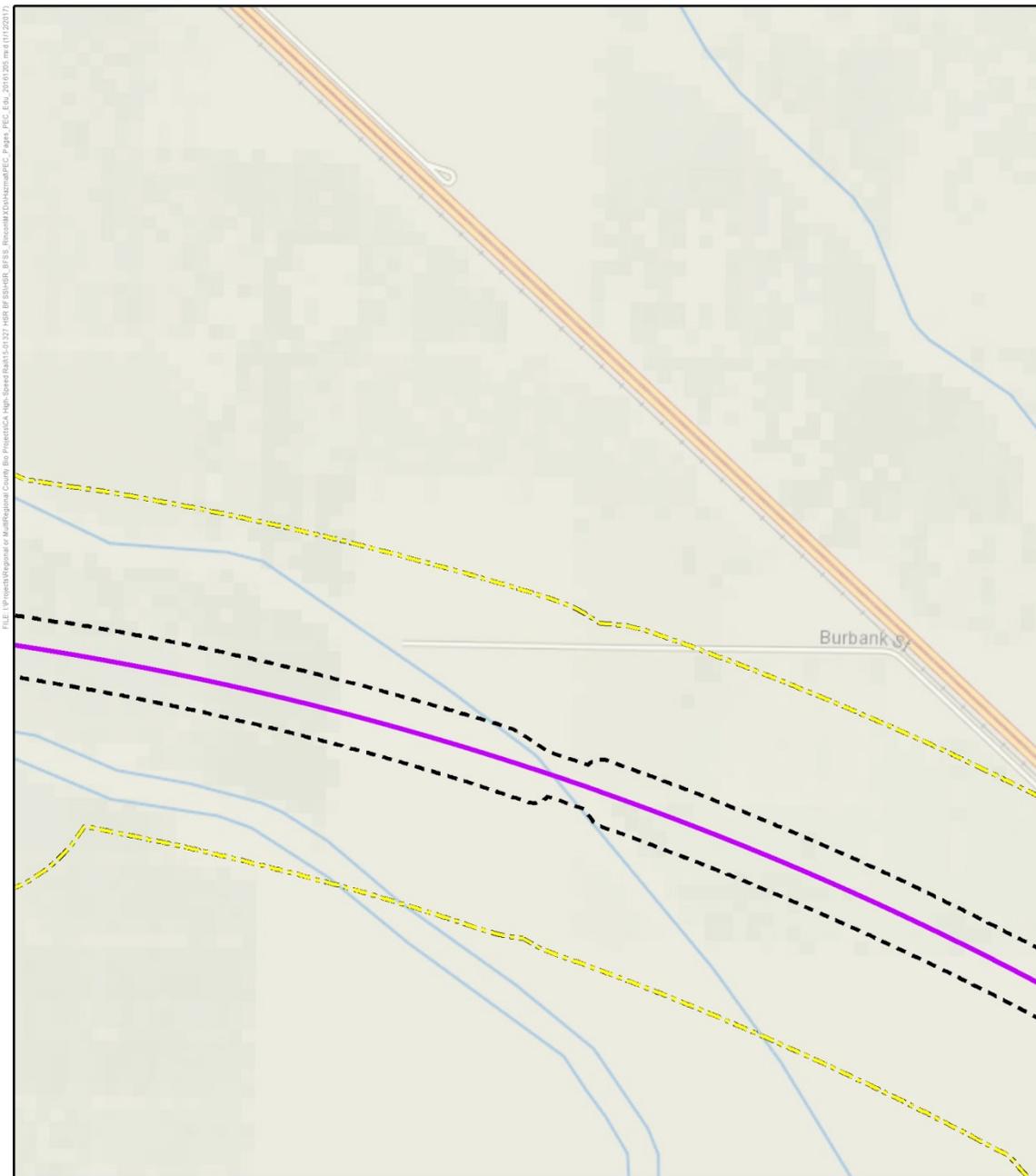
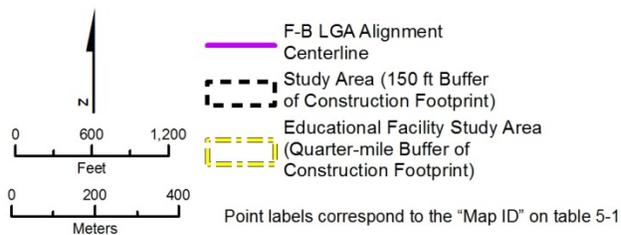


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 6 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

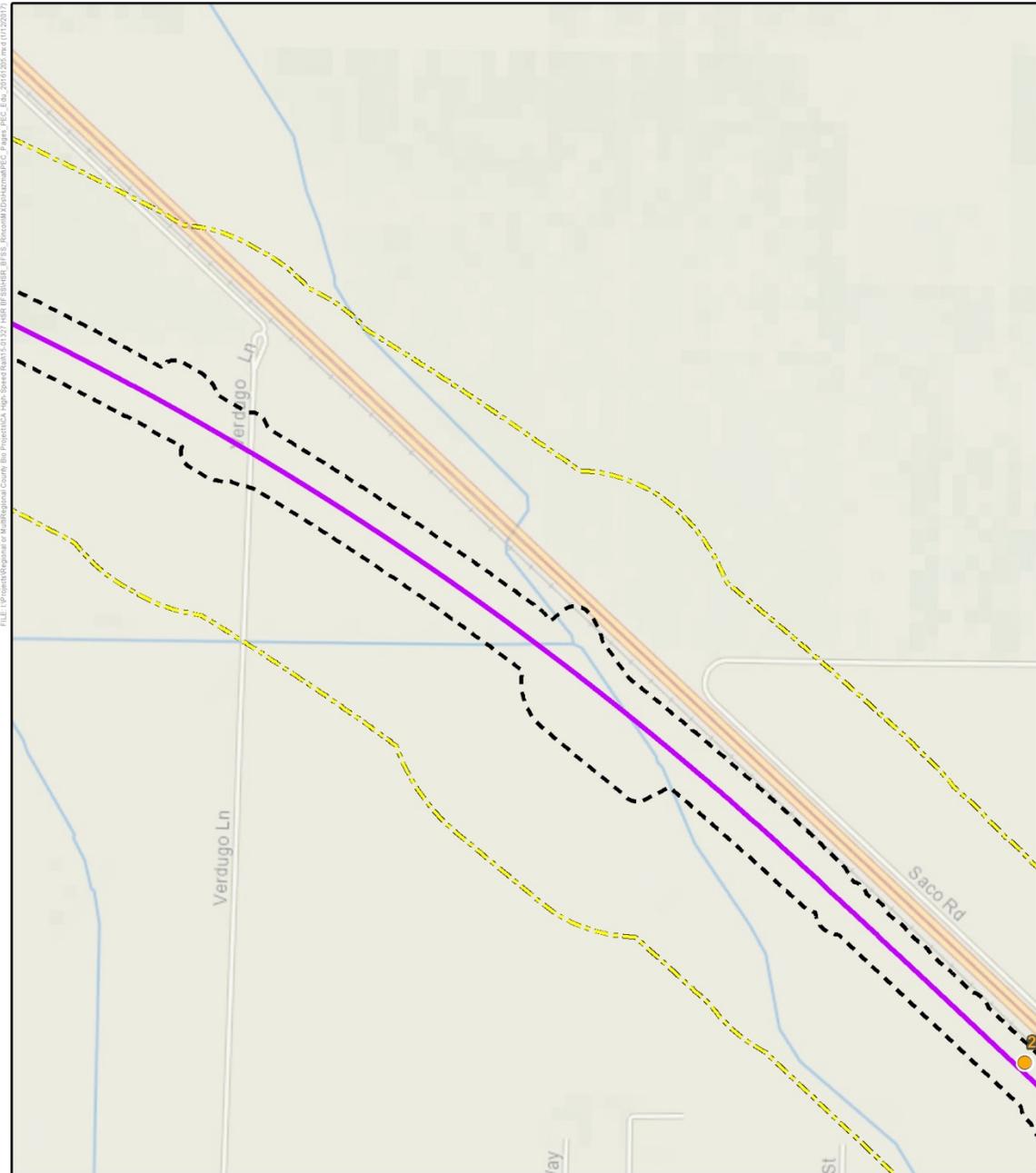
January 12, 2017



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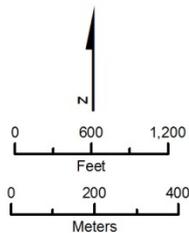


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 7 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017



Hazardous Waste and Materials Sites

● Medium

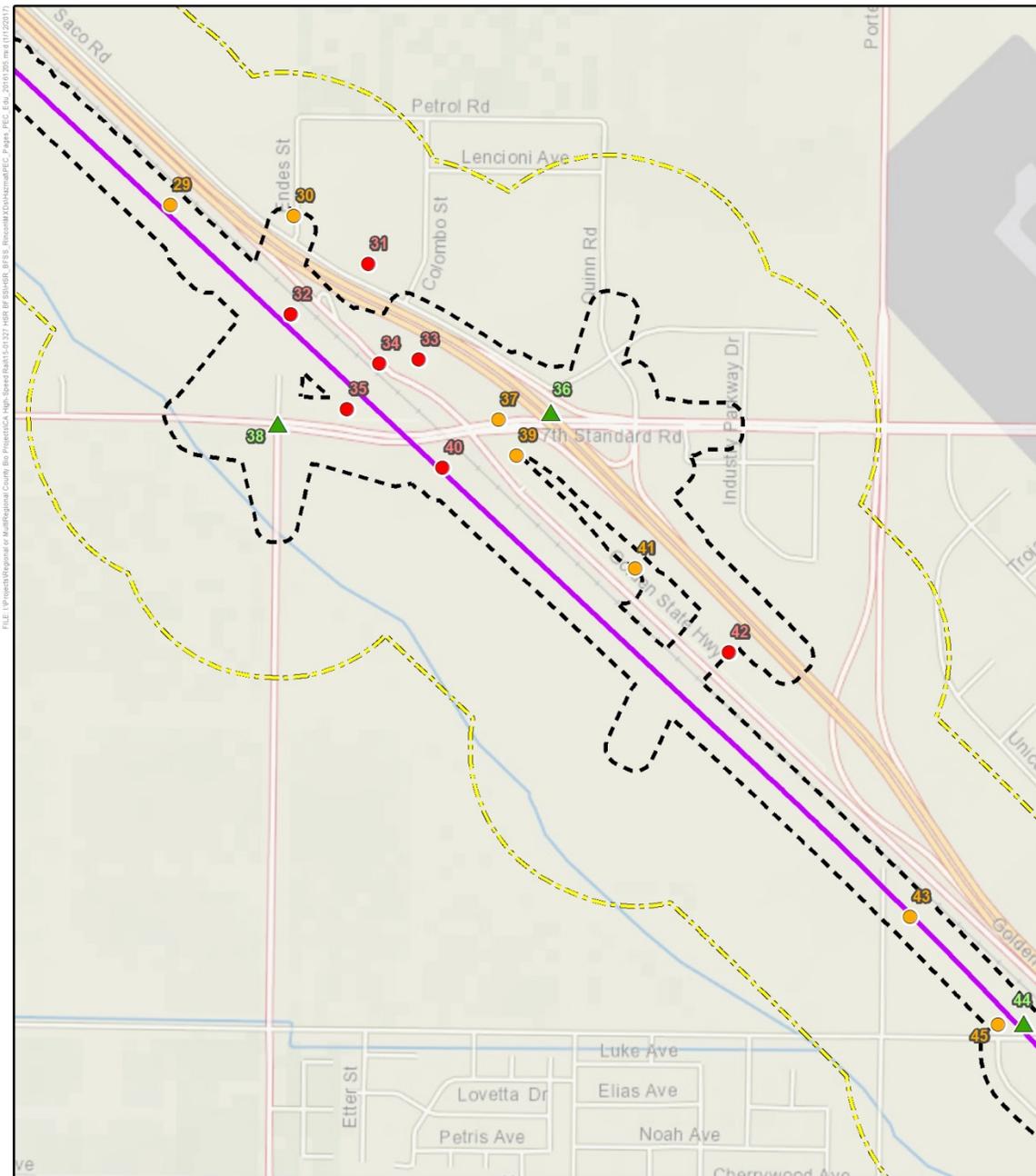
- F-B LGA Alignment Centerline
- - - Study Area (150 ft Buffer of Construction Footprint)
- - - Educational Facility Study Area (Quarter-mile Buffer of Construction Footprint)

