California High-Speed Rail Authority

Burbank to Los Angeles Project Section

Hazardous Materials and Wastes Technical Report

May 2020

CALIFORNIA High-Speed Rail Authority

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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ACRONYMS AND ABBREVIATIONS

ACM	asbestos containing materials
ADL	aerially deposited lead
ASTM	American Society for Testing Materials
Authority	California High-Speed Rail Authority
BMP	best management practice
Caltrans	California Department of Transportation
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CEQA	California Environmental Quality Act
C.F.R.	Code of Federal Regulations
CMF	Metrolink Central Maintenance Facility
CMP	Construction Management Plan
DOGGR	California Division of Oil, Gas, and Geothermal Resources
DTSC	California Department of Toxic Substances Control
DWQ	Division of Water Quality
EDR	Environmental Database Resources
EIR	environmental impact report
EIS	environmental impact statement
ESA	environmental site assessment
FAA	Federal Aviation Administration
FRA	Federal Railroad Administration
HSR	high-speed rail
LADWP	City of Los Angeles Department of Water and Power
LAUS	Los Angeles Union Station
LBP	lead-based paint
Metro	Los Angeles County Metropolitan Transportation Authority
MSL	Mean sea level
NEPA	National Environmental Policy Act
NOA	Naturally Occurring Asbestos
NPL	National Priority List
OCS	overhead catenary system
PCB	polychlorinated biphenyls
PCWQCA	Porter-Cologne Water Quality Control Act
PEC	Potential Environmental Concerns
PCE	tetrachloroethylene
RCRA	Resource Conservation and Recovery Act

RSA	resource study area
SAA	Supplemental Alternatives Analysis
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SWRCB	State Water Resources Control Board
TCE	trichloroethylene
TPSS	Traction power substation
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
UPRR	Union Pacific Railroad
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic compound

EXECUTIVE SUMMARY

The California High-Speed Rail Authority (Authority) proposes to construct, operate, and maintain an electric-powered high-speed rail (HSR) system in California. When completed, it will run from San Francisco to Los Angeles in under 3 hours, at speeds in excess of 200 miles per hour. The system will eventually extend to Sacramento and San Diego, with 800 miles of track and up to 24 stations.

The Burbank to Los Angeles Project Section of the HSR system is approximately 14 miles long and would be located within the cities of Burbank, Glendale, and Los Angeles on an existing freight and passenger railroad corridor. The project would be located within a narrow and constrained urban environment, crossing major streets and highways, and in portions would be adjacent to the Los Angeles River. The Burbank to Los Angeles Project Section would include HSR stations near Hollywood Burbank Airport and at Los Angeles Union Station (LAUS). The HSR alignment would be entirely grade-separated, meaning that crossings between roads, railroads, and other transport facilities would be located at different heights (overpasses or underpasses) so that the HSR project would not interrupt nor interface with other modes of transport, including vehicles, bicycles, and pedestrians.

The Authority and the Federal Railroad Administration (FRA) have prepared program-wide, Tier 1 environmental documents for the HSR system under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Specifically, the Authority and the FRA prepared the *Statewide Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS)* (Authority and FRA 2005) to evaluate the ability of the HSR system to meet existing and future demands on the capacity of California's intercity transportation system. The Authority is now undertaking Tier 2, project environmental evaluations for individual sections of the statewide system.

This Hazardous Materials and Wastes Technical Report was prepared on behalf of the Authority to identify potential environmental concerns that may be encountered as part of the construction and operations of the Burbank to Los Angeles Project Section of the California HSR System. Site reconnaissance on private properties was not conducted as of the writing of this report. If determined necessary, fieldwork will be pursued to confirm information in this report gathered from publicly available sources, but access to private property cannot be guaranteed.

Review of the federal, state, and tribal (if appropriate) records, including a proprietary records summary provided by Environmental Data Resources, Inc. (EDR), a third-party provider of environmental and land use records, showed thousands of listed properties within the respective American Society for Testing and Materials standard search distances for each database category. Most of these listed properties were reviewed and removed as properties of potential concern based on the type of listing, the information provided for the listing, the distance of the listed property from the Burbank to Los Angeles Project Section footprint, and/or the estimated depth and direction of groundwater flow.

A total of 378 facilities of potential environmental concern were identified as located within or adjacent to the Burbank to Los Angeles Project Section limits of disturbance. These listings are considered to have potential environmental concerns for the HSR project based on proximity to the Burbank to Los Angeles Project Section and the listing details (e.g., underground storage tank release). These facilities were further classified into one of three categories: High, Medium and Low risk, based on the level of hazardous waste and material exposure they pose to the construction and operation of the Burbank to Los Angeles Project Section. High-risk properties are those where investigation and review of environmental records indicated contamination is present and likely to be encountered during construction; and/or abatement of building materials will be required prior to construction. Medium-risk properties are those where investigation and review of environmental records indicated contamination is or may be present at the identified site but is not likely to be encountered during excavation. Low-risk properties are those where investigation and review of environmental records indicated that there is no contamination associated with the identified site, and abatement of building materials will not be required.

In general, the railroad right-of-way on which the proposed project is to be constructed is, by nature of its historic use, considered as a potential environmental concern. Contaminated soils are likely to be encountered during construction activities within the limits of disturbance due to past activities and events such as the application of arsenic- and chlorinated-based herbicides, petroleum hydrocarbons (oils and grease) associated with train operations and maintenance, and chemical spills involving railcars. The subsurface environment beneath some of the adjoining properties to the project footprint is likely impacted. Additional assessment, including detailed site visits and subsurface sampling, will be required once more detailed information is provided with respect to project station locations, maintenance facilities, parking lots, and property acquisitions (e.g., full take, partial take, or temporary construction easement).

1 INTRODUCTION

1.1 California High-Speed Rail System Background

The California High-Speed Rail Authority (Authority) is responsible for planning, designing, building, and operating the first high-speed passenger rail service in the nation. The California High-Speed Rail (HSR) System will connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs, and preserve agricultural and protected lands. When it is completed, it will run from San Francisco to the Los Angeles basin in under three hours at speeds capable of exceeding 200 miles per hour. The system will eventually extend to Sacramento and San Diego, totaling 800 miles with up to 24 stations, as shown on Figure 1-1.[1] In addition, the Authority is working with regional partners to implement a statewide rail modernization plan that will invest billions of dollars in local and regional rail lines to meet the state's 21st century transportation needs.

The California HSR System is planned to be implemented in two phases. Phase 1 would connect San Francisco to Los Angeles and Anaheim via the Pacheco Pass and the Central Valley.[2] Phase 2 would connect the Central Valley to Sacramento, and another extension is planned from Los Angeles to San Diego. The California HSR System would meet the requirements of Proposition 1A,[3] including the requirement for a maximum nonstop service travel time between San Francisco and Los Angeles of two hours and 40 minutes.

1.2 Burbank to Los Angeles Project Section Background

The Burbank to Los Angeles Project Section would be a critical link in Phase 1 of the California HSR System connecting the San Francisco Bay Area to the Los Angeles Basin. The Authority and the Federal Railroad Administration (FRA) selected the existing railroad right-of-way as the corridor for the preferred alternative between Sylmar and Los Angeles Union Station (LAUS) in the 2005 *Statewide Program Environmental Impact Report/Environmental Impact Statement* (EIR/EIS) (Authority and FRA 2005). The Sylmar to Los Angeles railroad corridor includes Burbank, which is southeast of Sylmar. Therefore, the Project EIR/EIS for the Burbank to Los Angeles Project Section focuses on alignment alternatives along the existing Sylmar to Los Angeles railroad corridor.

The Burbank to Los Angeles Project Section was initially considered as part of the Palmdale to Los Angeles Project Section. The Authority and FRA announced their intention to prepare a joint EIR/EIS for the Palmdale to Los Angeles Project Section in March 2007. On March 12, 2007, the Authority released a Notice of Preparation, and the FRA published a Notice of Intent on March 15, 2007. Over the next several years, the Authority and FRA conducted scoping and prepared alternatives analysis documents for that section. The 2010 Palmdale to Los Angeles Preliminary Alternatives Analysis recommended alignment alternatives and station options for the Palmdale to Los Angeles Project Section based on the program-level corridor selected in 2005. The 2011 Palmdale to Los Angeles Supplemental Alternatives Analysis (SAA) focused specifically on the subsections from the community of Sylmar to LAUS, and reevaluated the alternatives and station options. In June 2014, the Authority published a Palmdale to Los Angeles SAA Report, which introduced the concept of splitting the Palmdale to Los Angeles Project Section into two sections. On July 24, 2014, the Authority released a Notice of Preparation and the FRA published a Notice of Intent to prepare EIR/EIS documents for the Palmdale to Burbank and Burbank to Los Angeles project sections.

[1] The alignments on Figure 1-1 are based on Authority/FRA decisions made in the 2005, 2008, and 2012 Programmatic EIR/EIS documents.

[2] Phase 1 may be constructed in smaller operational segments, depending on available funds.

[3] http://www.catc.ca.gov/programs/hsptbp.htm.

Source: California High-Speed Rail Authority and Federal Railroad Administration (2017)

Figure 1-1 California High-Speed Rail System

One of the main reasons for the project section split was the Initial Operating Section[4] concept and its interim terminus in the San Fernando Valley, which was discussed in the Authority's 2012 and 2014 Business Plans. Additionally, the Authority and FRA determined that separate environmental documents would be more beneficial to address environmental impacts and conduct stakeholder outreach. The key environmental resources likely to be impacted were different between the two sections, and separate environmental documents better supported project phasing and sequencing.

In April 2016, the Authority released the Burbank to Los Angeles SAA, which refined the previously studied alignments. Additionally, the Authority released the 2016 Palmdale to Burbank SAA, which refined the concepts at the Burbank Airport Station and the alignments from south of the Burbank Airport Station to Alameda Avenue in the City of Burbank. The 2016 Burbank to Los Angeles SAA Report proposed to evaluate one build alternative south of Alameda Avenue to LAUS. The subsection between the Burbank Airport Station and Alameda Avenue was studied in the 2016 Palmdale to Burbank SAA, which proposed two station options and two alignment options. Table 1-1 summarizes the conclusions of the two SAA reports.

Table 1-1 2016 Supplemental Alternatives Analysis Recommendations for the Burbank to Los Angeles Project Section

Alternative	Alignment/ Station	Area/Station	Alignment/Station Type
No Project Alternative			
HSR Build Alternative	Alignments	Burbank Airport Station to Alameda Avenue	Alignment Option A (Surface) Alignment Option B (Below-Grade and Surface)
		Alameda Avenue to LAUS	Surface Alignment
	Stations	Burbank Airport Station	Station Option A (Surface) Station Option B (Below-Grade)
		LAUS	Surface Station Option

Sources: California High-Speed Rail Authority and Federal Railroad Administration (2016). "Palmdale to Burbank Supplemental Alternatives Analysis"; "Burbank to Los Angeles Supplemental Alternatives Analysis."
HSR = High-Speed Rail
LAUS = Los Angeles Union Station

Since the release of the two SAA documents in 2016, the design has undergone further refinements. The surface options from Burbank Airport to Alameda Avenue (Alignment Option A and Station Option A) have been eliminated from consideration. The below-grade options (Alignment Option B and Station Option B) have been refined in order to minimize potential environmental effects and reduce cost. Therefore, this environmental document evaluates one build alternative for the project section.

FRA requires logical termini for project level analysis. The Authority has determined that logical termini are defined by stations, with Burbank Airport Station as the northern terminus and LAUS as the southern terminus for the Burbank to Los Angeles Project Section. These two stations are also termini for the Palmdale to Burbank and Los Angeles to Anaheim Project Sections. The analysis for the Burbank Airport Station is consistent with what is included in the Palmdale to Burbank EIR/EIS. Similarly, the analysis for LAUS is consistent with what is included in the Los Angeles to Anaheim EIR/EIS.

[4] The Initial Operating Section was the first segment planned for construction and operations, as outlined in the 2014 Business Plan. The segment permitted operation of HSR service from Merced to the San Fernando Valley. The 2016 Business Plan revised the initial segment termini to the Central Valley and Silicon Valley.

1.3 Project Description Purpose

This project description describes the project for use during environmental impact analyses to complete technical reports to inform the Burbank to Los Angeles Project Section EIR/EIS. The basis of this project description is the HSR Build Alternative as defined in the *Burbank to Los Angeles Project Section Draft Preliminary Engineering for Project Definition* document. This project description describes the physical design elements of the project and does not define all operating plans and scenarios, construction plans, or capital and operating costs. This project description will serve as the basis for Chapter 2, Alternatives, of the project EIR/EIS. Chapter 2 of the EIR/EIS will include additional detail beyond the content of this report.

This report documents the detailed environmental resource analysis conducted for the Burbank to Los Angeles Project Section of the California HSR System and includes the following:

- A brief description of the project and the alternatives under study
- A discussion of pertinent statutes and regulations
- A description of the existing environmental resource conditions in the study area
- A description of the analytical methodologies and assumptions used for this study
- The results of these analyses, including effects or benefits resulting from the project

2 PROJECT DESCRIPTION

The Burbank to Los Angeles Project Section of the California HSR System is approximately 14 miles long, crossing the cities of Burbank, Glendale, and Los Angeles on an existing railroad corridor. HSR for this project section would be within a narrow and constrained urban environment, crossing major streets and highways and, in some portions, adjacent to the Los Angeles River. The Los Angeles County Metropolitan Transportation Authority (Metro) owns the railroad right-of-way, the Southern California Regional Rail Authority owns the track and operates the Metrolink commuter rail service, the National Railroad Passenger Corporation (Amtrak) provides intercity passenger service, and the Union Pacific Railroad (UPRR) holds track access rights and operates freight trains.

This section describes the No Project Alternative and the HSR Build Alternative to be evaluated in the Burbank to Los Angeles Project EIR/EIS.

2.1 No Project Alternative

Under the No Project Alternative, the California HSR System would not be built. The No Project Alternative represents the condition of the Burbank to Los Angeles Project Section as it existed in 2015, and as it would exist without the HSR System at the horizon year (2040).

The No Project Alternative assumes that all currently known programmed and funded improvements to the intercity transportation system (highway, transit, and rail) and reasonably foreseeable local land development projects (with funding sources identified) would be developed by 2040. The No Project Alternative is based on a review of the following: regional transportation plans for all modes of travel; the State Transportation Improvement Program; the Federal Transportation Improvement Program; Southern California Regional Rail Authority strategic plans, transportation plans and programs for Los Angeles County; airport master plans; and city and county general plans.