Point labels correspond to the "Map ID" on table 5-1

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Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 8 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

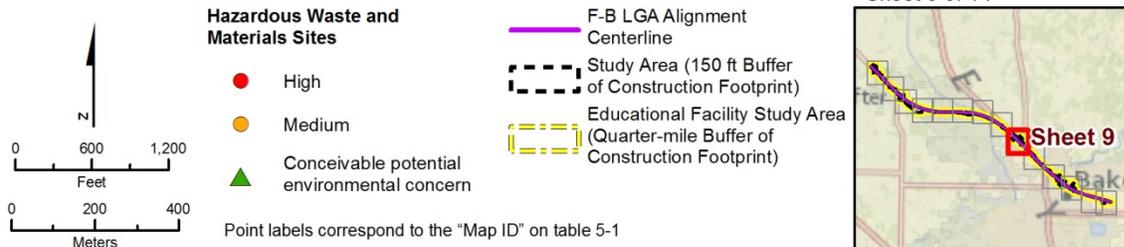
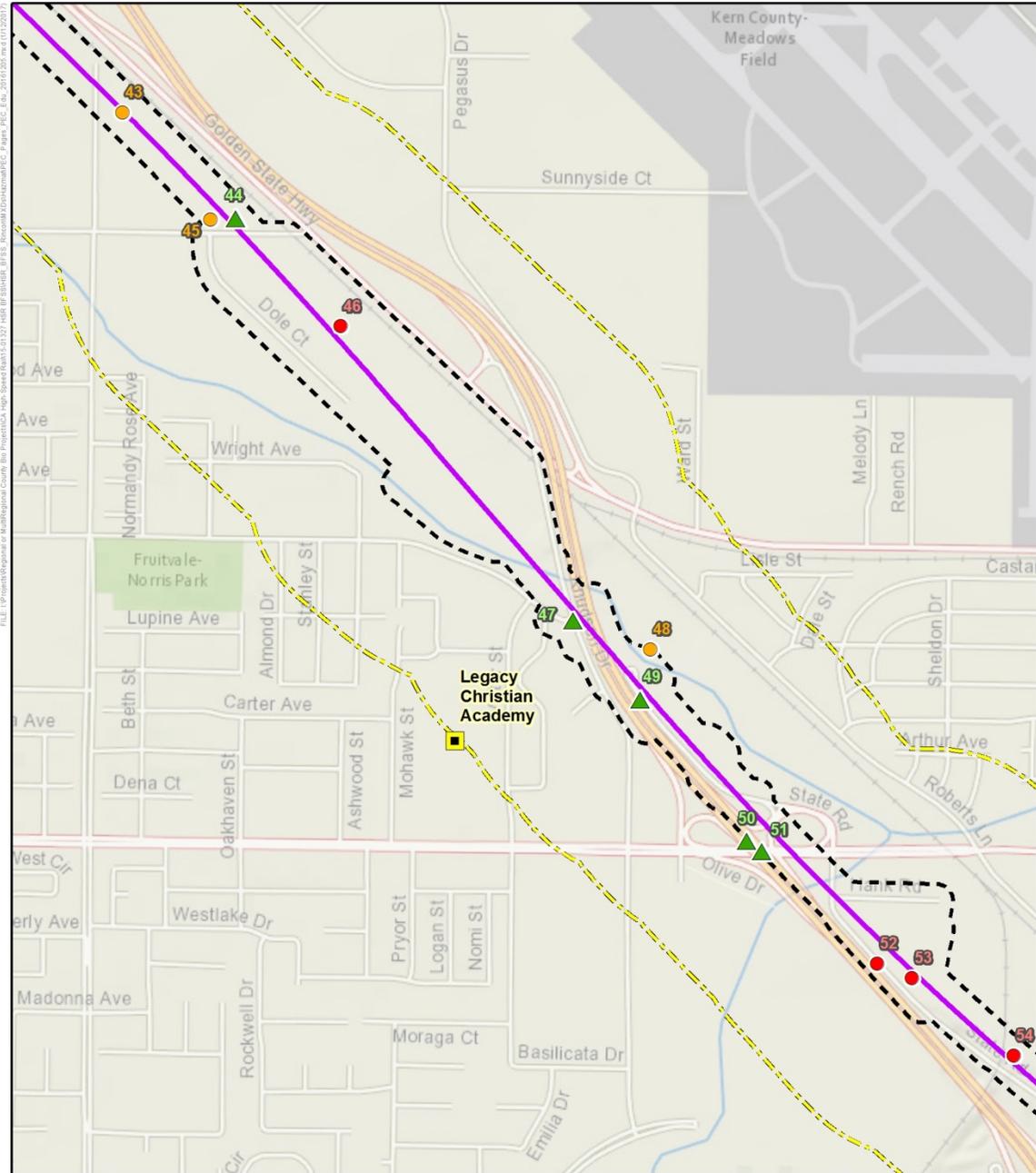
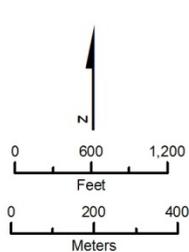


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 9 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017



Hazardous Waste and Materials Sites

- High
- Medium
- ▲ Conceivable potential environmental concern

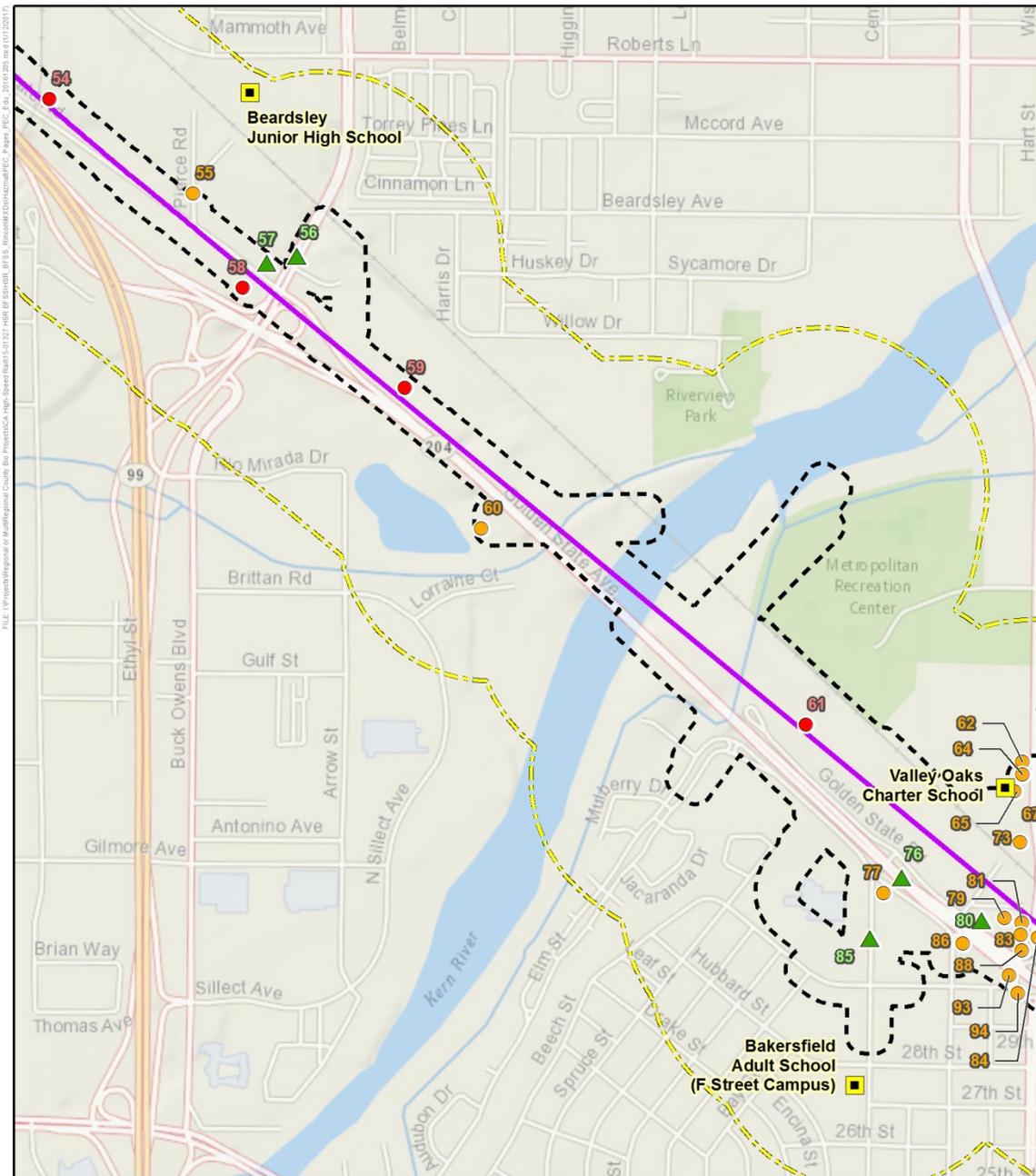
Point labels correspond to the "Map ID" on table 5-1