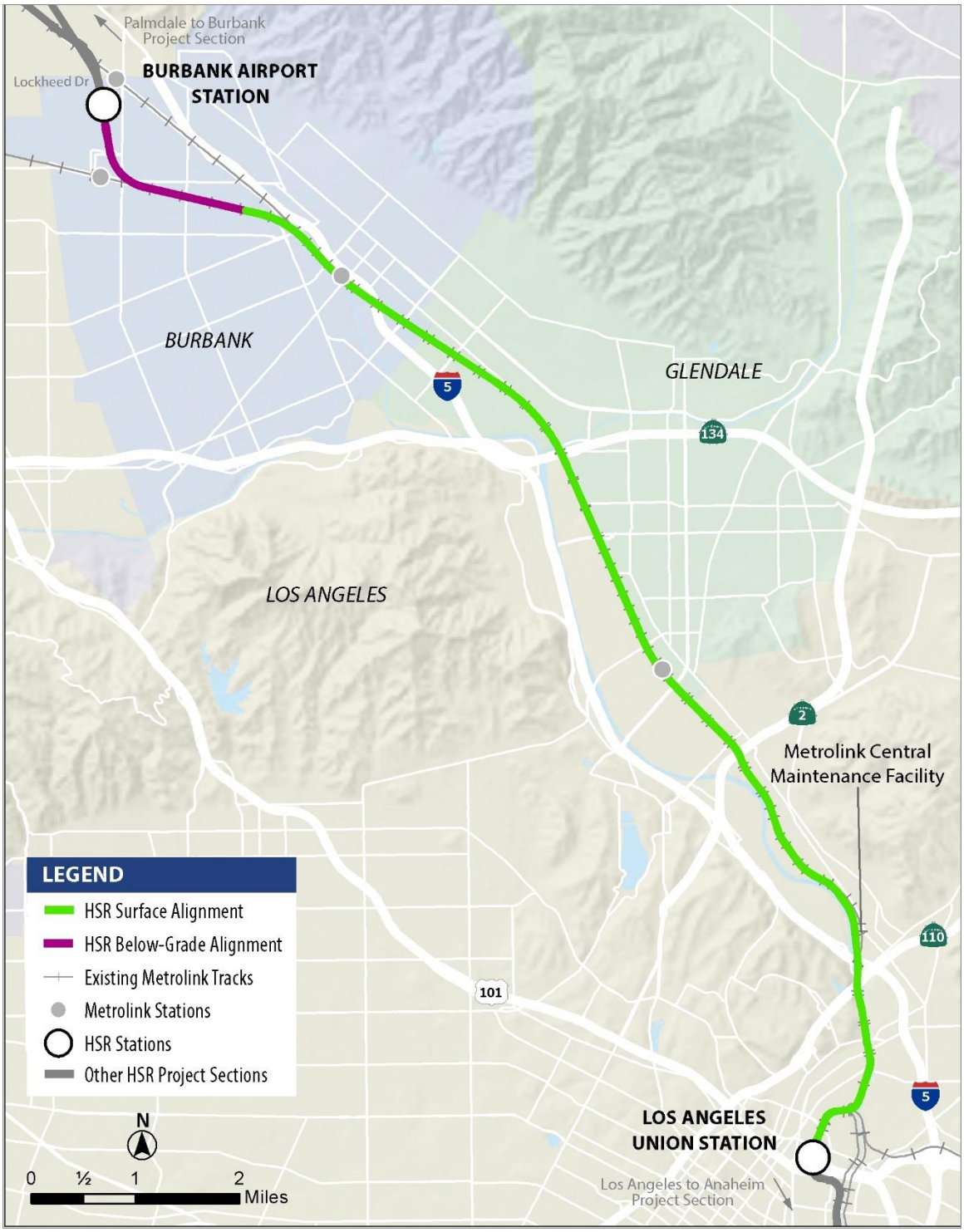
2.2 High-Speed Rail Build Alternative

The HSR Build Alternative includes new and upgraded track, maintenance facilities, grade separations, drainage improvements, communications towers, security fencing, passenger train stations, and other necessary facilities to introduce HSR service into the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Corridor from near Hollywood Burbank Airport to LAUS. In portions of the alignment, new and upgraded tracks would allow other passenger trains to share tracks with the HSR system. HSR stations would be located near Hollywood Burbank Airport and at LAUS. The alignment would be entirely grade-separated at crossings, meaning that roads, railroads, and other transport facilities would be located at different heights so the HSR system would not interrupt or interface with other modes of transport, including vehicle, bicycle, and pedestrian.

For most of the project section, the HSR alignment would be within the existing railroad right-of-way, which is typically 70 to 100 feet wide. The HSR alignment includes northbound and southbound electrified tracks for high-speed trains. The right-of-way would be fenced to prohibit pedestrian and public or unauthorized vehicle access.

The project footprint (the area required to build, operate, and maintain HSR service) is based on the following elements of design: station areas, hydrology, track, roadway, structures, systems, and utilities.

Figure 2-1 shows an overview of the Burbank to Los Angeles Project Section.



Source: California High-Speed Rail Authority (2019)

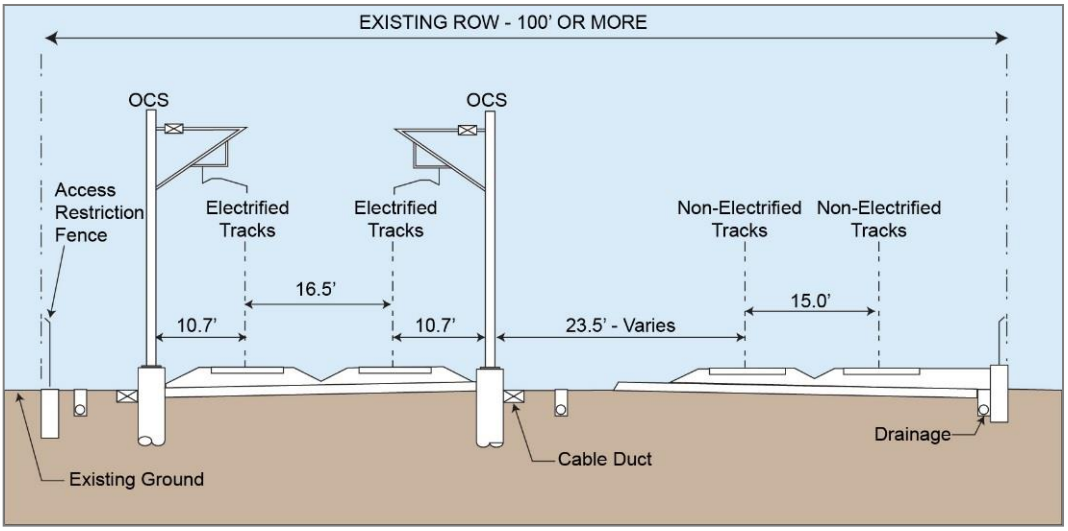
Figure 2-1 Overview of Burbank to Los Angeles Project Section

The Burbank to Los Angeles Project Section includes a combination of at-grade, below-grade, and retained-fill track, depending on corridor and design constraints. The at-grade and retained-fill portions of the alignment would be designed with structural flexibility to accommodate shared operations with other passenger rail operators. Throughout most of the project section (between Alameda Avenue and State Route [SR] 110), two new electrified tracks would be placed along the west side of the existing railroad right-of-way and would be useable for HSR and other passenger rail operators. The existing non-electrified tracks would be realigned closer to the east side of the existing right-of-way, for a total of four tracks; these realigned, non-electrified tracks would be usable for freight and other passenger rail operators, but not for HSR. Figure 2-2 illustrates the placement of the new electrified tracks and realigned, non-electrified tracks relative to the existing tracks.

Source: California High-Speed Rail Authority (2019)

Figure 2-2 New Electrified and Non-Electrified Tracks Within Existing Right-of-Way

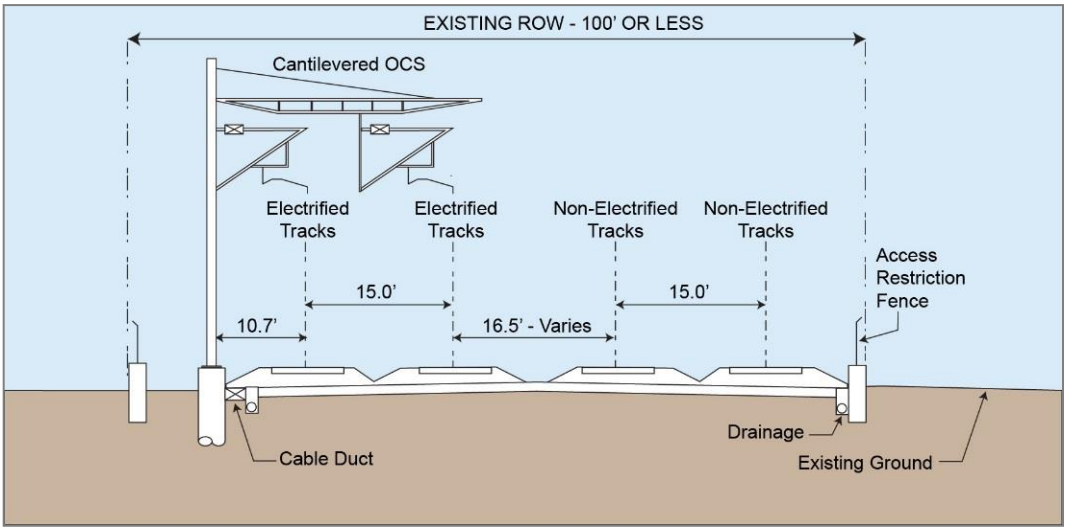
Throughout most of the Burbank to Los Angeles Project Section, the electrified track centerline and the non-electrified track centerline would have a minimum separation of 23.5 feet, and the northbound and southbound electrified tracks would have a separation of 16.5 feet, following the Authority's *Technical Memorandum 1.1.21 Typical Cross Sections for 15% Design*. These standard separations are illustrated on Figure 2-3.



Source: California High-Speed Rail Authority (2019)
This illustration shows the standard separations between the electrified and non-electrified tracks in areas where the railroad right-of-way is at least 100 feet wide. (Figure not to scale.)

Figure 2-3 Standard Track Separations within Non-Constrained Right-of-Way

However, in several areas of the corridor, the right-of-way is less than 100 feet wide, a threshold that constrains the design. As a result, reduced track separations were used in these constrained areas in order to stay within the existing right-of-way to the greatest extent possible and thus minimize property impacts. The reduced separations between the electrified and non-electrified track centerlines would be a minimum of 16.5 feet, and between the two electrified track centerlines would be 15 feet. The narrower cross-section separations are illustrated on Figure 2-4.



Source: California High-Speed Rail Authority (2019)
This illustration shows the narrow separations between the electrified and non-electrified tracks, which would minimize property impacts in areas where right-of-way is constrained. The reduced separations are applied in areas where the railroad right-of-way is less than 100 feet wide. (Figure not to scale.)

Figure 2-4 Reduced Track Separations within Constrained Right-of-Way

2.2.1 HSR Build Alternative Description

The following section describes the HSR Build Alternative in greater detail. Figure 2-5 (Sheets 1 to 3) shows the HSR Build Alternative, including the HSR alignment, new/modified non-electrified tracks, and roadway crossings.

The HSR alignment would begin at the underground Burbank Airport Station and would consist of two new electrified tracks. After exiting the underground station, the alignment would travel southeast beneath the Hollywood Burbank Airport runway in a tunnel, which would be constructed using the sequential excavation method without any disruptions to airport operations. The alignment from south of the airport to where it would join the Metrolink Ventura Subdivision would be constructed as cut-and-cover, and the alignment would then transition to a trench within the Metrolink Ventura Subdivision. The existing Metrolink Ventura Subdivision tracks would be realigned north within the existing right-of-way, and an existing UPRR siding track between Buena Vista Street and Beachwood Drive would be realigned north of the relocated Metrolink Subdivision tracks within the existing right-of-way. These non-electrified tracks would remain at-grade. The trench, which would be south of and parallel to the relocated non-electrified tracks, would be dedicated for HSR tracks only. Figure 2-6, Figure 2-7, and Figure 2-8 depict the typical cross-sections of the below-grade portion of the alignment. During construction of the below-grade alignment, shoofly tracks would be provided to support Metrolink operations. The proposed shoofly tracks would be aligned between Hollywood Way and Buena Vista Street outside the existing right-of-way and would result in temporary roadway impacts to Vanowen Street.

The HSR tracks would transition from the trench and emerge to at-grade within the existing railroad right-of-way near Beachwood Drive in the City of Burbank Near Beachwood Drive, the HSR tracks would curve south out of the existing railroad right-of-way and cross Victory Place on a new railroad bridge, which would be directly south of the existing Victory Place bridge. South of Burbank Boulevard, the HSR tracks would re-enter the railroad right-of-way and run parallel to the Metrolink Antelope Valley Subdivision tracks. Between Burbank Boulevard and Magnolia Boulevard, several UPRR industry tracks west of the right-of-way would be removed.

Continuing south, the HSR alignment would pass the Downtown Burbank Metrolink Station, which would be modified. HSR tracks would be placed within the existing parking lot west of the southbound platforms, and new pedestrian connections and relocated parking would be provided. Section 2.6.1 provides more details on design modifications for the Downtown Burbank Metrolink station.

Source: California High-Speed Rail Authority (2019)

Figure 2-5 HSR Build Alternative Overview

(Sheet 1 of 3)

Source: California High-Speed Rail Authority (2019)

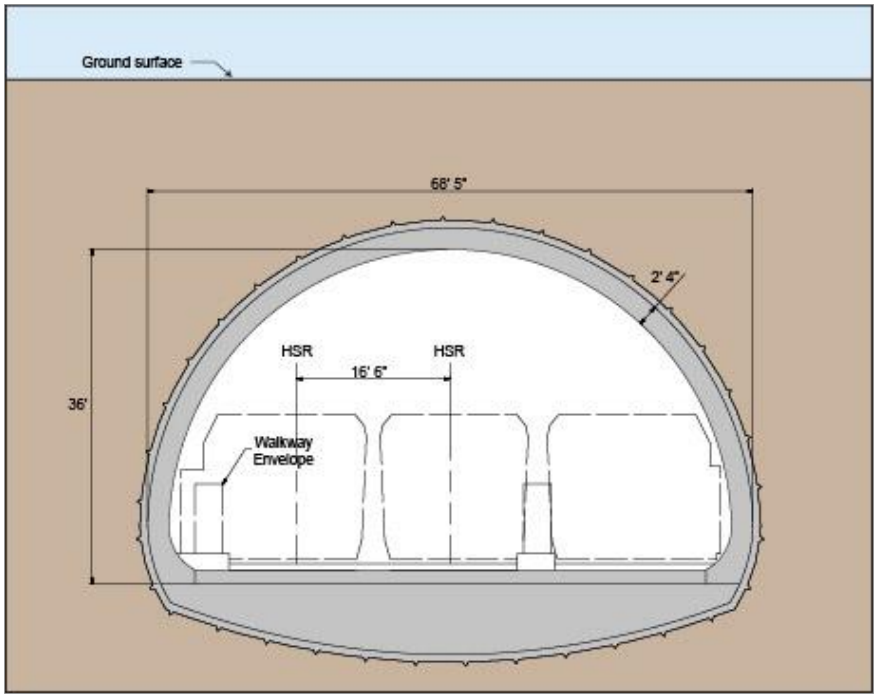
Figure 2-5 HSR Build Alternative Overview

(Sheet 2 of 3)

Source: California High-Speed Rail Authority (2019)

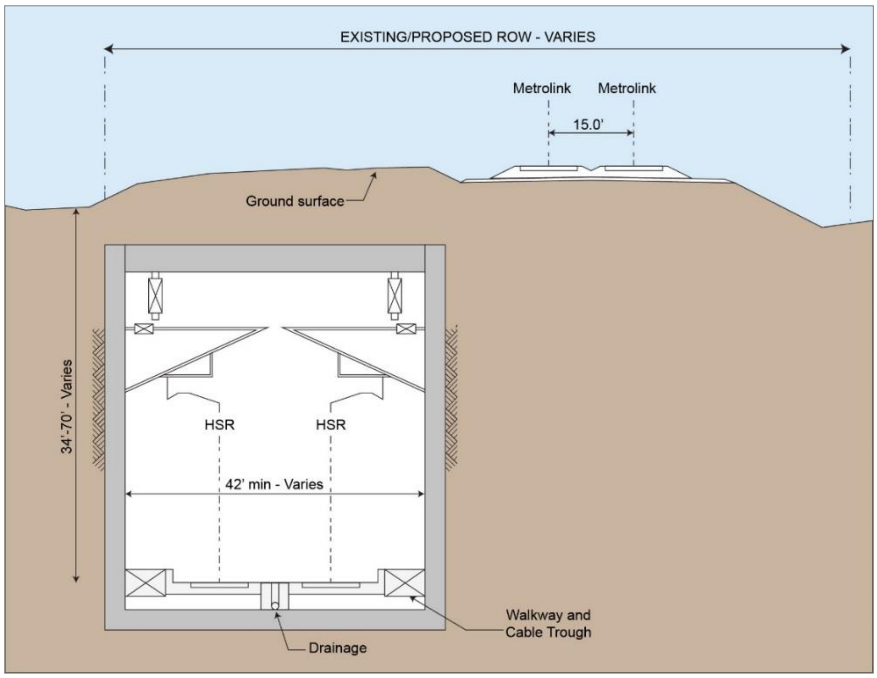
Figure 2-5 HSR Build Alternative Overview

(Sheet 3 of 3)



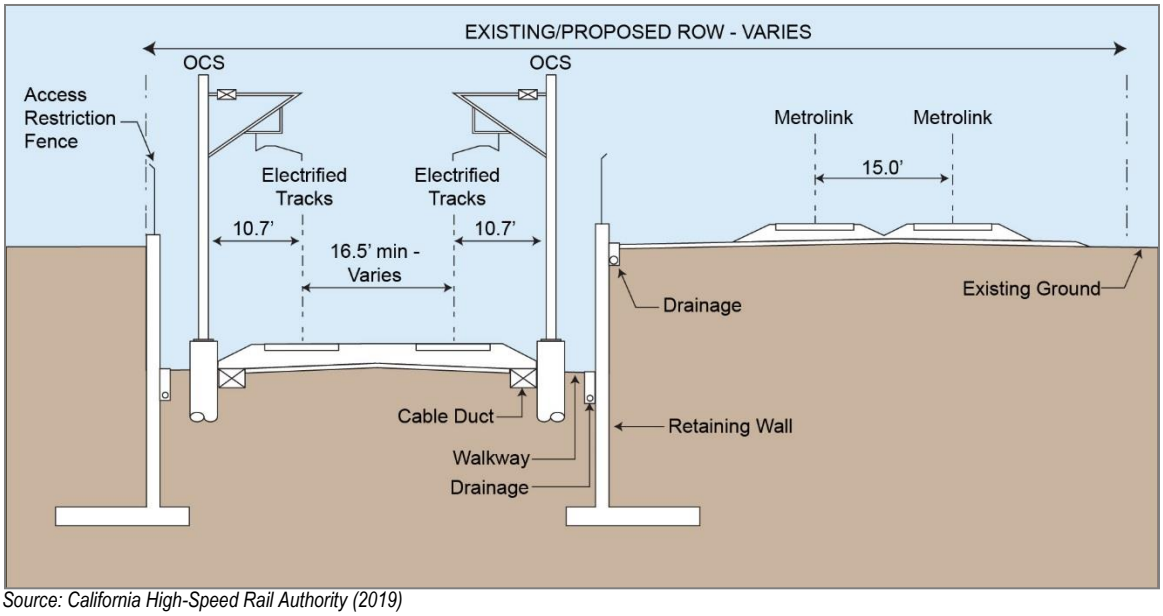
Source: California High-Speed Rail Authority (2019)

Figure 2-6 Typical Tunnel Cross-Section



Source: California High-Speed Rail Authority (2019)

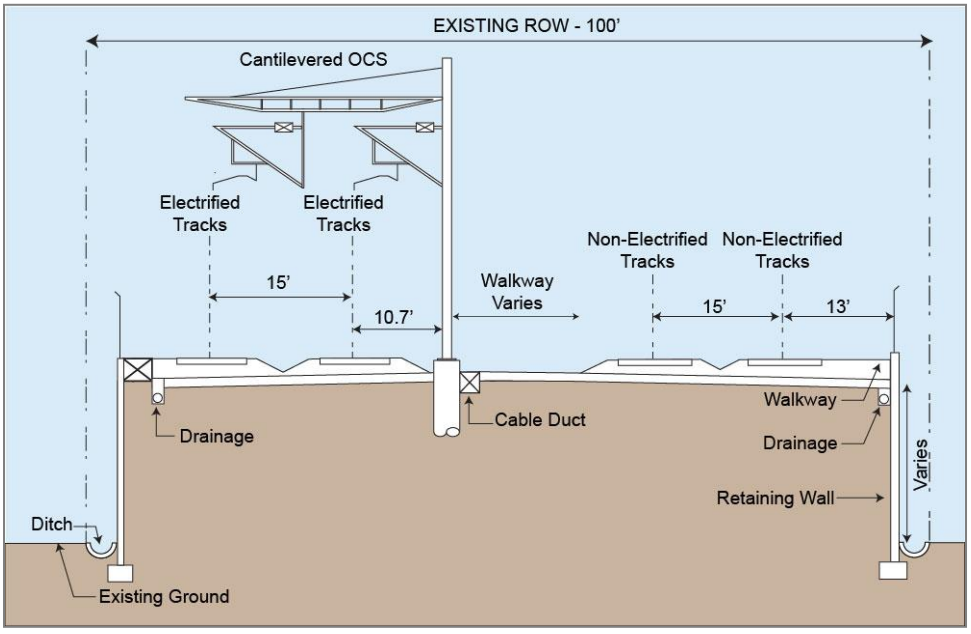
Figure 2-7 Typical Cut-and-Cover Tunnel Cross-Section



Source: California High-Speed Rail Authority (2019)

Figure 2-8 Typical Trench Cross-Section

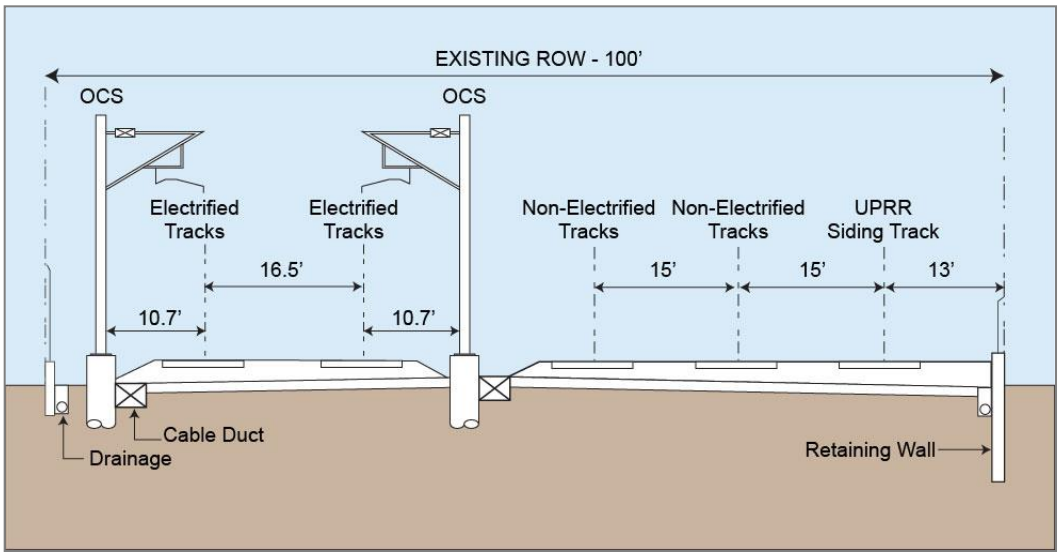
Between Olive Avenue to the north end of the Metrolink Central Maintenance Facility (CMF), the existing non-electrified tracks would be shifted east within the right-of-way to accommodate the addition of the electrified tracks within the right-of-way. Throughout this area, both sets of tracks would be at-grade, with a retained fill segment between Western Avenue and SR 134. Figure 2-9 shows a typical cross-section of the alignment on retained fill.



Source: California High-Speed Rail Authority (2019)

Figure 2-9 Typical Retained-Fill Cross-Section

The alignment would cross Verdugo Wash, where an existing railroad bridge would be rebuilt as a new clear-span structure, to accommodate the additional set of electrified tracks. The alignment would continue south within the existing railroad right-of-way, which follows the Glendale and Los Angeles city borders. Between SR 134 and Chevy Chase Drive, a UPRR siding track would be realigned to the east of the non-electrified tracks, for a total of five tracks within the right-of-way through this area. This siding track is currently located at the Metrolink Central Maintenance CMF but would need to be relocated to accommodate HSR at the CMF. Figure 2-10 shows the typical cross-section for this area.

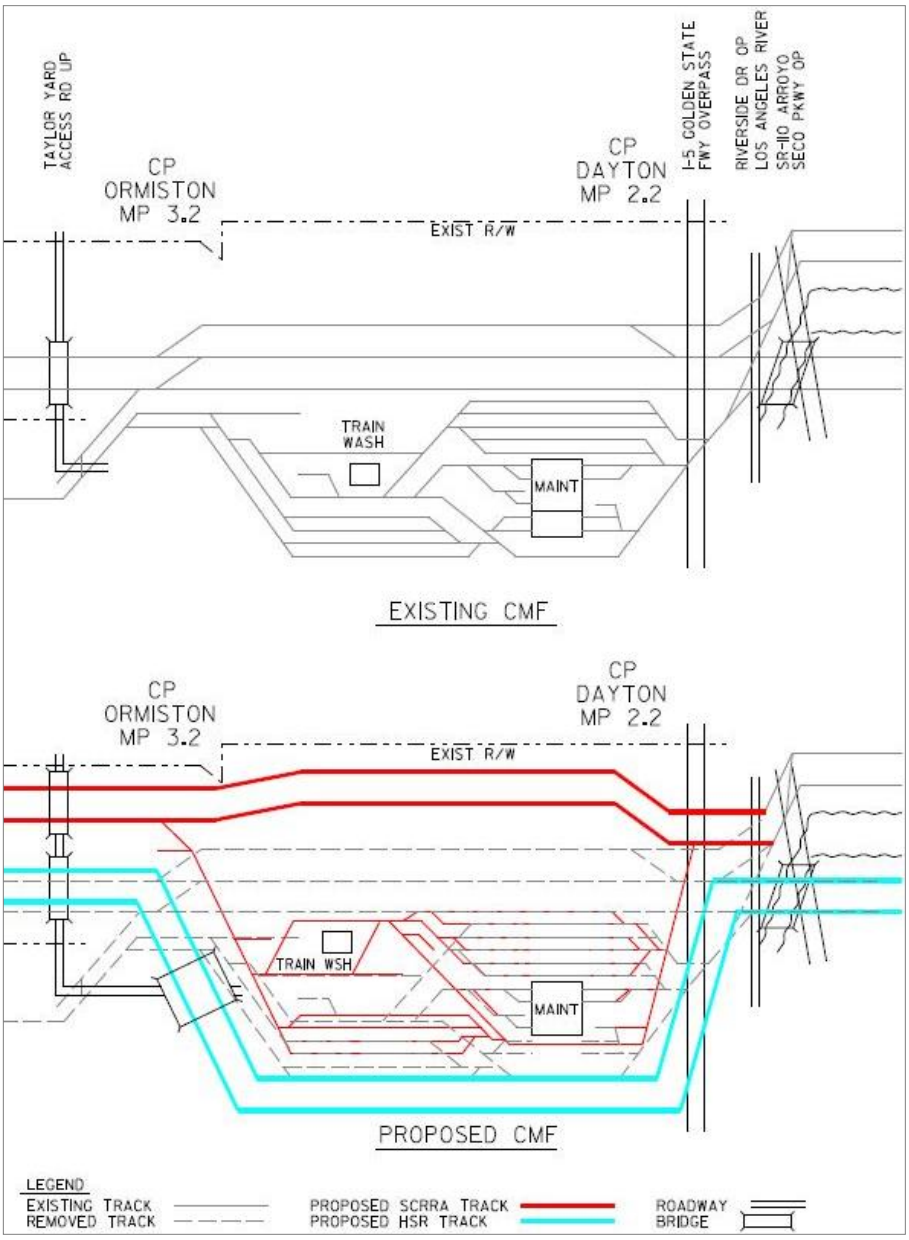


Source: California High-Speed Rail Authority (2019)

Figure 2-10 Typical Cross-Section Between State Route 134 and Chevy Chase Drive

The alignment would pass by the Glendale Metrolink Station (originally known as the Southern Pacific Railroad Depot), a known historical resource listed on the National Register of Historic Places and located north of Glendale Boulevard. No modifications would be needed for the Glendale Metrolink Station. At Tyburn Street, the alignment would enter the City of Los Angeles. Continuing south, the two sets of tracks would diverge at the north end of the Metrolink CMF. The electrified tracks would travel along the west side of the CMF, and the non-electrified, mainline tracks would travel along the east side of the facility.

The CMF is Metrolink's major daily servicing location and maintenance facility in the region. The Burbank to Los Angeles Project Section proposes reconfiguring the various yard and maintenance facilities within the CMF to accommodate HSR, while maintaining as many of the existing yard operations as possible. Figure 2-11 displays a schematic diagram of the existing CMF and the proposed changes, which include new mainline-to-yard track connections, partial demolition of the existing maintenance shop, a revised roadway network with reconfigured parking areas, track relocation shifts, and construction to provide additional storage capacity. Additionally, several facilities would need to be relocated or reconstructed within the CMF, including a train washing/reclamation building, a yard pump house, and two service and inspection tracks. Utilities would also need to be relocated with the CMF, including domestic and fire water, underdrains and reconstructed catch basins, power facilities, fueling facilities and storage tanks, and sanitary sewer systems. The proposed design would not be able to accommodate wheel truing operations or progressive maintenance bays; these would relocate to another Metrolink facility. All other facilities and infrastructure would remain in place. The construction work at the CMF would be phased to minimize the disruption to the existing operations and to maintain the key operational facilities.



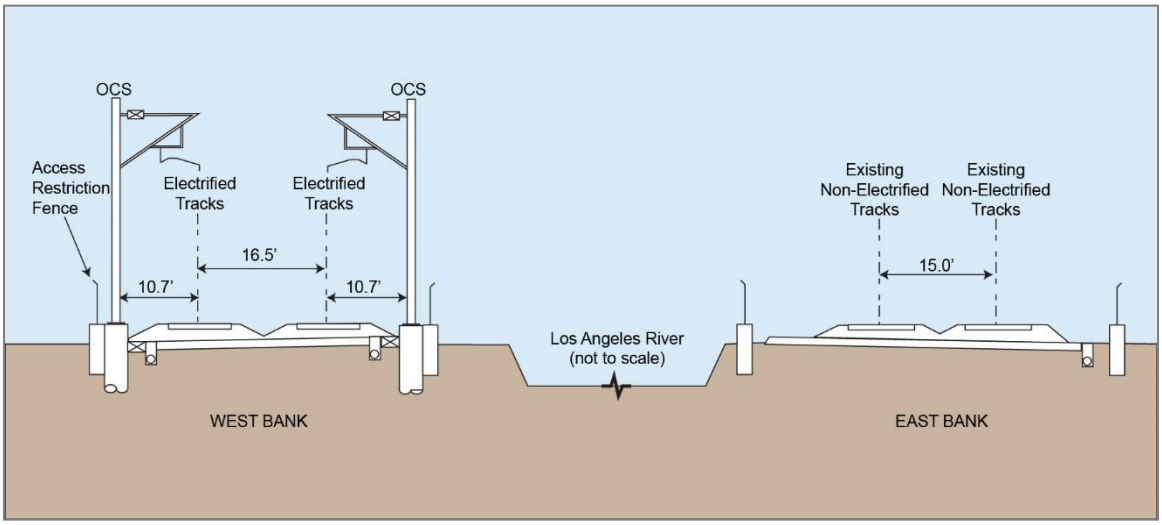
Source: Burbank to Los Angeles Draft Preliminary Engineering for Project Description Design Submittal (2019)

Figure 2-11 Diagram of Existing and Proposed Metrolink Central Maintenance Facility

At the south end of the CMF, the two electrified and two non-electrified tracks would converge briefly within the right-of-way and then diverge again south of Figueroa Street. The electrified tracks would cross over to the west bank of the Los Angeles River on the existing Metrolink Downey Bridge. The existing tracks on the Downey Bridge would be electrified, which would allow for both HSR and passenger rail operations. The non-electrified tracks would remain on the east bank of the Los Angeles River and cross the Arroyo Seco on an existing railroad bridge, which would not require modifications. These non-electrified tracks would connect with the existing tracks on the east bank, which currently serve UPRR and nonrevenue trains. An illustrative cross-section for this area is shown on Figure 2-12.

South of Main Street, on the east bank of the river, the existing tracks would be modified at Mission Junction to be used by freight and passenger rail. They would cross the Los Angeles River on the existing Mission Tower bridge to join the electrified tracks within the railroad right-of-way. The existing Mission Tower bridge has two tracks, but currently only one track is functional and used by Metrolink. The HSR Build Alternative would replace the trackwork to conform to the most current design standards and specifications, which may require a retrofit to the bridge.