- F-B LGA Alignment Centerline
- - - Study Area (150 ft Buffer of Construction Footprint)
- Educational Facilities
- - - Educational Facility Study Area (Quarter-mile Buffer of Construction Footprint)

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Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 10 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015. January 12, 2017

Hazardous Waste and Materials Sites

- High
- Medium
- ▲ Conceivable potential environmental concern

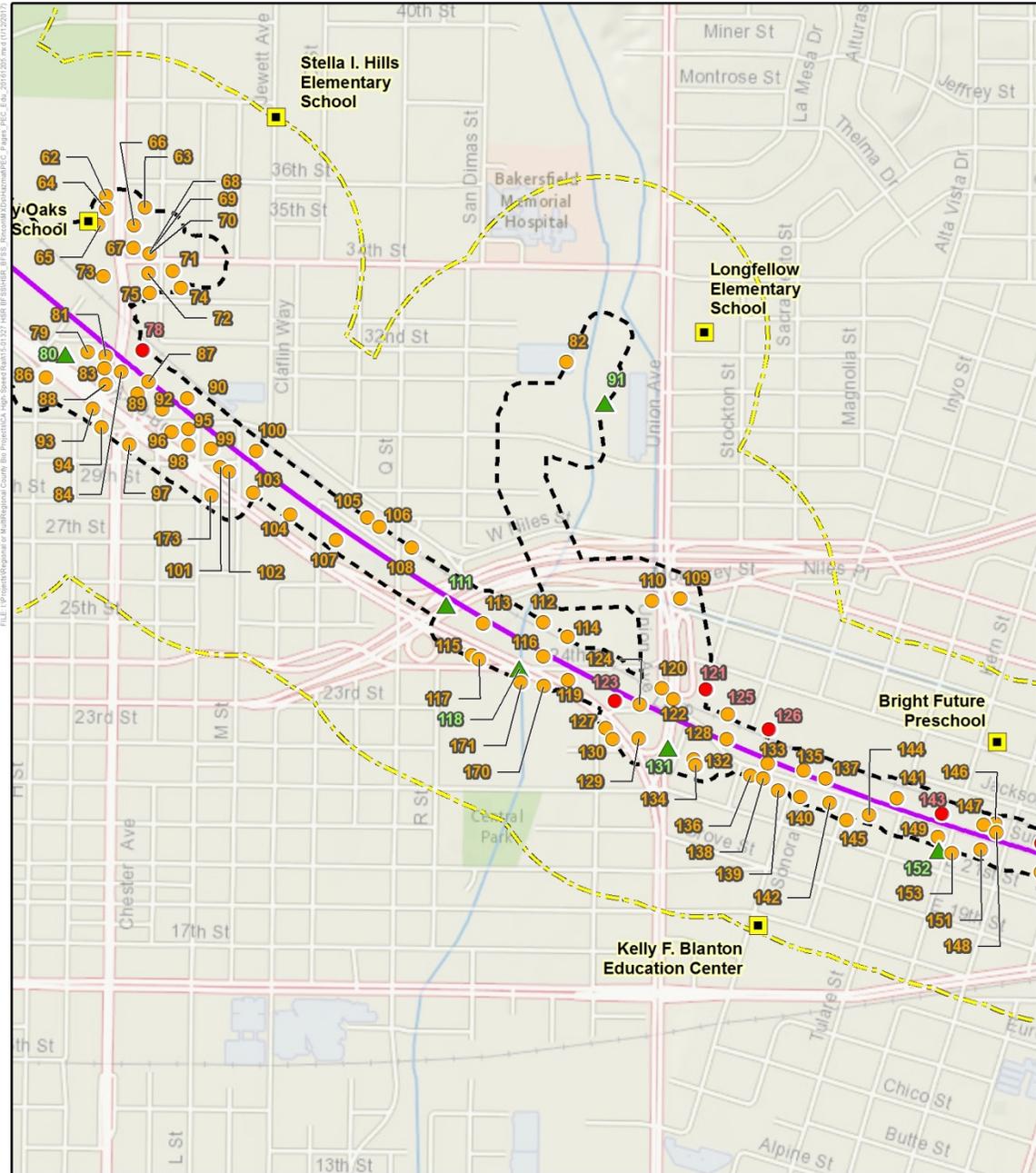
Point labels correspond to the "Map ID" on table 5-1

F-B LGA Alignment

- Centerline
- Study Area (150 ft Buffer of Construction Footprint)
- Educational Facilities
- Educational Facility Study Area (Quarter-mile Buffer of Construction Footprint)

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Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 11 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

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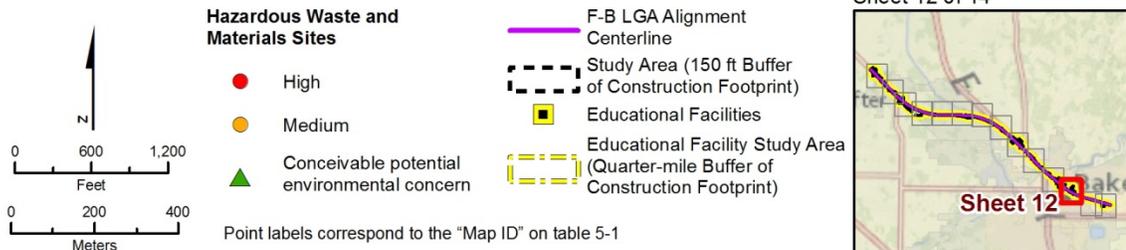
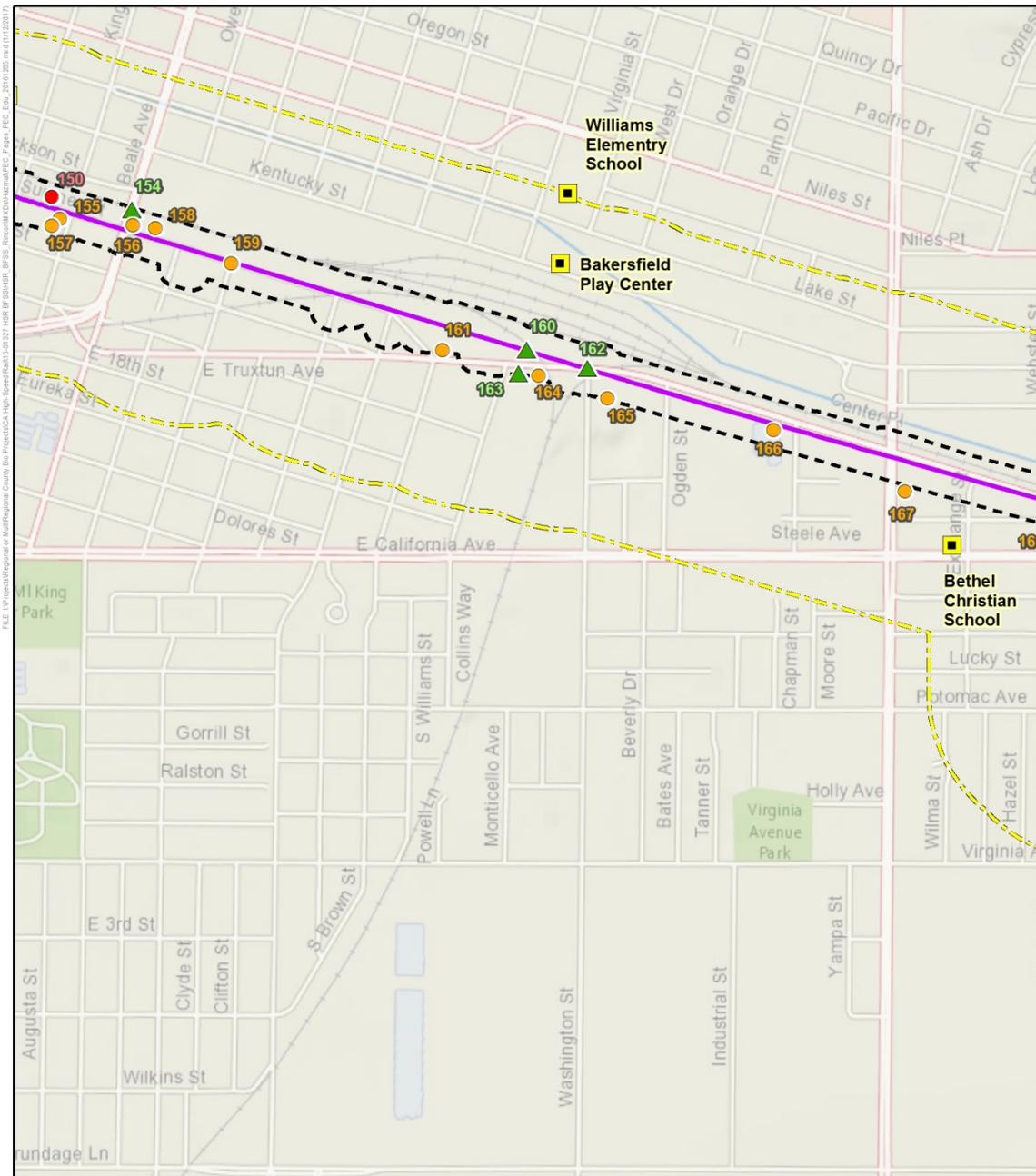


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 12 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

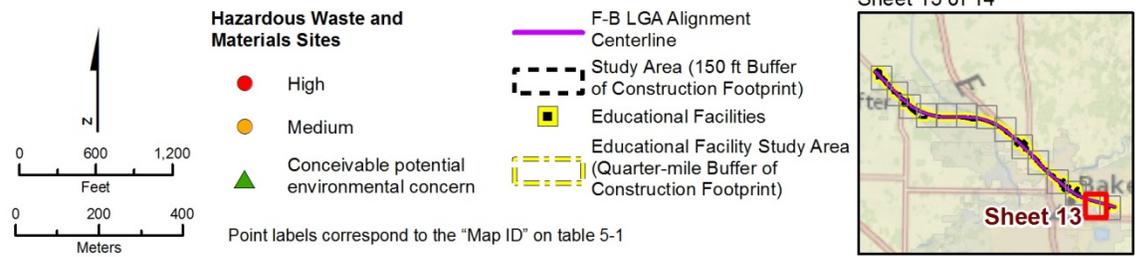
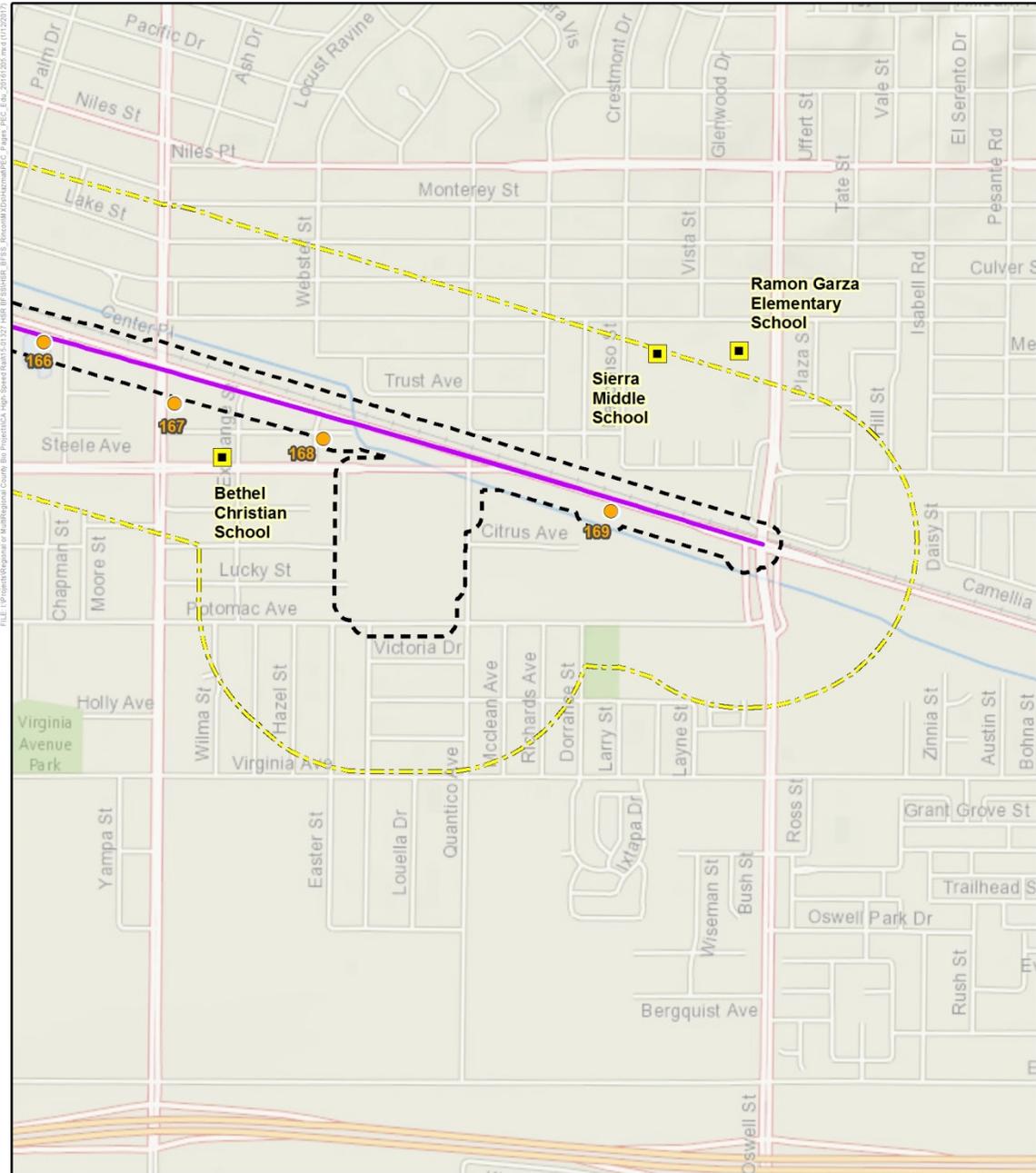


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 13 of 14)



SOURCE: ESRI, 2017; CHSRA, 2017; CDE, 2016; Environmental Data Resources, Inc., 2015; Sanborn, 2015.

January 12, 2017

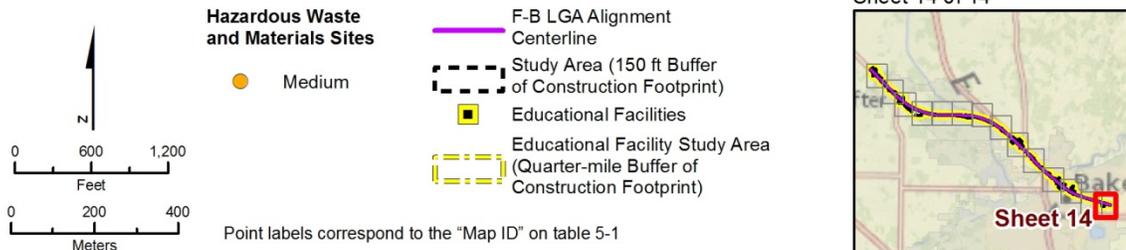


Figure 3.10-2 Potential Environmental Concern Sites and Educational Facilities in the Study Area (Sheet 14 of 14)

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Potential Building Material Hazardous Substances

The F-B LGA study area for hazardous materials (project footprint plus a 150-foot buffer area) includes industrial, commercial, and residential structures. Buildings constructed before 1971 might be contaminated with lead. Lead used as a pigment and drying agent in paint may still be present on buildings in the study area. In addition, weathering and routine maintenance of painted structures may have contaminated nearby soils with lead.

A variety of building construction materials commonly used asbestos, which is a mineral fiber, for insulation and as a fire-retardant prior to the 1980s. There is no health threat if ACM remains undisturbed and does not become airborne. However, if ACM is damaged or disturbed by repair, remodeling, or demolition activities, microscopic fibers become airborne and can be inhaled. When airborne asbestos is inhaled, the thin fibers irritate tissues and resist the body's natural defenses. Asbestos is linked to cancers of the lung and the lining of internal organs, as well as to asbestosis and other diseases that inhibit lung function. State and federal regulations typically require preparation of, and compliance with, ACM abatement plans before disturbing ACM.

Potential Road and Railway Corridor Hazardous Substances

The F-B LGA study area for hazardous materials (project footprint plus a 150-foot buffer area) traverses existing roads and railway corridors. Specific to roadways, yellow paint, and tape used for pavement marking 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 United States from the 1920s until the late 1980s. 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. Contaminants common in railway corridors include wood preservatives (e.g., creosote, arsenic) and heavy metals in ballast rock. ACM 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.

Potential Utility Corridor Hazardous Substances

The F-B LGA study area for hazardous materials (project footprint plus a 150-foot buffer area) traverses several urban areas and associated public utility corridors. Contaminants common to utility corridors include wood preservatives, herbicide residues, 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 study area 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.

Landfills

Consistent with Title 27 of the California Code of Regulations, the study area for landfills includes the project footprint plus 0.25 mile on all sides of the footprint. Landfills in this area were analyzed for their potential to release methane gas, which may present an explosion risk. Table 3.10-1 lists the name and location of identified landfills, the current status of the landfills, and provides an assessment based on the existing information of the potential for landfill gas release. These sites include historical burn dumps, closed landfills, and an active municipal landfill. Typically, old burn dumps pose a limited landfill gas risk because the organic material that would normally decompose to form methane has been burned and cannot further decompose. However, the risk would vary based on the degree to which each site was burned, whether additional waste was placed (legally or illegally), and whether the waste was burned before landfill gas had the chance to be generated. Under current regulations, all operating and most closed landfills are required to have landfill gas migration control systems and monitoring programs. Additionally, most active and many closed landfills have landfill gas capture and treatment/destruction systems. Therefore, the likelihood of methane landfill gas impacting an area beyond the landfill property is low.

Table 3.10-1 Landfills within 0.25 Mile of the Construction Footprint

Name	Address	Status	Location ¹	Potential for Landfill Gas Release?
West Oildale Burn Dump	Between State Route (SR) 99 and Roberts Lane, Bakersfield	Closed – Listed as a burn dump from 1998–2012 in RGA LF database	Possibly in the permanent footprint. Per EDR, the facility is located approximately 0.10 mile northeast of the centerline of the F-B LGA between SR 99 and Roberts Lane. However, per the USEPA website, the facility is located 5 miles south-southeast from the construction footprint.	Low – Minimal organic material typically exist at burn dumps, therefore limited landfill gas risk.
Valley Tree & Construction Disposal	4233 Quinn Road, Bakersfield, (35.4452100/-119.08487)	Active – Formerly listed as a construction/demolition and inert waste disposal site, closed 1/1/2006, currently permitted as an inert waste disposal site and an active large-volume transfer/processing facility (SWIS No. 15-AA-0153)	0.02 mile north of the permanent footprint (EDR orphan listing)	Low – Listed as an inert waste site. Also listed on the FINDS database as a landfill gas recovery site. However, additional information was not available for this listing (ID110060768227).
Williams Street Waste Tire Pile	North of 705 Williams Street, Bakersfield	Closed – Listed on the RGA LF database from 1996–1997	In the permanent footprint, 0.03 mile southeast of the centerline (EDR orphan listing)	Low – Based on the name of the site as a tire pile. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.

Name	Address	Status	Location ¹	Potential for Landfill Gas Release?
Group Tires	1619 East Truxtun Avenue, Bakersfield	Closed – Listed on the RGA LF database from 2000–2004	In the permanent footprint, 0.03 mile southeast from the centerline, may be same location as Williams Street Waste Tire Pile (EDR orphan listing)	Low – Based on the name of the site as a tire pile. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
Ceres West Compost Operation	6070 State Road, Bakersfield	Closed – Listed on the RGA LF database from 1999–2002 (SWIS No. 15-AA-0361)	In the permanent footprint, along F-B LGA (EDR Focus Map 27)	Low – Based on the nature as a composting facility.
Shafter #2 BD	Burbank Avenue and Shafter Road, Shafter (35.46791/-119.20611)	Closed 12/31/1972 – Listed as a solid-waste disposal site (SWIS No. 15-CR-0028)	0.18 mile south of the permanent footprint per KCEHS map 1.18 mile southeast of the permanent footprint per CalRecycle street description (EDR orphan listing)	Low – Minimal organic material typically exists at burn dumps, therefore limited landfill gas risk. Inspected quarterly.
McCoy's Tire	230 Golden State Avenue, Bakersfield	Closed – Listed on the RGA LF database from 2002–2004 (EDR)	In the permanent footprint, along F-B LGA (EDR Focus Map 31)	Low – Based on the site listing on the historical automobile station database and the name of the site as a tire facility. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
B & L Tires	117 Golden State Avenue, Bakersfield	Closed – Listed on the RGA LF database from 1998–2004 (EDR)	0.02 mile southeast of the permanent footprint (EDR Focus Map 31)	Low – Based on the name of the site as a tire facility. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
Dave's Road Service	974 Frontage Road, Bakersfield	Closed -- Listed on the RGA LF database from 1998–2004	0.06 mile northeast of the permanent footprint (EDR orphan listing)	Low – There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.