The two sets of tracks would continue south to terminate at LAUS. The electrified tracks and HSR station platforms would be located on the west side of the station, while the non-electrified tracks would merge with the Metrolink and Amtrak tracks. The configuration at LAUS is described in further detail in Section 2.3.2.



Source: California High-Speed Rail Authority (2019)
The electrified tracks would cross the Los Angeles River just north of State Route 110 and run along the west bank of the river. The non-electrified tracks would run along the east bank of the river. (Figure not to scale.)

Figure 2-12 Typical Cross-Section from State Route 110 to Mission Junction

2.2.2 Roadway Crossings

The HSR Build Alternative would cross a total of 34 roadways, 15 of which would require modifications. Figure 2-5 shows the crossings throughout the project section, and Table 2-1 lists their configurations before and after the introduction of the HSR Build Alternative.

Modifications to existing crossings

- Victory Place: a new bridge for the HSR tracks would be constructed directly south of the existing railroad bridge over Victory Place, and the roadway would be lowered to cross under the new bridge.
- Burbank Boulevard: the roadway bridge would be reconstructed to cross over the tracks, and Burbank Boulevard would be raised in elevation on the west side.
- Alameda Avenue: the railroad bridge would be reconstructed to be wider.
- Colorado Street: the railroad bridge would be reconstructed to be wider.
- Los Felix Boulevard: the railroad bridge would be reconstructed to be wider, and the roadway would be lowered slightly
- Glendale Boulevard: the railroad bridge would be reconstructed to be wider, and the roadway would be lowered slightly

- Kerr Road: the railroad bridge would be reconstructed to be wider, and the roadway would be lowered slightly

New grade separations

- Buena Vista Street: the crossing would be modified and remain at-grade for Metrolink and UPRR tracks, but a new undercrossing would be constructed to grade-separate the HSR tracks only from the roadway.
- Sonora Avenue: a new roadway undercrossing would be constructed, with the tracks slightly raised on retained fill and the roadway slightly lowered (see Section 2.6).
- Grandview Avenue: a new roadway undercrossing would be constructed, with the tracks slightly raised on retained fill and the roadway slightly lowered (see Section 2.6).
- Flower Street: a new roadway undercrossing would be constructed, with the tracks slightly raised on retained fill and the roadway slightly lowered (see Section 2.6).
- Goodwin Avenue: the road currently does not cross the railroad right-of-way, but the project would grade-separate it as a new roadway undercrossing (see Section 2.6).
- Main Street: a new roadway bridge would be constructed north of the existing Main street bridge, which would cross the railroad right-of-way and the Los Angeles River (see Section 2.6).

Closures

- Chevy Chase Drive: the roadway would be closed, and a new pedestrian undercrossing would be provided (see Section 2.6).
- Private driveway: a driveway that currently provides access to a Los Angeles Department of Water and Power facility parking lot would be closed, and the Los Angeles Department of Water and Power parking would be relocated to a new facility on Main Street.

Table 2-1 Roadway Crossings within the Burbank to Los Angeles Project Section

Roadway	Current Crossing Configuration	Proposed Crossing Configuration[1]
Buena Vista Street	At-Grade*	**At-Grade* (modified)** **Undercrossing** (new)**
Victory Place	Undercrossing"	Undercrossing* **Undercrossing (new)**
Burbank Boulevard	Overcrossing	**Overcrossing (modified)**
Magnolia Boulevard	Overcrossing	Overcrossing
Olive Avenue	Overcrossing	Overcrossing
Interstate 5	Overcrossing	Overcrossing
Alameda Avenue	Undercrossing	**Undercrossing (modified)**
Western Avenue	Overcrossing	Overcrossing
Sonora Avenue	At-Grade	**Undercrossing (new)**
Grandview Avenue	At-Grade	**Undercrossing (new)**
Flower Street	At-Grade	**Undercrossing (new)**
Fairmont Avenue	Overcrossing	Overcrossing
SR 134	Overcrossing	Overcrossing
Salem/Sperry St[2]	No Crossing	Overcrossing (Metro project)
Colorado Street	Undercrossing	**Undercrossing (modified)**

Roadway	Current Crossing Configuration	Proposed Crossing Configuration[1]
Goodwin Avenue	No Crossing	**Undercrossing (new)**
Chevy Chase Drive	At-Grade	**Closed**
Los Feliz Boulevard	Undercrossing	**Undercrossing (modified)**
Glendale Boulevard	Undercrossing	**Undercrossing (modified)**
Fletcher Drive	Undercrossing	Undercrossing
SR 2	Overcrossing	Overcrossing
Kerr Road	Undercrossing	**Undercrossing (modified)**
Interstate 5	Overcrossing	Overcrossing
Figueroa Street	Overcrossing	Overcrossing
SR 110	Overcrossing	Overcrossing
Metro Gold Line	Overcrossing	Overcrossing
Broadway	Overcrossing	Overcrossing
Spring Street	Overcrossing	Overcrossing
Main Street	At-Grade	**Overcrossing (new)**
Private LADWP road	At-Grade	**Closed**
Vignes Street	Undercrossing	Undercrossing
Cesar Chavez Avenue	Undercrossing	Undercrossing

Source: California High-Speed Rail Authority (2019)
[1] All proposed grade crossing configurations are pending Public Utilities Commission approval.
[2] Salem/Sperry Street would be grade-separated as a part of the Metro Doran Street and Broadway/Brazil Grade Separation Project. The project also proposes closing the existing at-grade railroad crossings at Doran Street and Broadway/Brazil Street. As the Metro project would be completed before the introduction of HSR service, the crossing configurations are considered part of the existing conditions for the HSR project.
**Crossings apply to Metrolink and/or UPRR tracks only*
***Crossing applies to HSR tracks only*
Bold *denotes change from existing condition under the HSR Build Alternative.*
Overcrossing = Road over train tracks Undercrossing = Road under train tracks
HSR = High-Speed Rail SR = State Route
Source: California High-Speed Rail Authority and Federal Railroad Administration (2019)

2.3 Station Sites

The HSR stations for the Burbank to Los Angeles Project Section would be in the vicinity of Hollywood Burbank Airport and at LAUS. Stations would be designed to optimize access to the California HSR System, particularly to allow for intercity travel and connections to local transit, airports, highways, and the bicycle and pedestrian network. Both stations would include the following elements:

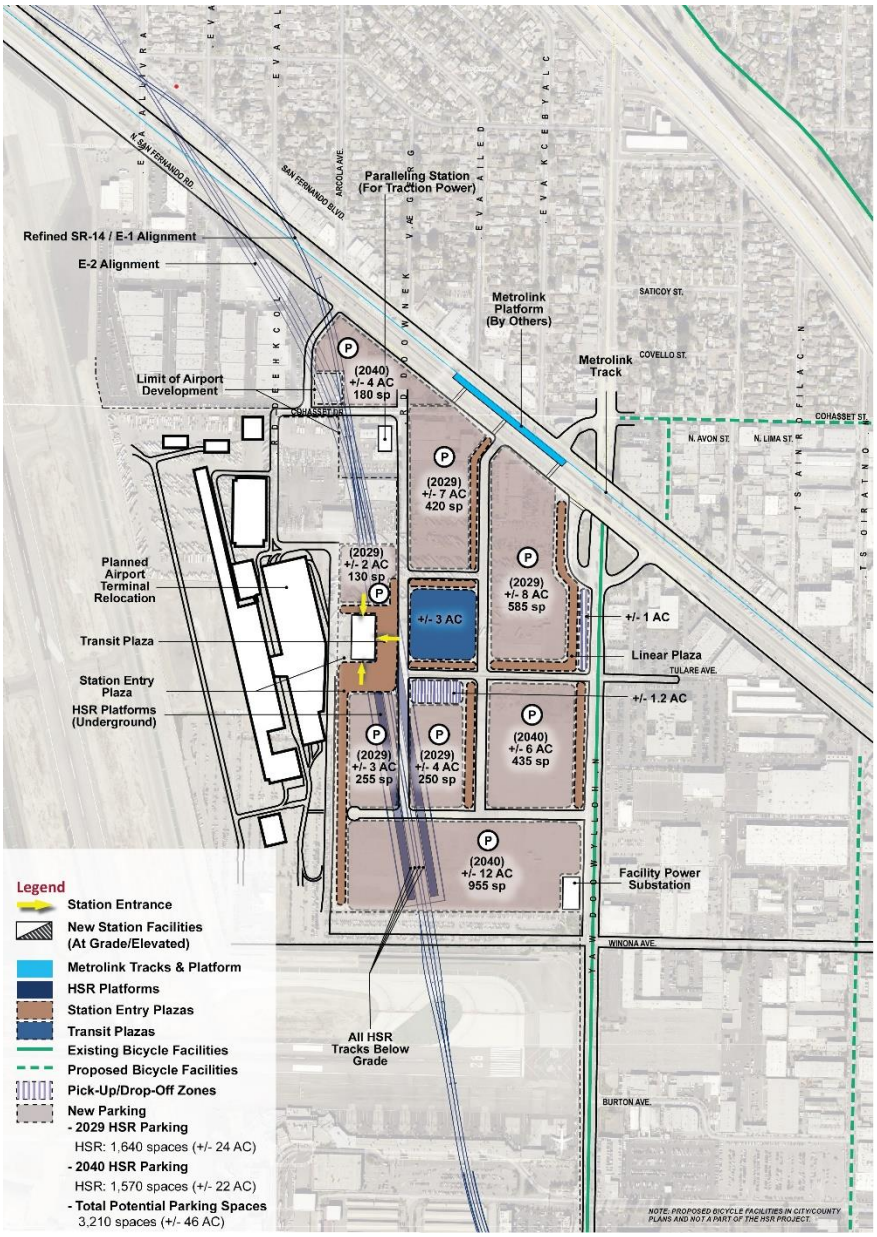
- Passenger boarding and alighting platforms
- Station head house with ticketing, waiting areas, passenger amenities, vertical circulation, administration and employee areas, and baggage and freight-handling service
- Vehicle parking (short-term and long-term)
- Pick-up and drop-off areas
- Motorcycle/scooter parking
- Bicycle parking
- Waiting areas and queuing space for taxis and shuttle buses
- Pedestrian walkway connections

2.3.1 Burbank Airport Station

The Burbank Airport Station site would be located west of Hollywood Way and east of Hollywood Burbank Airport. The airport and ancillary properties occupy much of the land south of the Burbank Airport Station site, while industrial and light industrial land uses are located to the east and residential land uses are found north of the Burbank Airport Station site. Interstate 5 runs parallel to the station site, approximately 0.25 mile north of the proposed Metrolink platform.

The Burbank Airport Station would have both underground and aboveground facilities that would span approximately 70 acres. Station facilities would include train boarding platforms, a station building (that would house ticketing areas, passenger waiting areas, restrooms, and related facilities), pick-up/drop-off facilities for private autos, a transit center for buses and shuttles, and surface parking areas. Underground portions of the station would be beneath Cohasset Street, along which runs the boundary between the City of Los Angeles to the north and the City of Burbank to the south. There would be two HSR tracks at the station.

The Burbank Airport Station would have up to 3,200 surface parking spaces. About 2,980 spaces would be located between the proposed Replacement Terminal and N Hollywood Way. An additional 220 spaces would be located in surface lots in the area bounded by Lockheed Drive to the west, Cohasset Street to the south, and N San Fernando Boulevard to the north and east. The preliminary station layout concept plan is shown on Figure 2-13. The Burbank to Los Angeles Project Section EIR/EIS analyzes the Burbank Airport Station project footprint displayed on Figure 2-13 as permanently impacted because no additional temporary construction easements are identified beyond the permanent area required to construct, operate, and maintain the station. This is the assumption based on the current level of design.



Source: California High-Speed Rail Authority (2019)

Figure 2-13 Preliminary Station Concept Layout Plan, Burbank Airport Station

2.3.2 Los Angeles Union Station

The existing LAUS campus and surrounding tracks are being reconfigured as a part of the Metro Link Union Station (Link US) [5] Project. The Metro Link US Project would reconfigure the station entry tracks from north of Mission Junction and construct an elevated structure through the station arrival and boarding area, which would extend south over U.S. Route 101 and come back to grade near First Street. Reconfiguration would occur over two construction phases. The first phase would include an elevated structure for non-HSR passenger rail operators between Vignes Street and First Street. The second phase would add additional tracks to the structure for use by HSR. The Metro Link US EIR/EIS, on which the Authority is a cooperating agency, would evaluate these changes, along with an expanded passenger concourse area and changes to the Metro Gold Line. These changes would be completed prior to the introduction of HSR service.

While Metro would environmentally clear and construct the trackwork and new passenger concourse, the HSR project would require additional modifications within the Link US area. HSR improvements include raising the platform heights and installing an overhead contact system. The Burbank to Los Angeles Project EIR/EIS evaluates these modifications, as well as potential increases in traffic associated with the introduction of HSR service.

The proposed HSR station at LAUS would include up to four HSR tracks and two 870-foot platforms (with the possibility of extending to 1,000 feet). The HSR system would share passenger facilities, such as parking and pick-up/drop-off, with other operators. HSR would require 1,180 parking spaces in 2029 and 2,010 spaces in 2040. This new demand may be met by existing underutilized parking supply within 0.5 mile of LAUS. This parking would be shared with other LAUS service providers and businesses.

[5] Link US will transform LAUS from a “stub-end” station to a “run-through” station by extending tracks south over U.S. Route 101. The project will add a new passenger concourse that will provide improved operational flexibility for rail service. The Draft FIR is available at: https://www.metro.net/projects/link-us/final-ei-report/.

Sources: California High-Speed Rail Authority (2019); Los Angeles Metropolitan Transportation Authority (2018)

Figure 2-14 Preliminary Station Elements Plan, Los Angeles Union Station

2.4 Maintenance of Infrastructure

The California HSR System includes four types of maintenance facilities: maintenance of infrastructure facilities (MOIF), Maintenance of infrastructure siding facilities (MOIS), heavy maintenance facilities, and light maintenance facilities (LMF).[6] The California HSR System would require one heavy maintenance facility for the system, located in the Central Valley. The design and spacing of maintenance facilities along the HSR system do not require the Burbank to Los Angeles Project Section to include any of the maintenance facilities within the limits of the project section.

For purposes of environmental analysis, the Authority has defined each project section to have the capability to operate as a stand-alone project in the event that other project sections of the

[6] Maintenance facilities are described in the Authority's *Summary of Requirements for O&M Facilities* (2013).

HSR system are not constructed. Because this project section does not provide a heavy maintenance facility or MOIF, an independent contractor would need to be retained to handle all maintenance functions for vehicles and infrastructure if this project section were built as a stand-alone project for purposes of independent utility. Independent utility is discussed further in Section 2.9.

2.4.1 Maintenance of Infrastructure Facilities

The HSR system infrastructure will be maintained from regional MOIFs located at approximately 150-mile intervals. Each MOIF is estimated to be approximately 28 acres in size and would provide a location for regional maintenance machinery servicing storage, materials storage, and maintenance and administration. The MOIFs could be co-located with the MOIS within each 75-mile segment. The MOIFs would be located outside of the Burbank to Los Angeles Project Section.

2.4.2 Maintenance of Infrastructure Sidings

The MOISs would be centrally located within the 75-mile maintenance sections on either side of each MOIF. Each MOIS would support MOIF activities by providing a location for the layover of maintenance of infrastructure equipment and temporary storage for materials. The MOIS is estimated to be about 4 acres in size. The MOISs would be located outside of the Burbank to Los Angeles Project Section.

2.4.3 Heavy Maintenance Facility

Only one heavy maintenance facility is required for the HSR system, and it would be within either the Merced to Fresno Project Section or the Fresno to Bakersfield Project Section. The heavy maintenance facility would include all activities associated with train fleet assembly, disassembly, and complete rehabilitation; all on-board components of the trainsets; and overnight layover accommodations and servicing facilities. The site would include a maintenance shop, a yard Operations Control Center building, one traction power substation (TPSS), other support facilities, and a train interior cleaning platform.

2.4.4 Light Maintenance Facility

An LMF would be used for all activities associated with fleet storage, cleaning, repair, overnight layover accommodations, and servicing facilities. The LMF closest to the Burbank to Los Angeles Project Section would be sited in proximity to LAUS but within the Los Angeles to Anaheim Project Section, and would likely support the following functions:

- **Train Storage:** Some trains would be stored at the LMF prior to start of revenue service.
- **Examinations in Service:** Examinations would include inspections, tests, verifications, and quick replacement of certain train components on the train.
- **Inspection:** Periodic inspections would be part of the planned preventive maintenance program requiring specialized equipment and facilities.

The LMF site will be sized to support the level of daily revenue service dispatched by the nearby terminal at the start of each revenue service day. The Authority defines three levels of maintenance that can be performed at an LMF:

- **Level I:** Daily inspections, pre-departure cleaning, and testing
- **Level II:** Monthly inspections
- **Level III:** Quarterly inspections, including wheel-truing

A Level I LMF is proposed on the west bank of the Los Angeles River at the existing Amtrak Railroad Yard. The facility would be where the current BNSF Railway storage tracks are located and would require their relocation.

2.5 Ancillary and Support Facilities

2.5.1 Electrification

Trains on the California HSR System would draw power from California's existing electricity grid distributed via an overhead contact system. The Burbank to Los Angeles Project Section would not include the construction of a separate power source, although it would include the extension of power lines from potential TPSSs to a series of independently owned power substations positioned along the HSR corridor if necessary. The transformation and distribution of electricity would occur in three types of stations:

- TPSSs transform high-voltage electricity supplied by public utilities to the train operating voltage. TPSSs would be adjacent to existing utility transmission lines and the right-of-way, and would be located approximately every 30 miles along the HSR system route.
- Switching stations connect and balance the electrical load between tracks, and switch overhead contact system power on or off to tracks in the event of a power outage or emergency. Switching stations would be midway between, and approximately 15 miles from, the nearest TPSSs. Each switching station would be 120x80 feet and be adjacent to the HSR right-of-way.
- Paralleling stations, or autotransformer stations, provide voltage stabilization and equalize current flow. Paralleling stations would be located approximately every 5 miles between the TPSSs and the switching stations. Each paralleling station would approximately be 100x80 feet and located adjacent to the right-of-way.

Table 2-2 lists the proposed switching station and paralleling station sites within the Burbank to Los Angeles Project Section. A TPSS is not required for the Burbank to Los Angeles Project Section because of the HSR system's facilities spacing requirements. The Burbank to Los Angeles Project Section would be able to use the TPSSs within the Palmdale to Burbank Project Section and/or Los Angeles to Anaheim Project Section. In the event the other project sections of the HSR system are not constructed, a standalone TPSS would be required within the Burbank to Los Angeles Project Section for purposes of independent utility. Independent utility is discussed further in Section 2.8.

Table 2-2 Traction Power Facility Locations for the Burbank to Los Angeles Project Section

Type of Facility	Location
Paralleling Station	Los Angeles, south of Main Street between railroad right-of-way and Los Angeles River
Switching Station	Los Angeles, south of Verdant Street and west of railroad right-of-way

Source: California High-Speed Rail Authority and Federal Railroad Administration (2019)

2.5.2 Signaling and Train-Control Elements

To reduce the safety risks associated with freight and passenger trains, the National Transportation Safety Board, FRA, and other agencies have mandated Positive Train Control (PTC). PTC is a train safety system designed to automatically implement safety protocols and provide communication with other trains to reduce the risk of a potential collision. The U.S. Rail Safety Improvement Act of 2008 requires the implementation of PTC technology across most railroad systems; in October 2015, Congress extended the deadline for implementation to December 31, 2018. The FRA published the Final Rule regarding PTC regulations on January 15, 2010.

Communication towers and ancillary facilities are included in the Burbank to Los Angeles Project Section to implement the FRA PTC requirements. PTC infrastructure consists of integrated command, control, communications, and information systems for controlling train movements that

improve railroad safety by significantly reducing the probability of collisions between trains, casualties to roadway workers and equipment, and over-speed accidents. PTC is especially important in "blended"[7] corridors, such as in the Burbank to Los Angeles Project Section, where passenger and freight trains need to share the same tracks safely.

PTC for the HSR project would use a radio-based communications network that would include a fiber-optic backbone and communications towers approximately every 2 to 3 miles, depending on the terrain and selected radio frequency. The towers would be located in the fenced HSR corridor in a fenced area of approximately 20x15 feet, including a 10x8-foot communications shelter and a 6- to 8-foot-diameter, 100-foot-tall communications pole. These communications facilities could be co-located within the TPSSs. Where communications towers cannot be located with TPSSs or other HSR facilities, the communications facilities would be located near the HSR corridor in a fenced area of approximately 20 feet by 15 feet.

2.6 Early Action Projects

As described in the 2016 Business Plan, the Authority has made a commitment to invest in regionally significant connectivity projects in order to provide early benefits to transit riders and local communities while laying a solid foundation for the HSR system. These early actions will be made in collaboration with local and regional agencies. These types of projects include grade separations and improvements at regional passenger rail stations, which increase capacity, improve safety, and provide immediate benefits to freight and passenger rail operations. Local and regional agencies may take the lead on coordinating the construction of these early action projects. Therefore, they are described in further detail below and are analyzed within the Burbank to Los Angeles Project Section EIR/EIS to allow the agencies, as Responsible Agencies under CEQA, to adopt the findings and mitigation measures as needed to construct these projects.

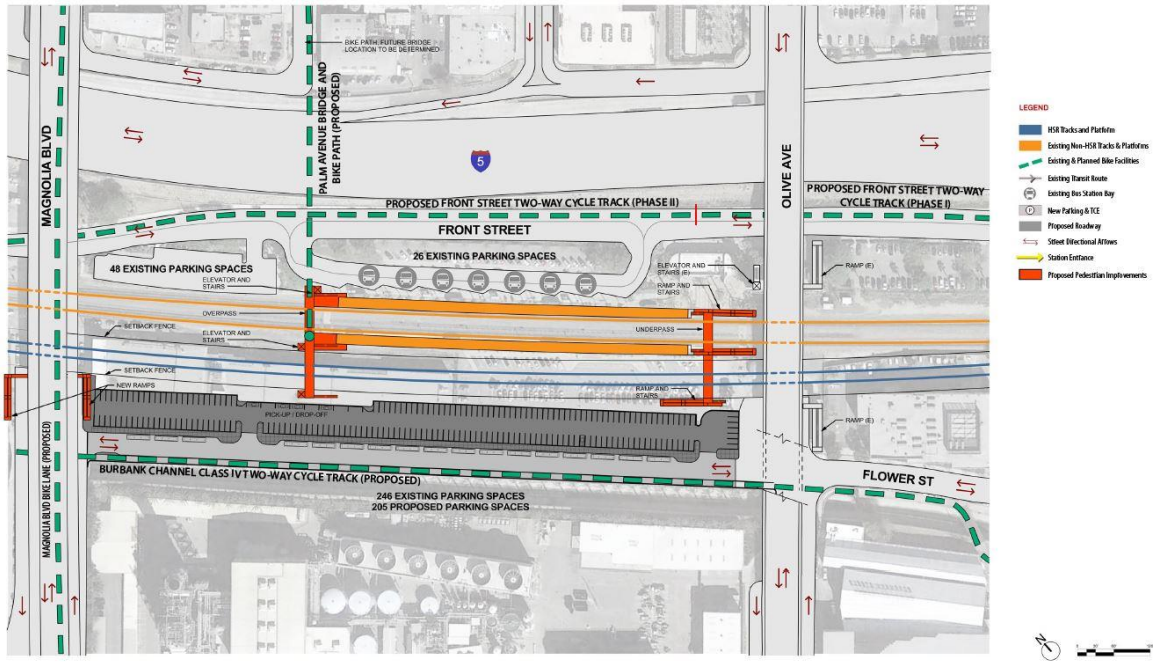
2.6.1 Downtown Burbank Metrolink Station

Although the HSR system will not serve the Downtown Burbank Metrolink Station, modifications at the station would be required to ensure continued operations of existing operators. The HSR tracks would be located within the existing parking lot west of the southbound platforms; the platforms and existing Metrolink tracks would not change. The parking would be relocated to between Magnolia Boulevard and Olive Avenue, and Flower Street would be extended from where it currently ends at the south side of the Metrolink Station. Pedestrian bridges would be provided for passengers to cross over the HSR tracks to access the Metrolink platforms. Other accessibility improvements would include additional vehicle parking, bus parking, and bicycle pathways. Figure 2-15 shows the proposed site plan for the Downtown Burbank Metrolink Station.

2.6.2 Sonora Avenue Grade Separation

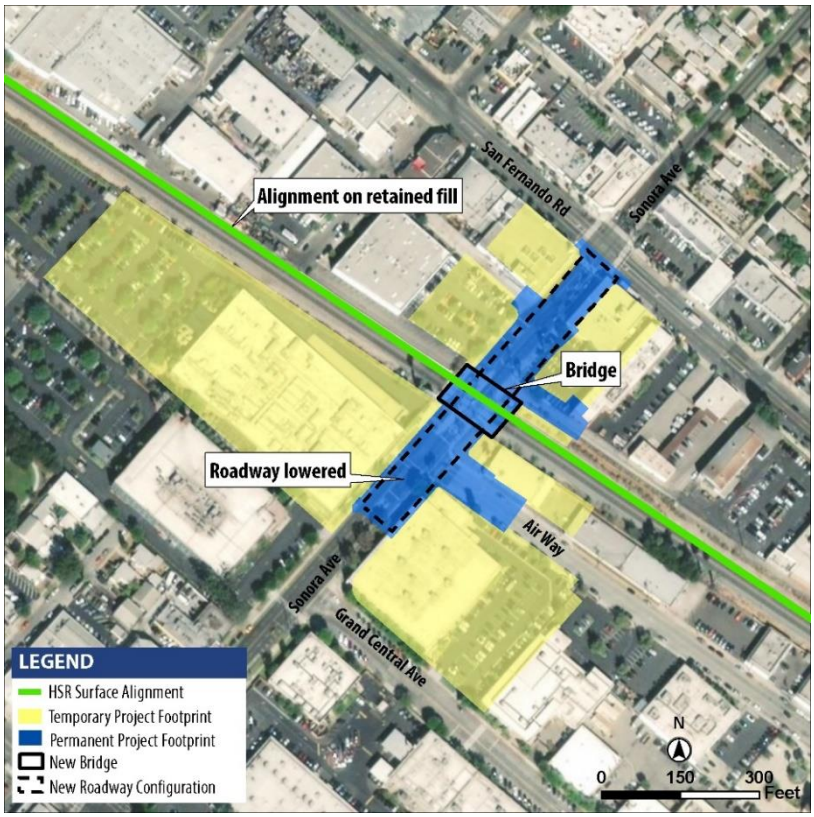
Sonora Avenue is an existing at-grade crossing. The existing roadway configuration consists of two traffic lanes in both the eastbound and westbound directions. The Burbank to Los Angeles Project Section proposes a "hybrid" grade separation, with Sonora Avenue slightly depressed and the HSR alignment and non-electrified tracks raised on a retained-fill structure. A 10-foot-wide median would be added and the lanes would be narrowed, so the overall width of Sonora Avenue would not change. Sonora Avenue would be lowered in elevation between Air Way and San Fernando Road, and the lowest point of the undercrossing would be approximately 10 feet below the original grade. The height of the new retained-fill structure would be approximately 28 feet. Figure 2-16 shows the temporary and permanent project footprint areas.

[7] California HSR Project Business Plans (http://www.hsr.ca.gov/About/Business_Plans/) suggest blended railroad systems and operations. These terms refer to integrating the HSR system with existing intercity, and commuter and regional rail systems through coordinated infrastructure (blended systems) and scheduling, ticketing, and other means (blended operations).



Source: California High-Speed Rail Authority (2019)

Figure 2-15 Downtown Burbank Metrolink Station Site Plan



Source: California High-Speed Rail Authority (2019)

Figure 2-16 Sonora Avenue Grade Separation Footprint

2.6.3 Grandview Avenue Grade Separation

Grandview Avenue is an existing at-grade crossing. The existing roadway configuration consists of three traffic lanes in both the eastbound and westbound directions. The Burbank to Los Angeles Project Section proposes a "hybrid" grade separation, with Grandview Avenue slightly depressed and the HSR alignment and non-electrified tracks raised on retained fill. Grandview Avenue would be lowered in elevation between Air Way and San Fernando Road, and the lowest point of the undercrossing would be approximately 3 feet below original grade. The lanes and overall width of Grandview Avenue would not change. The height of the new retained-fill structure would be approximately 30 feet. Figure 2-17 shows the temporary and permanent project footprint areas.

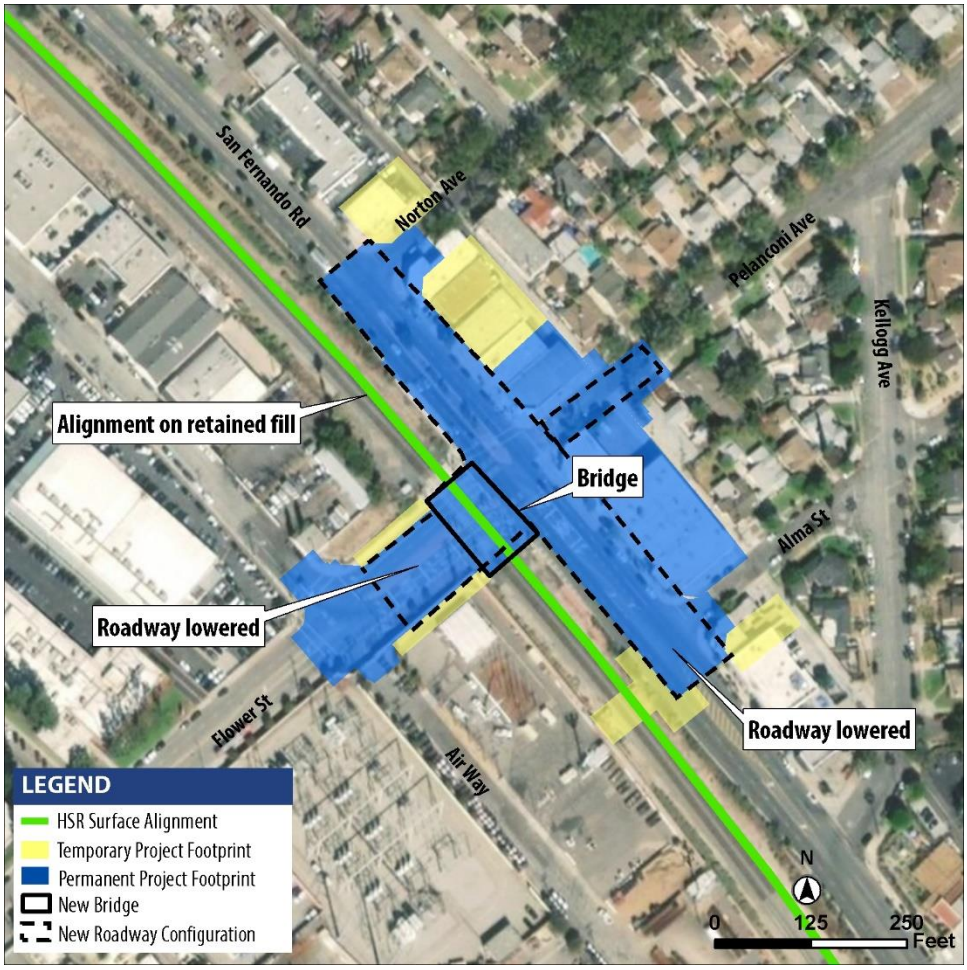
Source: California High-Speed Rail Authority (2019)

Figure 2-17 Grandview Avenue Grade Separation Footprint

2.6.4 Flower Street Grade Separation

Flower Street is an existing at-grade crossing, with Flower Street ending in a T-shaped intersection with San Fernando Road, which runs parallel on the east side of the railroad right-of-way. Existing Flower Street consists of two traffic lanes in both the westbound and eastbound directions, with a right-turn-only lane in the westbound direction. The Burbank to Los Angeles Project Section proposes a "hybrid" grade separation, with Flower Street and San Fernando Road slightly depressed, and the HSR alignment and non-electrified tracks raised on a retained-fill structure. Flower Street would be lowered in elevation between Air Way and San Fernando Road,

and the lowest point of the undercrossing would be approximately 10 feet below original grade. The existing median would be modified on Flower Street, and the overall width of Flower Street would remain the same. San Fernando Road would be lowered in grade between Norton Avenue and Alma Street, and Pelanconi Avenue would be extended to connect to San Fernando Road. The height of the new retained-fill structure would be approximately 28 feet. Figure 2-18 shows the temporary and permanent project footprint areas.