Name	Address	Status	Location ¹	Potential for Landfill Gas Release?
Gutierrez Tire	2200 East California Street, Bakersfield	Closed – Listed on the RGA LF database from 2000–2004	0.05 mile south of the permanent footprint (EDR orphan listing)	Low – Based on the name of the site as a tire facility. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
Clerou Tire Co, Inc.	530 East 21st Street, Bakersfield	Closed – Listed on the landfill database from 1996–2004 (EDR)	Adjacent to the permanent footprint, 0.03 mile south of the centerline (EDR Focus Map 35)	Low – Based on the name of the site as a tire facility. There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
Kern County Transit Co., Inc.	1409 Washington Street, Suite 2, Bakersfield	Closed – Listed on the landfill database from 2000–2004 (EDR)	Adjacent to the permanent footprint (EDR Focus Map 35)	Low – There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.
Eddie's Tires	2218 East California Avenue, Bakersfield	Closed – Listed on the landfill database from 1999–2004 (EDR)	0.07 mile south of the permanent footprint (EDR Focus Map 35)	Low – There is no history of buried waste at the site. Therefore, landfill gas likely does not exist at the site.

Sources: EDR, 2015a, 2015b; County of Kern, 2009; CalRecycle, 2016; USEPA, 2016

¹ "Orphan" sites are those lacking sufficient records to be mapped.

FINDS = Facility Index System

The F-B LGA does not traverse any active, permitted landfills (California Department of Resources Recycling and Recovery 2016). However, the Environmental Data Resources (EDR) report indicates that there are 13 sites located in the study area for landfills. Of these sites, six are located in or adjacent to the permanent footprint for the proposed F-B LGA. Only one listed site is still considered active (Valley Tree Construction and Disposal). This site is located 0.02 mile north of the permanent footprint.

Oil and Gas Wells

The F-B LGA study area for oil and gas wells (project footprint plus a 150-foot buffer area) passes through the California Division of Oil, Gas, and Geothermal Resources (DOGGR) District 4, which contains a high number of active, producing oil wells (DOGGR 2015). As of March 2016, Kern County in District 4 was California's top oil-producing county, with 83 percent of the State's 36,004 actively producing oil wells on file, or about 29,883 active producing wells (Drilling Edge 2016). The F-B LGA also traverses multiple oil and natural gas pipelines, as discussed in Section 3.6, Public Utilities and Energy. No active oil refinery properties were identified in the F-B LGA study area (United States Energy Information Administration 2015).

As discussed in Section 3.9 (Geology, Soils, Seismicity, and Paleontology) of this Draft Supplemental EIR/EIS, locations of both active and abandoned oil wells were plotted from data obtained from the DOGGR (2015) database, which indicated a total of 11 wells in the study area (including the project footprint plus a 150-foot-wide buffer around the project footprint). Of these, three are located inside the permanent footprint, all of which are plugged. There are no active wells located inside the permanent footprint. Of the eight wells located in the 150-foot buffer area, six are classified as plugged and two are new. Seven of the wells in the F-B LGA study area are

located between the city of Shafter and the community of Oildale, with one well located just north of Bakersfield.

The F-B LGA also traverses multiple oil and natural gas pipelines in, along, and traversing the proposed F-B LGA, as further discussed in Section 3.6, Public Utilities and Energy, of this Draft Supplemental EIR/EIS. Crossings are shown on Figure 3.6-2, which indicates that most crossings are located between the community of Oildale and the city of Bakersfield. As with the May 2014 Project, some sections of pipelines may need to be abandoned or relocated to accommodate the proposed alignment and facilities.

Hazards associated with constructing and operating the project near established oil and gas fields, oil and gas wells, pipelines, and refineries primarily involve the release of hazardous gases, such as methane, carbon dioxide, and hydrogen sulfide.

Potential Agricultural Operation Hazardous Substances

The F-B LGA study area for hazardous materials (project footprint plus a 150-foot buffer area) traverses a number of agricultural operations. Before manufacturers can sell pesticides in the United States, the USEPA must evaluate the pesticides thoroughly to ensure that 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.

In the study area, numerous agricultural enterprises have historically stored, handled, and applied pesticides and herbicides on row crops and orchards. Pesticide residues might persist in study area 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 study area for hazardous materials (project footprint plus a 150-foot buffer area) includes a number of industrial areas, which are commonly clustered along railroad rights-of-way (ROW) and associated with the larger communities in Shafter and Bakersfield. Often PEC sites are associated with these areas. 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 and commercial areas than in other areas.

The potential presence of hazardous substances at industrial facilities is discussed in Section 3.10.4.1 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-13).

Potential Release of Hazardous Materials and Wastes during Transportation

In the study area for the F-B LGA, SR 99, SR 43, SR 178, and the BNSF Railway serve as major transportation corridors. Most hazardous materials and wastes are transported without incident. However, spills and other accidental releases have been documented in the study area. Hazardous materials, hazardous wastes, and petroleum products are a subset of the tremendous volume of goods routinely shipped along these transportation corridors. In addition, more

intensive hazardous material transport and storage activity is assumed to occur at regional landfills and recycling facilities and a few large industrial operations (e.g., petroleum bulk plants).

Three agencies maintain searchable databases that track hazardous material releases in reportable quantities:

- The USEPA maintains the Hazardous Materials Incident Report System, which contains hazardous material spill incidents that are reported to the United States Department of Transportation
- The California Office of Emergency Services maintains the California Hazardous Materials Incident Report System, which contains information on reported hazardous material accidental releases or spills
- The State Water Resources Control Board maintains the Spills, Leaks, Investigations, and Cleanup program, which contains information on reported hazardous material accidental releases or spills

Although most hazardous materials and wastes are transported without incident, spills and other accidental releases have been documented in the study area. Hazardous materials spills and accidental releases that are cleaned up immediately and do not require regulatory action are not considered PEC sites. Therefore, most of the incident reports in these databases are not classified as PEC sites, although larger releases may be considered PEC sites.

The potential for release of hazardous materials and wastes during transportation is discussed in Section 3.10.4.1 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-13 through 3.10-14).

Specific Sites of Concern

Specific sites of concern are those PEC sites that fall into one or more of the categories described above, for general areas of concern. It is conceivable that sites estimated with low or no likelihood to affect the study area (e.g., a site listed in the EDR radius report [EDR 2015a] as an “EDR US Hist Auto Stat” with no documented underground storage tank or release onsite, or a manufacturing site with no known releases or storage of hazardous substances identified by fire insurance map [EDR 2015c]) could present situations requiring mitigation. These “conceivable” scenarios will be the focus of future parcel-by-parcel due diligence investigations prior to the property acquisition phase.

For the purposes of this analysis, specific sites of concern do not include those sites where a hazardous waste generator has been identified, but no release has been recorded, based on data provided in the EDR database report contained in Appendix A of the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Waste Technical Report (Authority and FRA 2017). Although undetected releases may have occurred at these facilities, there is no way to be certain of such an occurrence without physical testing. Physical testing will occur during the Phase I and Phase II Environmental Site Assessments (ESAs). A parcel-specific Phase I ESA will be completed for all parcels planned for acquisition and physical testing (Phase II ESA) will be completed as necessary for these parcels. In addition, fire insurance maps provided by the EDR were reviewed to determine if a site was historically used for industrial purposes in or near the study area for the F-B LGA.

The following screening criteria were utilized to evaluate sites identified in the EDR database with the potential to negatively affect the study area:

- High-Priority Sites
 - Non-release sites that indicated the onsite presence of large aboveground storage tanks or extremely hazardous substances sites were considered to have the potential to affect the study area based on the potential for a past unknown release and the potential environmental effects during relocation of the materials
 - Onsite presence of large quantities of hazardous materials, with or without a release

- Closed release sites with unknown extent of contamination
- Open release sites with known or unknown extent of contamination
- Incomplete status of remediation
- Medium-Priority Sites
 - Onsite presence of hazardous materials with no known release
 - Closed release cases with known and well-documented extent of contamination
 - Closed release cases with residual levels of contamination remaining in place
 - Fire insurance map identification of onsite hazardous substance storage (e.g., a ‘gas and oils’ site, ‘chem stor’ site, a depiction of a large aboveground storage tank onsite)
 - Fire insurance map identification of the likelihood of former onsite hazardous substance storage or use (e.g., a lumberyard or dry cleaners)

Sites identified as having a high and/or medium likelihood to affect the study area were selected for site reconnaissance consisting of drive-by viewings of each site. In addition, the F-B LGA was visually observed for other environmental conditions that were not identified through the EDR and fire insurance map reviews, as described in the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Waste Technical Report, page 4-10 (Authority and FRA 2017). Such conditions included pipelines, oil wells, and sites that may not have been listed in the EDR database or historical documents. Orphan sites determined to be present in the study area for the F-B LGA were then added to the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Wastes Technical Report, Table 5-1 (Sites with Potential Environmental Concerns Identified in the Study Area [EDR Database Search Report]).

As discussed in the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Wastes Technical Report (page 4-11) and listed in Table 5-1 of that report (pages 5-13 through 5-28), site reconnaissance included 149 selected PEC sites identified in the EDR database search and fire insurance maps (Authority and FRA 2016). Site reconnaissance was not completed for five identified high- and medium-priority facilities, as two sites were later determined to be low-priority sites and three high- and medium-priority sites were not observable from public ROW. Therefore, a total of 144 high- and medium-priority sites were included in site reconnaissance. During site reconnaissance, the presence of several hazardous material underground pipelines was also identified, along the existing railroad tracks in the F-B LGA and crossing the F-B LGA. Discussion of these pipeline crossings is provided in Section 3.6, Public Utilities and Energy.

Potential Environmental Concern Sites along the Proposed Fresno to Bakersfield Locally Generated Alternative

Multiple environmental concerns may exist at individual PEC sites along the F-B LGA. An overview is provided below for high-priority PEC sites that possess complex environmental histories, known extensive contamination, or are likely to have contamination but have not undergone environmental site assessment. These sites are also identified in Figure 3.10-1 and Figure 3.10-2, Sheets 1 through 14 (PEC Sites and Educational Facilities in the Study Area).