Source: California High-Speed Rail Authority (2019)

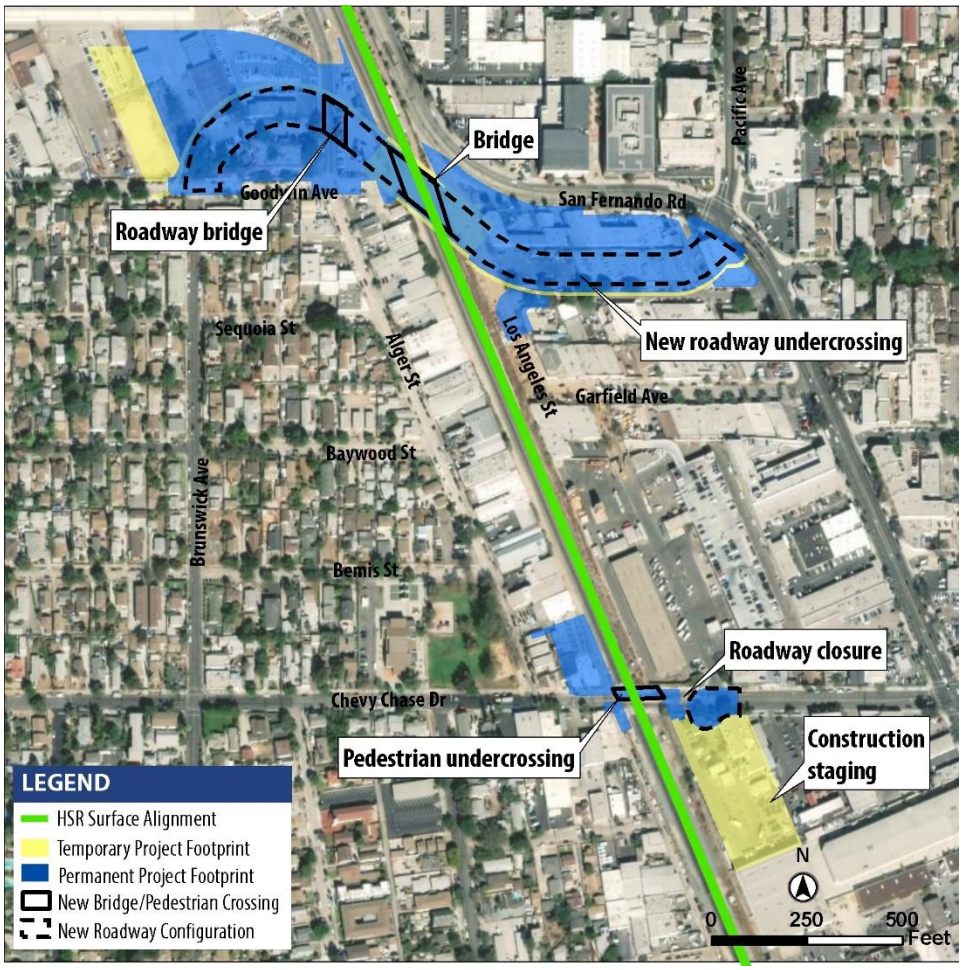
Figure 2-18 Flower Street Grade Separation Footprint

2.6.5 Goodwin Avenue/Chevy Chase Drive Grade Separation

There is currently no crossing at Goodwin Avenue, which ends in a cul-de-sac on the west side of the railroad right-of-way. The Burbank to Los Angeles Project Section proposes a grade separation, with Goodwin Avenue realigned and depressed to cross under a new railroad bridge supporting the HSR and non-electrified tracks. A new roadway bridge would also be required to carry Alger Street over the depressed Goodwin Avenue, connecting to W San Fernando Road. The new depressed roadway would curve north from Brunswick Avenue, cross under the new roadway and railroad bridges, and connect with Pacific Avenue on the east side of the railroad right-of-way. The lowest point of the undercrossing would be approximately 28 feet below original grade.

Chevy Chase Drive is an at-grade crossing. With the construction of a new grade separation at Goodwin Avenue, Chevy Chase Drive would be closed on either side of the rail crossing and a

pedestrian undercrossing would be provided. Figure 2-19 shows the temporary and permanent project footprint areas for Goodwin Avenue and Chevy Chase Drive.

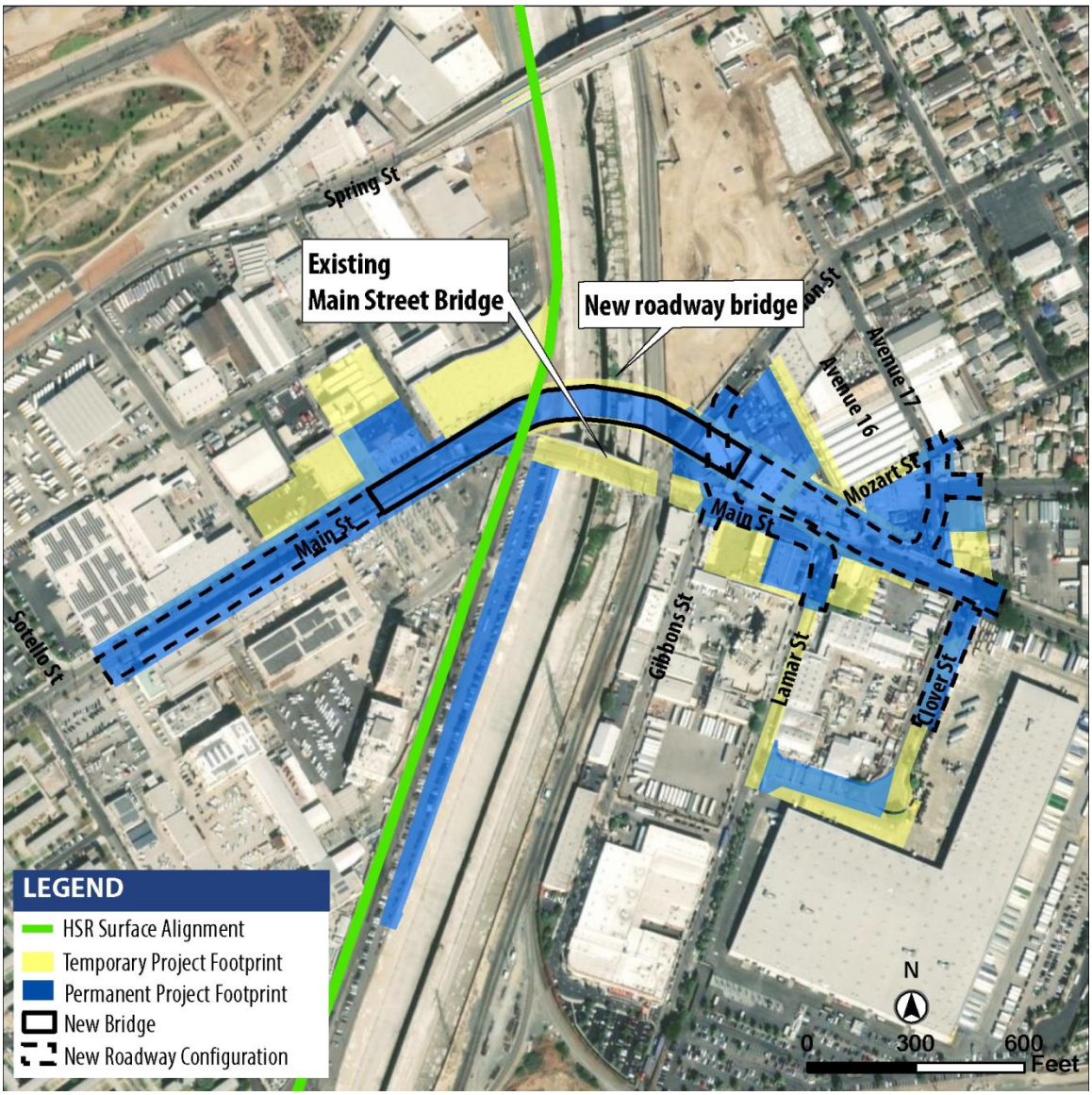


Source: California High-Speed Rail Authority (2019)

Figure 2-19 Goodwin Avenue Grade Separation

2.6.6 Main Street Grade Separation

Main Street is an existing at-grade crossing. It crosses the existing tracks at-grade on the west bank of the Los Angeles River, crosses over the river on a bridge, and then crosses the existing tracks at-grade on the east bank of the river. The existing bridge carries two traffic lanes in both directions. The Burbank to Los Angeles Project Section proposes a grade separation, with a new Main Street bridge spanning the tracks on the west bank, the Los Angeles River, and the tracks on the east bank. The new Main Street bridge would be 86 feet wide and 75 feet high at its highest point over the Los Angeles River and would place three columns within the river channel. Main Street would be raised in elevation, starting from just east of Sotello Street on the west side of the Los Angeles River. The new bridge would come down to grade at Clover Street on the east side of the Los Angeles River. Several roadways on the east side of the Los Angeles River would be reconfigured, including Albion Street, Lamar Street, Avenue 17, and Clover Street. The existing Main Street bridge would not be modified, but it would be closed to public access. Figure 2-20 shows the temporary and permanent project footprint areas.



Source: California High-Speed Rail Authority (2019)

Figure 2-20 Main Street Grade Separation Footprint

2.7 Project Construction

For the Burbank to Los Angeles Project Section of the California HSR System, specific construction elements would include at-grade and underground track, grade-separated roadway crossings, retaining walls, and installation of a PTC system. Surface track sections would be built using conventional railroad construction techniques. A typical construction sequence includes clearing, grubbing, grading, and compacting the railbed; applying crushed rock ballast; laying track; and installing electrical and communications systems. The at-grade track would be laid on an earthen railbed topped with rock ballast approximately 3 feet off the ground. Fill and ballast for the railbed would be obtained from permitted borrow sites and quarries.

Retaining walls are used when it is necessary to transition between an at-grade and elevated profile. In this project section, retained fill would be used between Western Avenue and SR 134. The tracks would be raised in elevation on a retained-fill platform made of reinforced walls, much

like a freeway ramp. Short retaining walls would have a similar effect and would protect the adjacent properties from a slope extending beyond the proposed rail right-of-way.

The preferred construction method for the tunnel alignment underneath the Burbank Airport runway is the Sequential Excavation Methods. The tunnel alignment south of the airport would be constructed using cut-and-cover.

Pre-construction activities would be conducted during final design and would include geotechnical investigations, interpretation of anticipated ground behavior and ground support requirements, identification of staging areas, initiation of site preparation and demolition, relocation of utilities, and implementation of temporary, long-term, and permanent road closures. Additional studies and investigations to develop construction requirements and worksite traffic control plans would be conducted as needed.

Major construction activities for the Burbank to Los Angeles Project Section would include earthwork and excavation support, systems construction, bridge and aerial structure construction, and railway systems construction (including trackwork, traction electrification, signaling, and communications).

During peak construction periods, work is envisioned to be underway at several locations along the route simultaneously, with overlapping construction of various project elements. Working hours and the number of workers present at any time would vary depending on the activities being performed but could be expected to extend to 24 hours per day, seven days per week.

2.8 Independent Utility of the Burbank to Los Angeles Project Section

The Burbank to Los Angeles Project Section would have independent utility if it is able to operate as a standalone project in the event the other project sections of the HSR system are not constructed. As none of the four types of maintenance facilities would be located within the limits of the Burbank to Los Angeles Project Section, all maintenance functions for vehicles and infrastructure would be handled through an independent contractor to achieve independent utility. For power, one potential location for a TPSS has been preliminarily identified within the project section. Because the addition of a TPSS would alter the spacing of the other systems facilities, further design and environmental study would be required to environmentally clear the TPSS site and the alteration of the other systems facilities in the absence of the Palmdale to Burbank and Los Angeles to Anaheim project sections being built and operated.

Any electrical interconnections between a potential future TPSS site and existing utility providers would also have to be environmentally evaluated and cleared in subsequent documentation.

2.9 Operations of the Burbank to Los Angeles Project Section

The conceptual HSR service plan for Phase 1, starting in 2029, begins with service between Los Angeles/Anaheim running through the Central Valley from Bakersfield to Merced, and traveling northwest into the Bay Area. Subsequent sections in Phase 2 of the HSR system include a southern extension from Los Angeles to San Diego and an extension from Merced to north of Sacramento. These extensions do not have an anticipated implementation date.

Currently, the Metrolink Ventura and Antelope Valley Lines, Amtrak Pacific Surfliner and Coast Starlight, and UPRR freight trains operate within the Burbank to Los Angeles Project Section. As the proposed HSR Build Alternative is within the active LOSSAN passenger and freight rail corridor, all existing operators would have to change their operation patterns and frequency. New and realigned tracks would change the tracks on which the various users operate, with passenger rail and freight trains shifted closer to the east side of the right-of-way. With the introduction of HSR service, the proposed general operational characteristics are shown in Table 2-3.

Table 2-3 Existing and Future Trains per Day in the Los Angeles–San Diego–San Luis Obispo Rail Corridor Within the Burbank and Los Angeles Project Section

Operator	2016 Existing Conditions	2029 Opening Day	2040 Horizon Year
California High-Speed Rail Authority[1]	N/A	196	196
Metrolink[2]	61	99	99
Amtrak[3]	12	16	18
UPRR[4]	11	18	23

[1] 2029 Opening Day and 2040 Horizon Year projections are from the California High-Speed Rail Authority's "Year 2029 and Year 2040 Concept Timetable for EIR/EIS Analysis."
[2] Existing Conditions data are from the 2016 Metrolink Schedule (effective October 3, 2016); 2029 Opening Day projections are extrapolated from the 2016 Metrolink 10-Year Strategic Plan, "Growth Scenario 2: Overlay of Additional Service Patterns."
[3] Existing Conditions data are from the 2016 LOSSAN Corridor Schedule; 2029 Opening Day projections are extrapolated from 2012 LOSSAN Corridorwide Strategic Implementation Plan "Long-Term Operations Analysis" (increase of approximately one train every four years for the Amtrak Pacific Surfliner and no growth for the Amtrak Coast Starlight between Hollywood Burbank Airport and LAUS).
[4] Existing Conditions data are from the 2012 LOSSAN Corridorwide Strategic Implementation Plan "Long-Term Operations Analysis"; 2029 Opening Day projections are extrapolated from the 2012 LOSSAN Corridorwide Strategic Implementation Plan "Long-Term Operations Analysis" (increase of approximately one train every two years for UPRR between Hollywood Burbank Airport and LAUS).
Amtrak = National Railroad Passenger Corporation
LAUS = Los Angeles Union Station
N/A = not applicable
UPRR = Union Pacific Railroad

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3 LAWS, REGULATIONS, ORDERS

Applicable federal, state, and local legislation and policies related to hazardous materials and wastes are summarized below.

3.1 Federal

3.1.1 National Environmental Policy Act (42 United States Code Section 4321 et seq.)

The National Environmental Policy Act (NEPA) requires consideration of potential environmental impacts, including potential hazardous material and waste impacts, in the evaluation of any proposed federal agency action. NEPA also obligates federal agencies to consider the environmental consequences and costs of their projects and programs as part of the planning process. General NEPA procedures are set forth in the Council on Environmental Quality regulations at 23 Code of Federal Regulations (C.F.R.) Part 771.

3.1.2 Resource Conservation and Recovery Act (42 United States Code Section 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) regulates hazardous wastes from the time the waste is generated through its management, storage, transport, and treatment, until its final disposal. The United States Environmental Protection Agency (USEPA) authorized the California Department of Toxic Substances Control (DTSC) to administer RCRA in California.

3.1.3 Comprehensive Environmental Response, Compensation, and Liability Act (42 United States Code Section 9601 et seq.)

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was designed to clean up abandoned hazardous waste sites that may endanger public health or the environment. The law authorized the USEPA to identify parties responsible for contamination of sites and compel the parties to clean up the sites. Where responsible parties cannot be found, the USEPA is authorized to perform the cleanup using a special trust fund. This law outlines the potential liability related to the cleanup of hazardous substances; available defenses to such liability; appropriate inquiry into site status under Superfund; and statutory definitions of hazardous substances and petroleum products.

3.1.4 Clean Air Act (42 United States Code § 7401 et seq.)

The Clean Air Act protects the general public from exposure to airborne contaminants that are known to be hazardous to human health. Under the Clean Air Act, the USEPA established National Emissions Standards for Hazardous Air Pollutants, which are emissions standards for air pollutants, including asbestos.

3.1.5 Clean Water Act – National Pollutant Discharge Elimination System (Section 402[p]) (33 United States Code § 1342(p))

The Clean Water Act regulates the discharge of pollutants into the waters of the United States and the quality standards for surface waters. Under the Clean Water Act, the USEPA has implemented pollution control programs such as setting wastewater standards for industry. This includes the discharge of any pollutant from a point source into navigable waters, unless permitted.

3.1.6 Safe Drinking Water Act (42 United States Code Section 300[f] et seq.)

The Safe Drinking Water Act was established to protect the quality of drinking water actually or potentially designated for drinking use, whether from aboveground or underground sources. The Safe Drinking Water Act authorizes the USEPA to establish minimum health-related standards to protect tap water; it requires all owners or operators of public water systems to comply with these established standards.

3.1.7 Toxic Substances Control Act (15 United States Code Section 2601 et seq.)

The Toxic Substances Control Act addresses the production, importation, use, and disposal of specific chemicals. Certain substances are generally excluded from the act, including but not limited to, food, drugs, cosmetics, and pesticides. The Toxic Substances Control Act gives the USEPA the authority to require reporting, recordkeeping, testing, and restrictions relating to chemical substances and/or mixtures.

3.1.8 Federal Insecticide, Fungicide and Rodenticide Act (7 United States Code Section 136 and 40 Code of Federal Regulations Parts 152.1 to 171)

The Federal Insecticide, Fungicide, and Rodenticide Act regulates the distribution, sale, and use of pesticides. All pesticides distributed or sold in the United States must be registered with the USEPA. When used according to specifications, the pesticide must demonstrate that it "…will not generally cause unreasonable adverse impacts on the environment."

3.1.9 Hazardous Materials Transportation Act (49 United States Code Section 1801-1819 and 49 Code of Federal Regulations Parts 101, 106, 107, and 171-180)

The Hazardous Materials Transportation Act regulates the transportation of hazardous materials. The objective is to provide adequate protection against the risks inherent in the transportation of hazardous materials, in commerce, to life and property by improving the regulatory and enforcement authority of the Secretary of Transportation.

3.1.10 Emergency Planning and Community Right to Know Act (42 United States Code Section 11001 and 40 Code of Federal Regulations Part 350.1)

The Emergency Planning and Community Right-To-Know Act established requirements for federal, state, and local governments, Indian Tribes, and industry regarding emergency planning and community right-to-know reporting on hazardous and toxic chemicals. The community right-to-know provisions help increase the public's knowledge and access to information on chemicals at individual facilities, on their uses, and on releases into the environment. States and communities working with facilities can use the information to improve chemical safety and protect public health and the environment (USEPA 2009).

3.1.11 Federal Compliance with Pollution Control (Executive Order 12088)

The provisions of Executive Order 12088 dated October 13, 1978, state that federal agencies are required to take necessary actions to prevent, control, and abate environmental pollution from federal facilities and activities under control by federal agencies.

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

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

3.1.13 Procedures for Considering Environmental Impacts (64 *Federal Register* 28545)

These FRA procedures state that an EIS should consider possible impacts on public safety, including any impacts caused by hazardous materials.

3.2 State

3.2.1 California Environmental Quality Act (Section 21000 et seq.) and California Environmental Quality Act Guidelines (Section 15000 et seq.)

The California Environmental Quality Act (CEQA) requires state and local agencies to identify the significant environmental impacts of their actions, including the potentially significant impacts associated with hazardous materials and wastes, and to avoid or mitigate those impacts when feasible.

3.2.2 California Code of Regulations, Title 27, Division 2, Chapter 3, Subchapter 4, Gas Monitoring and Control at Active and Closed Disposal Sites

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

3.2.3 California Code of Regulations, Title 14, Section 1724.3, Well Safety Devices for Critical Wells

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

3.2.4 California Code of Regulations, Title 27, Division 2, Chapter 3, Subchapter 5, Closure and Post closure Maintenance of Landfills (California Code of Regulations, Title 27, Subchapter 5)

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

3.2.5 California Public Resources Code Section 21151.4

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

3.2.6 Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.)

The Porter-Cologne Water Quality Control Act (PCWQCA) of 1969 established a comprehensive program to protect water quality and the beneficial uses of water, including but not limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves. A total of 28 such uses have been defined, which may be past, present, or probable future beneficial uses of water. Unlike the Clean Water Act, the PCWQCA applies to both surface water and groundwater. PCWQCA designated the State Water Resources Control Board (SWRCB) as the statewide water quality planning agency and gave planning and permitting authority to the nine semi-autonomous Regional Water Quality Control Boards. In addition, PCWQCA authorized the state to implement the provisions of the federal Clean Water Act, including the provisions that established the National Pollution Discharge Elimination System.

PCWQCA requires that regional water quality control plans (Basin Plans) prepared by individual Regional Water Quality Control Boards be periodically reviewed, which is currently done every 3 years. Any amendments to a Basin Plan must be approved by the SWRCB, Office of Administrative Law; for surface waters, approval is by the USEPA. PCWQCA requires any person discharging waste or proposing to discharge waste in any region that could affect the quality of waters of the state to file a "Report of Waste Discharge" with the applicable regional board (Vance 2005).

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

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act, requires businesses using hazardous materials to prepare a hazardous materials business plan that describes their facilities, inventories, emergency response plans, and training programs. Disclosure of hazardous materials inventories is required. Under the Business Plan Act, hazardous materials are defined as raw or unused materials that are part of a process or manufacturing step. They are not considered hazardous waste, although the health concerns pertaining to the release or inappropriate disposal of these materials are similar to those relating to hazardous waste. Statewide, DTSC has the primary regulatory responsibility for management of hazardous materials, with delegation of authority to local jurisdictions that enter into agreements with the State (California Health and Safety Code, Division 20, Chapter 6.95, Article 1).

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

The Safe Drinking Water and Toxic Enforcement Act, also known as Proposition 65, has been in effect since 1986 to promote clean drinking water and keep toxic substances that cause cancer or birth defects out of consumer products. Proposition 65 prohibits persons, in the course of doing business, from knowingly discharging listed chemicals known to have these toxic characteristics into any source of drinking water or onto land in which the material may come into contact with drinking water. Proposition 65 also requires businesses to warn any person exposed to chemicals known to cause cancer or reproductive toxicity. Furthermore, no persons, in the course of doing business, shall purposefully expose anybody to chemicals known to cause cancer or reproductive toxicity without clear and full disclosure (California Office of Environmental Health Hazard Assessment 2003).

3.2.9 Cortese List Statute (California Government Code Section 65962.5)

California Government Code Section 65962.5 requires the DTSC to compile and maintain a list of potentially contaminated sites located throughout California. Commonly referred to as the Cortese List, the Hazardous Waste and Substances Sites List is a planning document used by the state, local agencies, and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites. DTSC is responsible for a portion of the information contained in the Cortese List. Other state and local government agencies are required to provide additional hazardous materials release information for the Cortese List. The DTSC Site Mitigation and Brownfields Reuse Program EnviroStor database provides the DTSC component of the Cortese List data by identifying the Annual Workplan (now referred to as State Response and/or Federal Superfund) and Backlog sites listed under the California Health and Safety Code Section 25356 (DTSC 2007).

3.2.10 California Code of Regulations, Title 5, Division 1, Chapter 13, Subchapter 1, School Facilities Construction

This code provides general standards for the planning and construction of new educational facilities. Article 1 provides minimum standards for the facility's site location, design, and educational program requirements provided by the school district's educational goals. Article 2 provides further requirements for the facility's site selection, procedures for site acquisition for

state and locally funded school districts, and standards for development of plans for the design and construction of school facilities.

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

The Hazardous Waste Control Act is similar to the RCRA (see Section 3.2.1) on the federal level in regulating the identification, generation, transportation, storage, and disposal of materials deemed hazardous by the State of California.

3.2.12 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Senate Bill 1082)

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. The California Environmental Protection Agency and other state agencies set the standards for their programs, while local governments implement the standards. These local implementing agencies are called Certified Unified Program Agencies (CUPA). For each county, the CUPA regulates/oversees:

- Hazardous materials business plans
- California accidental release prevention plans or federal risk management plans
- The operation of underground storage tanks (UST) and aboveground storage tanks
- Universal waste and hazardous waste generators/handlers
- On-site hazardous waste treatment
- Inspections, permitting, and enforcement
- Proposition 65 reporting
- Emergency response

Beyond the statewide regulations, CUPAs administer policies and regulations found in a number of local and regional plans (including general plans and municipal codes) that address hazardous materials and wastes. Policies and regulations are intended as guides for the appropriate use of potentially hazardous materials, the cleanup of contaminated sites, and the preparation of emergency response plans.

3.3 Regional and Local

3.3.1 Los Angeles County Certified Unified Program Agency

Certified Unified Program Agencies in Los Angeles County have adopted standards that include hazardous waste inspection and enforcement, hazardous materials disclosure, California Accidental Release Prevention, aboveground storage tanks, USTs, and hazardous waste generator registration and reporting. The local Certified Unified Program Agency and/or Participating Agencies that implement the Unified Program elements in the project section include the City of Burbank Fire Department, City of Los Angeles Fire Department, and City of Glendale Fire Department.

3.3.2 County Office of Emergency Services

The Los Angeles County Office of Emergency Services coordinates the overall county response to disasters and is responsible for alerting and notifying appropriate agencies when disaster takes place; coordinating agencies that respond; ensuring resources are available in times of disaster; developing plans and procedures for response and recovery from disasters; and providing preparedness materials for the public.

3.3.3 County Department of Public Health, Division of Environmental Health, Emergency Response Team

The purpose of the Emergency Preparedness and Response Unit is to ensure that the division of Environmental Health is able to protect the public from health hazards that occur after

emergencies or disasters. The division of Environmental Health develops plans and establishes procedures to coordinate their response with partner agencies. They provide training and conduct drills and exercises to create a workforce that is able to manage the health effect of any emergency.

3.3.4 County Local Enforcement Agency for Solid Waste

The County of Los Angeles Solid Waste Management Program is the Local Enforcement Agency authorized by the California Public Resources Code, to conduct inspections of any solid waste facility within its jurisdiction. In conjunction with this inspection, the Local Enforcement Agency is authorized to inspect all aspects of facility operation, including physical plant, equipment and vehicles. The main goal of the Local Enforcement Agency is to ensure correct operation and closure of solid waste facilities and guaranteeing the proper storage and transportation of solid wastes.

3.3.5 Local and Regional Fire Department Hazardous Materials Response Teams

3.3.5.1 County of Los Angeles Health Hazardous Materials Division

The County of Los Angeles Health Hazardous Materials Division serves area residents by responding to emergencies and monitoring hazardous materials. The County of Los Angeles Health Hazardous Materials Division administers programs intended to protect public health and the environment throughout the County of Los Angeles from accidental releases and improper handling, storage, transportation, and disposal of hazardous materials and wastes through coordinated efforts of inspections, emergency response, enforcement, and site mitigation oversight. It also provides support for hazardous materials management in County of Los Angeles through coordination of data management, business plans, and facility inspections (Los Angeles County Fire Department 2016).

3.3.5.2 City of Los Angeles

The City of Los Angeles Emergency Operations Master Plan and Procedures and Hazardous Materials Annex, along with departmental plans, provide direction and guidance to City of Los Angeles departments when responding to a hazardous materials accident. The Hazardous Materials Annex, approved in 2008, is applicable to those City of Los Angeles departments with Emergency Operations Organization responsibilities and all other City of Los Angeles agencies with essential Emergency Operations Organization needs or resources and facilities available to the Emergency Operations Organization. The purpose of the Hazardous Materials Annex of the City of Los Angeles is to provide direction and guidance to the City of Los Angeles in responding to significant incidents involving hazardous materials that exceed the scope of incidents managed at the field level. The Annex includes the concept that a hazardous materials incident may be an accidental release; an intentional release or use of a chemical, biological, radiological, nuclear, or explosive material; or a result of a secondary incident to another natural or man-made incident (City of Los Angeles 2008).

The City of Los Angeles Fire Department also maintains a Bureau of Fire Prevention and Public Safety. The bureau requires local businesses that handle, store, and/or transport hazardous materials to register with the City of Los Angeles so that the City of Los Angeles Fire Department is aware of any hazardous material risks that may be present when they respond to emergency calls.

3.3.5.3 City of Burbank

The City of Burbank Fire Department is responsible for responding to incidents involving toxic and/or hazardous materials within the City of Burbank limits, including spills due to transportation of hazardous materials through the City of Burbank; industrial activities that use or produce hazardous materials; airport activities; underground pipelines; and illegal dumping. The City of Burbank Fire Department also oversees the Hazardous Materials Inventory Disclosure Program, which identifies quantities and locations of hazardous materials stored in the community. They

also manage the Risk Management and Prevention Program, which was designed to minimize the risk of spills, or adverse impacts caused by spills, and releases of extremely dangerous materials (City of Burbank 1997).

3.3.5.4 City of Glendale

The City of Glendale Fire Department receives inventory information from local businesses that handle hazardous materials as part of the City of Glendale's Hazardous Materials Disclosure Program (City of Glendale 2003).

3.3.6 County Division of Environmental Health Services

The County of Los Angeles Public Health provides the emergency health services for the cities in the County of Los Angeles. The County of Los Angeles Public Health provides Environmental Health Specialists and staff that include professionals with backgrounds in the sciences including; chemistry, physics, biology, microbiology, mathematics and environmental health. The agency assesses environmental conditions and reduces exposure to health risks; and educates the public on sources of environmental risk.

3.3.7 City Office of Emergency Services

3.3.7.1 City of Los Angeles Emergency Management Department

The City of Los Angeles Emergency Management Department works with city departments, municipalities, and community-based organizations to provide resources and information to prepare city employees and the public with to prepare, respond, and recover from emergencies, disasters and significant events. The agency serves as a liaison to county, state, federal and local non-profit agencies and operates the Emergency Operations Center. The Emergency Management Department also leads the development of citywide emergency plans and provide training and exercises for City of Los Angeles employees.

3.3.7.2 City of Burbank

As discussed in Section 3.3.5, the City of Burbank Fire Department is the lead agency in the city for emergency management.

3.3.7.3 City of Glendale

The City of Glendale maintains a dedicated Emergency Operations Center to manage and coordinate major emergencies or disasters. Day-to-day operations are conducted from departments and agencies that are widely dispersed throughout the City. The Emergency Operations Center is a location from which centralized emergency management can be performed during a major emergency or disaster. This facilitates a coordinated response by the Director of Emergency Services, Emergency Management Staff, and representatives from organizations who are assigned emergency management responsibilities.

3.3.8 City Health and Human Services Environmental Health Division

3.3.8.1 City of Los Angeles Bureau of Sanitation

City of Los Angeles Bureau of Sanitation protects public health and the environment through the administration and management of three program areas: Clean Water (wastewater), Solid Resources (solid waste management) and Watershed Protection (stormwater). These infrastructure programs collect, treat, recycle, and dispose the solid and liquid waste generated by the City of Los Angeles.