- One former cotton ginning company facility, including eight former rail spurs
- One site or facility with soil and/or groundwater affected by pesticides or other agricultural chemicals (open Department of Toxic Substance Control release case)
- One oil production site where groundwater well stimulation treatments are planned
- Two sites with aboveground storage tanks used for hazardous materials storage, including the storage of extremely hazardous materials
- One California State Hazardous Materials Incident Report System release site with no other available information

- One cleanup site with no additional information
- Seven sites with aboveground storage tank hazardous materials storage
- One site with storage of extremely hazardous materials
- Two sites with known releases and the storage of extremely hazardous materials
- Five sites with known soil contamination (closed cases) and unknown extent of residual impacts
- Four former oil company facilities previously used for the storage of large quantities of gasoline, kerosene, and solvent in tanks (no known releases)
- One site with known soil contamination (closed case) and aboveground storage tank hazardous materials storage

Other types of PEC sites may be characterized by small or unknown contamination, or closed sites with leaking underground storage tanks that will require site-specific investigations during the pre-design, project-level evaluations that would be tied to more detailed planning efforts for study area plans and profiles. These sites will be the focus of future parcel-by-parcel due diligence investigations prior to the property acquisition phase.

In addition, detailed discussion of the 27 high-priority PEC sites along the proposed alignment is provided in Section 5.4.5 of the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Waste Technical Report (Authority and FRA 2017).

Proximity to Schools

Consistent with California Public Resources Code Section 21151.4, the study area for schools includes the project construction footprint plus 0.25 mile on all sides of the footprint. School locations require consideration 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 would be located within 0.25 mile of a school and might reasonably be expected to emit or handle hazardous materials to consult with the school district regarding potential hazards. Sixteen educational facilities (defined as colleges, high schools, elementary schools, preschools, or nursery schools) are within 0.25 mile of the construction footprint for the proposed F-B LGA, as identified in Figure 3.10-1 and Figure 3.10-2 Sheets 1 through 14 (note that the icons used to identify educational facilities on these figures are situated approximately in the center of the properties, and do not represent the actual property boundaries) as listed in Table 3.10-2.

Table 3.10-2 Educational Facilities within 0.25 Mile of the Construction Footprint

Facility	Distance from Footprint (miles)	Direction from Centerline	County	Status
Free Will Christian Academy	0.00	Inside construction footprint, northeast of F-B LGA	Kern	Active
Richland Junior High/Redwood Elementary School ¹	0.04	Southwest of F-B LGA	Kern	Active
Shafter Kiddie Kollege	0.07	Northeast of F-B LGA	Kern	Active
Beardsley Junior High	0.03	East-northeast of F-B LGA	Kern	Active
Valley Oaks Charter School	0.00	Inside construction footprint, northeast of F-B LGA	Kern	Active
Stella I. Hills Elementary School	0.14	Northeast of F-B LGA	Kern	Active
Longfellow Elementary	0.07	Northeast of F-B LGA	Kern	Active

Facility	Distance from Footprint (miles)	Direction from Centerline	County	Status
Bakersfield Adult School (F Street Campus)	0.04	South of F-B LGA	Kern	Active
Kelly F. Blanton Student Education Center	0.20	South-southwest of F-B LGA	Kern	Active
Williams Elementary School/Williams Head Start Preschool	0.22	North-northeast of F-B LGA	Kern	Active
Bakersfield Play Center	0.11	North-northeast of F-B LGA	Kern	Active
Ramon Garza Elementary	0.08	North of F-B LGA	Kern	Active
Sierra Middle School	0.12	North of F-B LGA	Kern	Active
Legacy Christian Academy	0.12	West of F-B LGA	Kern	Active
Bethel Christian School	0.05	South of F-B LGA	Kern	Active
Bright Futures Preschool	0.11	North of F-B LGA	Kern	Active

Sources: California Department of Education, 2016; Elementary Schools, 2016a, 2016b; Bakersfield Adult School, 2016; Bakersfield Play Center, 2016; Bright Futures Preschool, 2016

¹ Redwood Elementary School/Richland Junior High/Richland Senior Elementary School are one joint property, but are shown on Figure 3.10.2 Sheet 2 as two separate icons to portray their proximity as being adjacent to each other.

3.10.4 Environmental Consequences

This section summarizes the Final EIR/EIS analysis of the May 2014 Project, then describes the environmental consequences associated with hazardous materials and wastes for the F-B LGA. Mitigation strategies addressing hazardous materials and wastes impacts are listed in Section 3.10.5, Mitigation Measures and Avoidance and Minimization Measures.

3.10.4.1 Summary of Analysis for the May 2014 Project

This section provides a summary of the effects of the May 2014 Project using information from the Fresno to Bakersfield Section Final EIR/EIS relevant to the issue area of hazardous materials and wastes.

Construction of the May 2014 Project would result in a temporary increase in the transportation, use, and storage of hazardous materials throughout the study area. Clean up of PEC sites and demolition of existing structures required to accommodate the May 2014 Project would also result in a temporary increase in waste generation and disposal requirements. Local landfills would be used to dispose of construction and demolition waste. Hazardous wastes generated during construction would be transported to an approved facility for handling and disposal. Routine transport, use, storage, and disposal of hazardous materials are governed by numerous laws, regulations, and ordinances. Compliance with laws, regulations, and ordinances would ensure potential impacts would be less than significant under CEQA.

Construction of the May 2014 Project could result in encountering unknown hazardous materials, such as contaminated soils during excavations, or known hazardous materials such as asbestos or lead in structures to be demolished. Any hazardous materials encountered during construction would be handled and disposed of in compliance with laws, regulations, and ordinances governing such activities. Therefore, potential impacts would be less than significant under CEQA.

Operational use of hazardous materials under the May 2014 Project would be minimal at the Truxtun Avenue passenger station in Bakersfield and along the alignment. Use of hazardous materials would be focused at the MOIF, where various materials would be required for vehicle maintenance. Handling and disposal of hazardous materials during operation of the May 2014

Project would occur in compliance with applicable laws, regulations, and ordinances, resulting in potential impacts that are less than significant under CEQA.

Construction and operation of the May 2014 Project would not include activities within 0.25 mile of closed or operating landfill sites between Shafter and Bakersfield. Therefore, the May 2014 Project would result in no impact associated with methane leaked from an area landfill.

The May 2014 Project would involve construction activities within 0.25 mile of 16 schools located between Shafter and Bakersfield, identified in Table 3.10-5 in the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-26 through 3.10-28). Extra precautions would be required to avoid adverse impacts associated with hazardous materials and wastes in these areas. Specifically, the Fresno to Bakersfield Section Final EIR/EIS (page 3.10-38) identifies HMW-MM#1 (Limit use of extremely hazardous materials near schools during construction) to ensure that “extremely hazardous materials” or a mixture containing such materials would not be used within 0.25 mile of a school in quantities exceeding state thresholds specified in subdivision (j) of Section 25532 of the Health and Safety Code. With implementation of Mitigation Measure HMW-MM#1, potential impacts associated with the use of hazardous materials in proximity to schools would be less than significant under CEQA.

3.10.4.2 Fresno to Bakersfield Locally Generated Alternative

This section of the Draft Supplemental EIR/EIS evaluates direct and indirect impacts associated with hazardous materials and wastes that would result from construction and operation of the F-B LGA.

As with the May 2014 Project, construction of the F-B LGA would involve the temporary transport, use, storage, and disposal of hazardous materials and wastes associated with construction, and there is the potential for disturbance of contaminants at PEC sites that are in the construction footprint. Regulations and Best Management Practices (BMPs) designed to limit the potential for hazards associated with an accidental spill of hazardous materials would reduce the potential for negative environmental impacts. Long-term use and storage of hazardous materials, such as those from the routine use and disposal of hazardous materials and wastes that would occur at a MOIF, would be governed by regulations that prescribe the proper use and disposal of such materials.

The discussion of environmental consequences provided below is organized per the significance criteria identified in Section 3.10.2.

Impact HMW #1: Temporary Transport, Use, Storage, and Disposal of Hazardous Materials and Wastes

During construction of the project, there would be some temporary transport, use, and disposal of hazardous materials associated with preparation and installation of the proposed rail facilities.

The estimated quantities of waste generated during the construction and operation phases of the F-B LGA are provided in Table 6-3 of the Fresno to Bakersfield Draft Supplemental Hazardous Materials and Waste Technical Report (Authority and FRA 2017). Potential impacts of the F-B LGA associated with the temporary transport, use, storage, and disposal of hazardous materials and wastes would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-29 through 3.10-37), with the exception that the location of site-specific occurrences would vary due to the locations of the alignment and associated facilities. As described, construction of the project would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and petroleum products (e.g., diesel fuel, lubricants, paints and solvents, and cement products containing strong basic or acidic chemicals). 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 ACMs and lead-based paint) might also be generated during demolition of existing buildings. Demolition of buildings and roadways containing asbestos and

lead-based materials requires specialized procedures and equipment and appropriately certified personnel. Buildings and roadways intended for demolition that were constructed before 1980 will be surveyed for ACMs. Those constructed before 1971 will also be surveyed for lead. 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.

Facilities and construction sites that use, store, generate, or dispose of hazardous materials or wastes and hazardous material/waste transporters are required to maintain plans for warning, notification, evacuation, and site security under regulations, as described in Section 3.10.2, Laws, Regulations, and Orders. The project would require a Construction General Permit (Order 2009-0009-DWQ), which requires the designation of special storage areas and labeling, containment berms, coverage from rain, concrete washout areas, and many other BMPs designed to minimize release of contaminants from construction sites.

Accidental spills or releases could occur during transport, storage, use, or disposal of hazardous materials and wastes during construction. Standard accident and hazardous materials recovery training and procedures are enforced by the state and followed by private state-licensed, certified, and bonded transportation companies and contractors. Further, a spill prevention, containment, and countermeasures control (SPCC) plan or, for smaller quantities, a spill prevention and response plan, which identifies BMPs for spill and release prevention and provides procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases, would be established for the project. The intent of the SPCC regulation is prevention, not the after-the-fact reactive measures commonly described in contingency plans. Contingency plans address spill containment and cleanup as well as management of contaminated soil and groundwater in the event of an accidental spill. 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.

Since approval of the May 2014 Project, the Authority has procured design-build contractors for the project north of Poplar Avenue. The first site-specific SPCC was prepared by Tutor Perini, Zachry, Parsons for construction of the crossing at the San Joaquin River, north of Fresno (Tutor Perini, Zachry, Parsons 2016). It was prepared in support of an Emergency Response Plan required in the Master Streambed Alteration Agreement with the California Department of Fish and Wildlife. The SPCC plan includes BMPs for non-stormwater management and materials and waste management to address potential hazards associated with accidental spills or releases of hazardous materials during project activities. Due to the BMPs in place with the SPCC plan, including compliance with the federal, state, and local regulations defined in Section 3.10.1, potential impacts associated with the risk of a spill or accidental release of hazardous materials would be minimized or avoided. Therefore the impact of such a release would be less than significant under CEQA.

Impact HMW #2: Inadvertent Disturbance of Hazardous Materials or Waste

Project implementation could potentially create a hazard to the public or the environment through upset or accident conditions that result in a release of hazardous materials.

Potential impacts of the F-B LGA associated with the inadvertent disturbance of hazardous materials or waste would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-31), with the exception that the location of site-specific occurrences would vary due to the locations of the alignment and associated facilities. Upset or accident conditions constituting an inadvertent disturbance of hazardous materials or wastes would not be planned occurrences and would be avoided as much as possible through compliance with laws and regulations (identified in Section 3.10.1); parcel-specific Phase I ESA studies and physical testing, if needed; and implementation of associated BMPs. Therefore, it is not possible to identify where or how such occurrences might be different in characteristics or severity than as described in the Fresno to Bakersfield Section Final EIR/EIS.

Trenching and other ground disturbing activities during project construction could disturb undocumented soil or groundwater contamination. Adverse impacts could result if construction activities inadvertently disperse contaminated material into the environment. For example, dewatering activities during construction could cause contaminated groundwater to migrate in the groundwater table, or result in contaminated groundwater blending with surface waters, where there is a hydrologic connection. Potential hazards to human health associated with the inadvertent disturbance of hazardous materials or waste include ignition of flammable liquids or vapors, inhalation of toxic vapors in confined spaces such as trenches, and skin contact with contaminated soil or water.

The Authority will prepare a construction management plan that prescribes activities for workers to follow in areas where the presence of undocumented soil or groundwater contamination is suspected based on visual observation or smell. The construction management plan will include but not be limited to the following: provisions for daily briefings of construction staff prior to work in order to communicate what to look for, who to contact in case of an unanticipated encounter with undocumented contamination, provisions for immediate notification of construction management, notification of the applicable local enforcement agency, consultation with that agency, and protocols for follow-up action, if necessary. In such instances, construction activities would cease until it is determined in coordination with regulatory agencies that work can proceed without the risk of injury to persons or the environment.

Laws regulating hazardous materials are listed in Section 3.10.1.1 of this Draft Supplemental EIR/EIS and discussed in Section 3.10.2.1 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-1 through 3.10-6). These laws and regulations include requirements for the inspection of construction areas prior to ground disturbance in order to avoid the unexpected disturbance of hazardous materials. Due to compliance with existing laws and regulations, as well as the implementation of a construction management plan, the potential effects of encountering unrecorded contamination during construction would be a less than significant impact under CEQA.

Impact HMW #3: Construction on or Near Potential Environmental Concern Sites

Project activities located on a site that is included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5 (the Cortese list), including PEC sites, could result in hazards to the public or the environment.

Potential impacts of the F-B LGA associated with construction on or in proximity to PEC sites would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-31 and 3.10-32), with the exception that the location of site-specific occurrences would vary due to the locations of the alternative alignment and associated facilities. Construction activities could encounter contaminants or interfere with ongoing remediation efforts, unless coordinated with site remediation activities. This would minimize risks of damaging or interfering with remediation site controls (e.g., soil containment areas) or 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.

In order to ensure that the presence or potential for hazardous materials sites compiled pursuant to California Government Code Section 65962.5 (the Cortese list) would not create a significant hazard to the public or the environment, federal, state, and local regulations and policies require environmental site assessment procedures (due-diligence) for future development on or near a potentially hazardous or contaminated site. Phase I, II, and III would be implemented as required, and summarized below.

- **Phase I ESA.** A parcel-specific Phase I ESA will be completed for all parcels planned for acquisition. The site assessment plan will be submitted by the design-build contractor to the Authority for approval. The parcel-level site assessment plan will include all standards for an All-Appropriate Inquiry put forth by the USEPA (Code of Federal Regulations Title 40, Part

312) and performed to ASTM standards (ASTM E1527-13). This investigation would include the historical use of pesticides on parcels.

- **Phase II ESA.** If the Phase I identifies recognized environmental conditions, a Phase II sampling study will be conducted. Necessary samples can include soil, groundwater, or other media that may contain hazardous materials, such as structural materials. A written report will be prepared by the design-build contractor detailing the results, applicable regulations, recommendations, and cost projections, if needed, and delivered to the Authority for review.
- **Phase III ESA.** If the Phase II concludes the site(s) are contaminated, a Phase III will be conducted. A Phase III will generally include a management plan that establishes design and implementation of mitigation or remediation. Cleanup may include excavation, disposal, bio-remediation, or any other treatment of conditions subject to regulatory action. All necessary reports, regulations, and permits will be followed by the design-build contractor to achieve cleanup of the affected area (limits of construction) prior to property acquisition.

In lieu of remediating the identified sites, design and engineering controls may be implemented to avoid the contaminated sites if the extent of the contamination and the components or logistics of remediation are prohibitive. Project Design Features identified in Section 3.10.6 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 3.10-37 and 3.10-38) would minimize potential hazards through the design and placement of project elements, and avoiding contaminated sites where possible. All necessary remediation would be conducted by the responsible party or other interested parties in connection with the project before project construction. If necessary, regulatory approval for construction at contaminated sites would be sought and planned for. In addition, consistent with Public Resources Code 21151.4, the Authority consulted with the school districts to obtain their input regarding the Fresno to Bakersfield Section Final EIR/EIS and will for the F-B LGA.

Compliance with existing laws and regulations including requirements of the Phase I, II or III ESA would ensure that potential impacts associated with construction on or near PEC sites would be less than significant under CEQA.

Impact HMW #4: Temporary Hazardous Material and Waste Activities in the Proximity of 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.

As with the May 2014 Project, temporary hazardous material and waste activities within 0.25 mile of schools could occur during the construction period for the F-B LGA. Sixteen educational facilities (defined as colleges, high schools, elementary schools, preschools, or nursery schools) are within 0.25 mile of the construction footprint for the F-B LGA (Table 3.10-2).

Potentially hazardous materials and items containing potentially hazardous materials commonly used in railway construction, operation, or maintenance will be used or stored in the project ROW. Additionally, demolition of the 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 proposed F-B LGA, would be Kern County and City of Bakersfield. Additionally, the Certified Unified Program Agencies require a business plan in accordance with state regulations (California Health and Safety Code, Section 25100 et seq.).

California Public Resources Code Section 21151.4 states, “An environmental impact report shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within 0.25 mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance 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, that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless both of the following occur:

- The lead agency preparing the environmental impact report or negative declaration has consulted with the school district having jurisdiction regarding the potential impact of the project on the school.
- The school district has been given written notification of the project not less than 30 days prior to the proposed certification of the environmental impact report or approval of the negative declaration.”

Consistent with subdivision (j) of Section 25532 of the Health and Safety Code and during the course of preparation of the Fresno to Bakersfield Section Final EIR/EIS, the Authority has consulted with potentially affected school districts through a series of meetings to discuss potential impacts and mitigation measures, and to receive school district comments. These meetings are listed in Chapter 8, Table 8-1 of in the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: pages 8-31 through 8-63).

Compliance with the rule cited above allows affected schools to comment on the project, expressing related concerns that may generate potential prescriptive actions, such as limits on the materials used, or restrictions on the transport and storage of such materials. Also, the California Air Resources Board and county agencies specify air monitoring for large- and small-scale construction projects, contaminated soil and groundwater remediation projects, and demolition projects. Onsite monitoring regulations are summarized at the California Air Resources Board website (www.arb.ca.gov/homepage.htm) for the components of airborne contamination, listed below.

- Visible emissions
- Fugitive dust
- Particulate matter
- Organic solvents
- Storage of organic liquids
- Transfer of gasoline and diesel fuel to vehicles
- Transfer of gasoline and diesel fuel to fuel storage tanks
- Open burning

Examples of other engineering controls that will be applied to contain offsite emissions that might affect a school may also include but not be limited to: 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 olfactometry measuring and quantifying odor strength in the ambient air. As such, the project would comply with federal, state, and local regulations related to the transport, handling, and disposal of hazardous waste.

In the unlikely case that a release of hazardous materials or waste occurs within 0.25 mile of a school, such an occurrence would constitute a significant impact under CEQA due to the potential for students to be exposed to released materials (as previously described, the 0.25-mile buffer area is used for consistency with California Public Resources Code Section 21151.4). 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 release. Mitigation Measure HMW-MM#1, *Limit use of extremely hazardous materials near schools during construction* (presented in Section 3.10.5.1 of the Fresno to Bakersfield Section Final EIR/EIS, page 3.10-34), would be implemented to avoid or minimize potentially adverse effects associated with schools (Authority and FRA 2014). 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, type, 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. Therefore, potential impacts during construction of the F-B LGA would be less than significant under CEQA after implementation of Mitigation Measure HMW-MM#1.

Impact HMW #5: Construction in Proximity to Landfills and Oil Well Sites

Impacts associated with the F-B LGA could occur if the project is located on a site that is included on a list of hazardous materials sites compiled pursuant to the Cortese list and, as a result, create a hazard to the public or the environment. In addition, petroleum products and product conveyances, including crude oil and refined products such as fuels and lubricants and natural gas, are considered in this analysis because they may also pose a potential hazard to human health and safety if released into the environment. Petroleum products and pipelines, including crude oil and refined products (e.g., fuels, solvents, lubricants, and natural gas), are excluded from the definition of a “hazardous substance” in the Comprehensive Environmental Response, Compensation, and Liability Act. These materials may pose a hazard to human health and safety or to the environment if released into the workplace or the environment. Release could occur through spills during construction, rupture of a pipeline or well casing hit during construction, or through the disturbance of contaminated soil or groundwater.

Potential impacts of the F-B LGA associated with construction activities in proximity to landfills and oil well sites would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-34), with the exception that the location of site-specific occurrences would vary due to the locations of the F-B LGA alignment and associated facilities. Table 3.10-1 shows that there are six facilities located in or adjacent to the permanent footprint for the F-B LGA. There is one active waste disposal site located within 0.25 mile of the footprint (Valley Tree & Construction Disposal), which is in the unincorporated community of Saco approximately seven miles northwest of Bakersfield. No active landfills are located within 1,000 feet of the proposed footprint or construction activities. Therefore, there is a low potential for landfill gas release and the existing regulatory framework minimizes explosion risk. Potential impacts associated with proximity to active or closed landfill sites would be less than significant under CEQA.

Section 3.10.3.2 discusses oil wells and pipelines that occur in the study area for the F-B LGA. As required for the May 2014 Project, all construction and grading work conducted within 100 feet of an oil well site would be coordinated with the DOGGR, and active wells would be capped and abandoned, or relocated. Therefore, potential impacts associated with proximity of construction activities to oil well sites would be less than significant under CEQA.

Impact HMW #6: Transport, Use, Storage, and Disposal of Hazardous Materials and Wastes

During operation of the project, there would be minimal temporary transport, use, and disposal of hazardous materials associated with preparation and installation of the rail facilities. No acutely hazardous materials would be required to operate the passenger rail service, except potentially at the MOIF. Potential impacts of the F-B LGA associated with the transport, use, storage, and disposal of hazardous materials and wastes would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-35), with the exception that the location of site-specific occurrences would vary due to the locations of the alternative alignment and associated facilities.

Operation and maintenance would require the use and transport of minor amounts of hazardous materials, such as the periodic use of herbicides in the ROW to control weeds, janitorial supplies at stations, and greases to lubricate switching equipment along the trackway. The quantities of materials used and wastes generated by the F-B LGA (as with the May 2014 Project) would be small compared to wastes generated by other transportation services (such as conventional passenger automobiles or air travel, which use petroleum-based vehicle fuel as the primary means of power) and commercial or industrial production facilities. The routine transport, storage,

use, and disposal of the substances used by the project are regulated by a number of federal, state, and local laws.

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), which specifies the requirements for material inventory management, inspections, training, recordkeeping, and reporting. A SPCC plan would also be implemented pursuant to Code of Federal Regulations Title 40, Part 112, or, for small quantities, a spill prevention and response plan would be implemented. Both the SPCC and the spill prevention and response plan would identify BMPs for spill and release prevention and provide procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases. 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.

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. As with the current railroad system, the accidental release of hazardous materials from a vehicle during a train or vehicular traffic collision remains a remote possibility. Compliance with federal and state regulations, as well as requiring spill contingency and cleanup plans, minimizes the risk of a spill or accidental release of hazardous materials. Because conformance with these established policies would reduce the potential for improper handling of materials and wastes that could result in routine and accidental releases, the effects would be less than significant under CEQA.

Impact HMW #7: Hazardous Materials and Wastes in the Proximity of Schools

Impacts associated with the project could be significant if operation 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.

As discussed under Impact HMW #6, operation and maintenance of the project would require the use and transport of minor amounts of hazardous materials. The quantities of materials used and wastes generated by the F-B LGA (as with the May 2014 Project) would be small compared to wastes generated by other transportation services (such as conventional passenger automobiles or air travel, which use petroleum-based vehicle fuel as the primary means of power) and commercial or industrial production facilities. During operation and maintenance of the F-B LGA, potential impacts associated with the presence of hazardous materials and wastes in proximity to schools would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-36), with the exception that the location of site-specific occurrences would vary depending on the proposed alignment. As noted in Table 3.10-2, there are 16 educational facilities located within 0.25 mile of the footprint for the F-B LGA. These sites are shown on Figure 3.10-1 and Figure 3.10-2 (Sheets 1 through 14).

Any hazardous materials usage associated with the project would be subject the federal, state, and local regulations and policies described in Section 3.10.1, including as applicable to school sites. Per California Public Resources Code Section 21151.4, "An environmental impact report shall not be certified or a negative declaration shall not be approved for any project involving the construction or alteration of a facility within 0.25 mile of a school that might reasonably be anticipated to emit hazardous air emissions, or that would handle an extremely hazardous substance 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, that may pose a health or safety hazard to persons who would attend or would be employed at the school, unless both of the following occur: (1) The lead agency preparing the environmental impact report or negative declaration has consulted with the school district having jurisdiction regarding the potential impact of the project on the school and (2) the school district has been given written notification of the project not less than 30 days

before the proposed certification of the environmental impact report or approval of the negative declaration.”

No acutely hazardous materials would be required to operate the passenger rail service except potentially at the MOIF. Figure 3.10-2, Sheet 1, shows that there are no schools located within 0.25 mile of the proposed MOIF. Operation and maintenance of the F-B LGA would have no impact under CEQA, with respect to the use of acutely hazardous substances near schools.

Impact HMW #8: Operation in Proximity to Landfills and Oil Well Sites

Project activities located on a site that is included on a list of hazardous materials sites compiled pursuant to California Government Code Section 65962.5 (the Cortese list) could result in hazards to the public or the environment. Potential impacts of the F-B LGA associated with operation and maintenance of the F-B LGA and related facilities in proximity to landfills and oil well sites would occur in the same way as described in Section 3.10.5.3 of the Fresno to Bakersfield Section Final EIR/EIS (Authority and FRA 2014: page 3.10-34).

With respect to landfills, if the F-B LGA would operate within 1,000 feet of a landfill, additional methane monitoring would be instituted beneath structures or other features where explosive gases could accumulate. As discussed under Impact HMW #5 and in Table 3.10-1, there are 13 landfills located within 0.25 mile of the F-B LGA construction footprint. Of these, six sites are located in or adjacent to the permanent footprint for the proposed F-B LGA. All sites identified inside the permanent footprint area are closed. One of these sites, the former West Oildale Burn Dump, operated between 1998 and 2012 and is identified as a closed burn dump site. Typically, old burn dumps pose a limited landfill gas risk because the organic material that would normally decompose to form methane has been burned and cannot further decompose. However, the risk would vary based on the degree to which each site was burned, whether additional waste was placed (legally or illegally), and whether the waste was burned before landfill gas had the chance to be generated. Under current regulations, all operating and most closed landfills are required to have landfill gas migration control systems and monitoring programs. Additionally, most active and many closed landfills have landfill gas capture and treatment/destruction systems. Therefore, the likelihood of methane landfill gas impacting an area beyond the landfill property is low.

As noted, Table 3.10-1 also indicates that only one site located within 0.25 mile of the project footprint is identified as active (Valley Tree & Construction Disposal). None of the landfill sites located within 0.25 mile of the project footprint have a history of buried waste, and landfill gas likely does not exist at these sites. Due to the lack of active landfill sites in the study area for landfills, and the low risk of methane gas associated with old burn dump sites (including those located inside the project footprint), additional methane monitoring would not be required. Therefore, potential impacts associated with landfill explosion risk would be less than significant under CEQA.

With respect to oil and gas wells and associated pipelines, and similar to the May 2014 Project, oil and gas wells and pipelines located in the study area may be impacted during construction of the F-B LGA. Those that would be affected by the proposed alignment and associated facilities would be capped/abandoned or relocated during the construction period. Therefore, during the project's operational period, the only potential conflicts with remaining oil and gas well sites would occur as a result of train derailment. As discussed in Section 3.11, Safety and Security, of this Draft Supplemental EIR/EIS the F-B LGA would have design characteristics that would keep any potential derailed high-speed train on its tracks, eliminating the potential for collisions with oil wells. Potential conflicts with oil and gas wells during operation would result in a less than significant impact under CEQA.

3.10.5 Avoidance and Minimization Measures

All of the Avoidance and Minimization Measures (referred to as project design features in Section 3.10.6 of the Fresno to Bakersfield Section Final EIR/EIS) are applicable to the F-B LGA. The applicable list is provided in Technical Appendix 2-G, Mitigation Monitoring and Enforcement Plan. Technical Appendix 2-H describes how implementation of these measures reduces adverse effects from hazardous materials and wastes. The following Avoidance and Minimization Measures would be applicable to the May 2014 Project as well as the F-B LGA.

- **HMW-IAMM#1 Transportation of Materials:** This action reduces potential impacts from hazardous materials and waste 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-IAMM#2 Property Acquisition:** This action reduces potential impacts resulting from hazardous materials and waste by requiring completion of a Phase 1 environmental site assessment during the ROW acquisition phase. 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 IAMM#3 Landfill:** This measure reduces potential impacts resulting from hazardous materials and waste by requiring additional methane protection construction procedures for work within 1,000 feet of a landfill including detection systems and personnel training.
- **HMW IAMM#4 Work Barriers:** This action reduces potential impacts resulting from hazardous materials and waste by requiring additional construction procedures that limit the potential release of subsurface containments during construction.
- **HMW IAMM#5 Undocumented Contamination:** This measure reduces potential impacts from hazardous materials and waste 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 cleanup or disposal.
- **HMW IAMM#6 Demolition Plans:** This commitment reduces potential impacts resulting from hazardous materials and waste by requiring a demolition plan for the safe dismantling and removal of building components and debris including a plan for abatement of lead and asbestos, which can be prevalent in older structures.

This measure reduces potential impacts resulting from hazardous materials and waste through preparation of a hazardous materials business plan addressing HSR operations.

- **HMW IAMM#7 Spill Prevention:** This measure reduces potential impacts resulting from hazardous materials and waste by requiring a written construction management plan, including a construction period spill prevention plan. The plan will identify construction BMPs designed to contain and prevent accidental spills, including procedures to clean up any accidental hazardous material release.

This measure reduces potential impacts resulting from hazardous materials and waste through preparation of a spill prevention, control, and countermeasure plan addressing HSR operations.

- **HMW IAMM#8 Storage of Hazardous Materials:** This measure reduces potential impacts resulting from hazardous materials and waste by requiring a written hazardous materials and waste plan describing responsible parties and procedures for hazard waste transport, containment, and storage BMPs. This reduces the likelihood of hazardous waste spills.
- **HMW IAMM#9 Material Selection:** This requirement reduces potential impacts resulting from hazardous materials and waste through implementation of an annual review of hazardous materials used during construction and operation, and by determining if there are acceptable nonhazardous materials substitutes.

3.10.6 Mitigation Measures

3.10.6.1 Mitigation Measures Identified in the Fresno to Bakersfield Section Final EIR/EIS

During project design and construction, the Authority and FRA would implement measures to reduce impacts associated with hazardous materials and wastes. The mitigation in Table 3.10-3 was approved under the *Fresno to Bakersfield Section Mitigation and Monitoring Enforcement Plan* (Authority and FRA 2014) and is applicable to the F-B LGA.

Table 3.10-3 Mitigation Measures Applicable to the F-B LGA

Number	Description
HMW-MM#1	Temporary Hazardous Material and Waste Activities in the Proximity of Schools. No use of extremely hazardous substances or a mixture thereof 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.

Mitigation Measure HMW-MM#1 requires that extremely hazardous substances would not be used within 0.25 mile of a school, in quantities exceeding state thresholds defined in Health and Safety Code Section 25532. As such, this mitigation measure minimizes or avoids the potential for an accidental release of extremely hazardous substance to occur in close proximity to a school as a result of the project, and thereby minimizes or avoids the potential for exposure of school children to such substances resulting in a less than significant impact under CEQA. During pre-construction and construction, the project design-build contractor is responsible for ensuring that this mitigation measure will be complied with. Implementation of this mitigation measure would not result in adverse physical impacts to the environment. Therefore, impacts resulting from implementation of this mitigation measure would be less than significant under CEQA.

3.10.6.2 Mitigation Measures Specific to F-B LGA

No additional mitigation measures are required to address hazardous materials and wastes impacts resulting specifically from the F-B LGA.

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