3.3.8.2 City of Burbank

The County of Los Angeles Public Health provides the emergency health services for the City of Burbank. The County of Los Angeles Public Health is described in Section 3.3.6.

3.3.8.3 City of Glendale

The County of Los Angeles Public Health provides the emergency health services for the City of Glendale. The County of Los Angeles Public Health is described in Section 3.3.6.

3.3.9 Area Plan for Hazardous Materials Incidents

3.3.9.1 City of Los Angeles

The 1996 Safety Element of the City of Los Angeles General Plan establishes a number of policies related to hazards and hazardous materials, mainly to reduce risks to the public safety or health from hazards such as fire and hazardous materials (City of Los Angeles 1996).

3.3.9.2 City of Burbank

The City of Burbank Safety Element (1997) states that the City of Burbank Fire Department is responsible for responding to incidents involving toxic and/or hazardous materials within the City of Burbank limits, including spills due to transportation of hazardous materials through the City of Burbank; industrial activities that use or produce hazardous materials; airport activities; underground pipelines; and illegal dumping. The City of Burbank Fire Department also oversees the Hazardous Materials Inventory Disclosure Program, which identifies quantities and locations of hazardous materials stored in the community. They also manage the Risk Management and Prevention Program, which was designed to minimize the risk of spills, or adverse impacts caused by spills, and releases of extremely dangerous materials (City of Burbank 1997).

3.3.9.3 City of Glendale

The City of Glendale Safety Element (2003) strengthens hazardous materials preparedness and provides post-disaster guidelines specific to the City of Glendale. The Technical Background Report, a supplementary document to the Safety Element, identifies areas in the community that have the potential to be hazardous to the citizens. These areas include hazardous materials storage areas, fault zones, landslide zones, and fire and flooding zones (City of Glendale 2003).

4 METHODS FOR EVALUATING EFFECTS

This section discusses the study area, the physical setting, the scope of services performed, and the methodologies used for the hazardous materials baseline conditions assessment.

4.1 Definition of Resource Study Area

The resource study area (RSA) is the area in which all environmental investigations specific to hazardous materials and wastes are conducted to determine the resource characteristics and potential effects of the project section. The RSA is defined as the potential affected environment, which includes the following:

- **School Locations and Landfills:** A 0.25-mile radius on either side of the project footprint
- **Oil and Gas Wells:** A 0.25-mile radius on either side of the project footprint.
- **Potential Environmental Concerns (PEC) Sites:** A 1-mile radius on either side of the project footprint
- **All Other Resources and Areas:** A 150-foot radius around the project footprint

In addition to these surface-level RSAs, the vertical construction profile is also relevant. Potential areas requiring excavation, trenching, or other subsurface work would require assessment of potential hazardous materials contamination. Also considered is the larger, regional geographic area within which hazardous materials and wastes would be transported to or from the project section during construction and operation, primarily via major transportation or freight corridors.

The project footprint with 150-foot, 0.25-mile, and 1-mile buffers from the proposed Burbank Airport Station to LAUS is shown on Figure 4-1. A list of the parcels that would be potentially impacted by the HSR Build Alternative within the Burbank to Los Angeles Project Section is presented in Appendix A.

4.2 Methodology for Effects Analysis

This report discusses the potential for hazardous wastes and materials or other existing PECs that may affect construction and operation of the Burbank to Los Angeles Project Section of the statewide California HSR System. This potential was based on a regulatory agency database search of the RSA; applicable federal, state, and local regulations related to hazardous wastes and materials; and a visual evaluation of current selected site conditions (i.e., baseline conditions). Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at educational facilities. The California Public Resources Code requires projects that would be located within 0.25 mile of a school and might be reasonably expected to emit or handle hazardous materials to consult with the school district regarding potential hazards.

PECs are defined using the definitions for hazardous waste, material, and substances provided in the California Department of Transportation (Caltrans) initial site assessment guidance document Chapter 10 (Caltrans 2006a) and the California Office of State, Project Development Procedures and Quality Improvement in Division of Design, Project Development Procedures Manual, Chapter 18 (Caltrans 2006b), as follows:

- Hazardous waste has complex state and federal legal definitions. In general, a solid waste is defined as hazardous waste when it qualifies as “waste” (i.e., is no longer of use and will be disposed) and when it exhibits a hazardous waste characteristic (toxicity, ignitability, reactivity, and/or corrosivity) or when it has been specifically listed as hazardous in federal or state law or regulation. Hazardous waste is regulated by the USEPA under RCRA. Federal hazardous wastes are often referred to as RCRA wastes. California hazardous waste law and regulations are in some cases more stringent than the federal law and, as a result, wastes may be defined as California hazardous wastes but not RCRA wastes; as such, they may be identified as non-RCRA hazardous wastes.

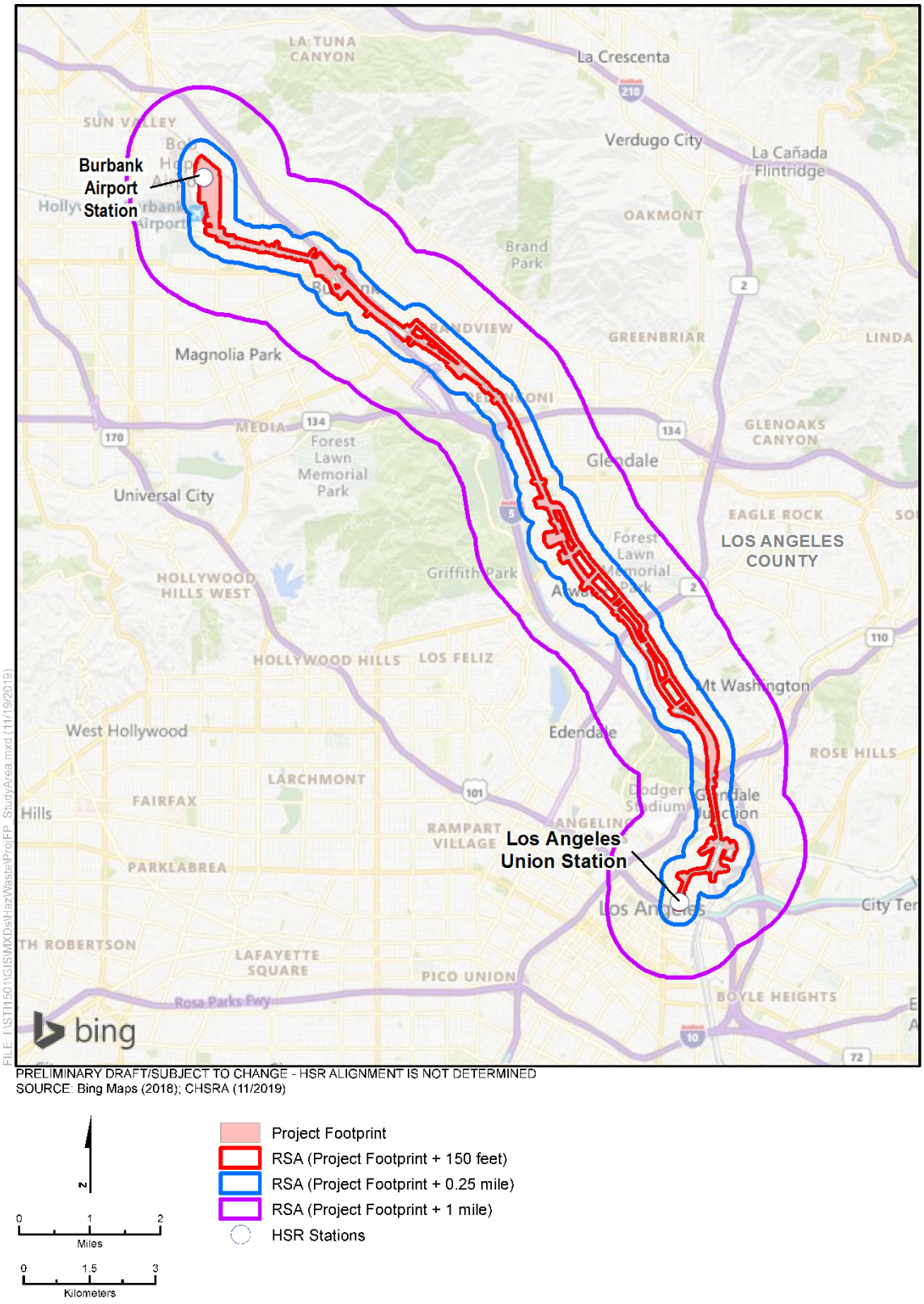

Figure 4-1 HSR Project Footprint and Study Area

- Hazardous material is a related term that includes hazardous waste and is defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. “Hazardous materials” include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering 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.
- Hazardous substance refers to any substance or mixture of substances that is (1) toxic, (2) corrosive, (3) an irritant, (4) a strong sensitizer, (5) flammable or combustible, or (6) generates pressure through decomposition, heat, or other means. A hazardous substance also includes a substance or mixture of substances that may cause substantial personal injury or substantial illness during, or as a proximate result of, any customary or reasonably foreseeable handling or use, including reasonably foreseeable ingestion by children. It also includes certain radioactive substances and certain substances that present an electrical, mechanical, or thermal hazard.

To identify sites with PECs that could potentially be affected by construction and operations of the project, the following tasks were conducted:

- Review of current federal, state, and county online databases of known and potential environmentally effected properties
- Review of reasonably available government agency electronic records
- Review of available historical aerial photographs and topographic maps
- Review of environmental reports, particularly online GeoTracker and EnviroStor reports, and documents pertaining to the RSA provided by the Environmental Data Resources, Inc. (EDR) Data Map reports (2016a,e; 2019a).

This report is not intended to provide a parcel-level due diligence assessment for the purpose of property acquisition or transfer, nor is it intended to satisfy the Phase I Environmental Site Assessment (ESA) requirements as defined by American Society for Testing and Materials (ASTM) Standard E 1527-13 (ASTM 2013) or the All Appropriate Inquiry requirements as defined in 40 C.F.R. Part 312. This methodology did not include interviewing property owners, performing reconnaissance at individual properties, or field sampling/analysis. A hazardous materials assessment of individual parcels potentially subject to property transfer/acquisition would occur subsequent to the NEPA/CEQA environmental review and final design/project implementation processes.

4.3 Regulatory Database Review

Readily available records regarding past and current site uses for properties within and adjacent to the RSA were reviewed; applicable agencies regarding PECs were contacted; and the results of an agency database list search for PECs at surrounding and nearby properties were reviewed. The information obtained during the records review is discussed in the following sections.

The environmental database firm EDR conducted a search for facilities listed by regulatory agencies as potentially having hazardous materials or environmental concerns (EDR 2016a, 2016e, 2019a). The corridor-based search of government databases consisted of using search distances listed in Section 8.2.1 of ASTM Standard E 1527-13 from the anticipated project footprint, generally 0.25 mile to 1.0 mile, depending on the database (Table 4-1). The database search involved a review of several federal, state, tribal, and EDR proprietary environmental databases for sites with documented use, storage, or release of hazardous materials or petroleum products. The EDR report identified historically contaminated properties; businesses that use, generate, or dispose of hazardous materials or petroleum products in their operations; and active contaminated sites that are currently under assessment and/or remediation. A list of the EDR agency databases reviewed is presented in Table 4-1.

Table 4-1 EDR Agency Data Reviewed

Agency Database	Survey Distance from Project Footprint
USEPA National Priority List (NPL) for Superfund Sites	1 mile
U.S. Proposed NPL (Proposed NPL)	1 mile
Federal Superfund Liens	In project footprint
U.S. NPL Deletions (Delisted NPL)	1 mile
USEPA Comprehensive Environmental Response, Compensation and Liability Index System (CERCLIS) List	0.5 mile
Federal Facility Site Information Listing (Federal Facility)	1 mile
USEPA Superfund Management Enterprise System (formerly CERCLIS – No Further Remedial Action Planned [CERCLIS-NFRAP]	0.5 mile
USEPA RCRA Corrective Action Report (CORRACTS)	1 mile
USEPA RCRA Permitted Treatment, Storage, and Disposal (TSD) Facilities	0.5 mile
USEPA RCRA Registered Large Quantity Generators of Hazardous Waste (RCRA-LQG)	0.25 mile
USEPA RCRA Registered Small Quantity Generators of Hazardous Waste (RCRA-SQG)	0.25 mile
USEPA RCRA Registered Conditionally Exempt Small Quantity Generators of Hazardous Waste	0.25 mile
U.S. Engineering Controls Sites List	0.5 mile
U.S. Sites with Institutional Controls	0.5 mile
USEPA Emergency Response Notification System	In project footprint
State Response Sites (RESPONSE)	1 mile
State Site Mitigation and Brownfields Reuse Program's (EnviroStor) database	1 mile
State Solid Waste Information System Permitted Solid Waste Landfill, Incinerators or Transfer Stations List	0.5 mile
State Leaking Underground Storage Tank Report (LUST)	0.5 mile
State Spills, Leaks, Investigations and Cleanup (SLIC) Program List	0.5 mile
State Leaking Underground Storage Tanks on Indian Land	0.5 mile
State Active Underground Storage Tank Facilities (UST)	0.25 mile
State Aboveground Petroleum Storage Tank Facilities (AST)	0.25 mile
State Underground Storage Tanks on Indian Land	0.25 mile
Federal Emergency Management Agency (FEMA) Underground Storage Tank Listing	0.25 mile
State Voluntary Cleanup Program (VCP) Properties on Indian Land	0.5 mile
State VCP Properties	0.5 mile
U.S. Listing of Brownfields Sites	0.5 mile
U.S. Open Dump Inventory	0.5 mile
State Waste Management Unit Database System	0.5 mile
State Listing of Recycling Facilities	0.5 mile
State Registered Waste Tire Haulers Listing	In project footprint

Agency Database	Survey Distance from Project Footprint
State Report of the Status of Open Dumps on Indian Lands	0.5 mile
U.S. and State Clandestine Drug Labs	In project footprint
U.S. and State Historic Clandestine Drug Labs	In project footprint
State Historical Hazardous Waste Sites	1 mile
State School Property Evaluation Program (SCH)	0.25 mile
State Toxic Pits Cleanup Act Sites	1 mile
State Facility Inventory Database (CA FID UST) of historic active and inactive UST locations	0.25 mile
State Hazardous Substance Storage Container Database (HIST UST) of historic UST sites	0.25 mile
Statewide Environmental Evaluation and Planning System UST Listing (SWEEPS UST)	0.25 mile
U.S. CERCLA Lien Information	In project footprint
U.S. Land Use Control Information System for former Navy properties	0.5 mile
State Environmental Liens Listing	In project footprint
State Deed Restriction Listing (DEED)	0.5 mile
State Hazardous Materials Information Reporting System	In project footprint
State of California Hazardous Material Incident Report System	In project footprint
State Land Disposal Sites Listing	In project footprint
State Military Cleanup Sites Listing	In project footprint
Manufactured Gas Plants: A collection of potential manufactured gas plants from searched business directories	1 mile
EDR Historical Auto Stations: A collection of potential gas station/filling station/service station sites from searched business directories	0.25 mile
EDR Historical Cleaners: A collection of potential dry cleaner sites from searched business directories	0.25 mile

Source: EDR 2016a, 2016e, and 2019a

The list of databases reviewed is also provided in the EDR Database Report (EDR 2016a,e and 2019a) that is included in Appendix B. Appendix B also lists the number of hazardous materials/waste sites near the RSA within their respective survey distance from the project footprint. Sites that were not believed to present a substantive risk to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies were not labeled as PECs in Appendix B. These sites included those that strictly handle, store, or generate hazardous materials and that do not have a reported release to soil and/or groundwater; and are unlikely to have a future release that will affect the RSA. Section 4.3.2 discusses the screening criteria used to identify a PEC.

Although the assessment obtained enough information to achieve the goals and intent of the Authority's Environmental Methodology Guidelines (Authority 2017), the following data gaps exist:

- Unmapped (i.e., "orphan") sites in EDR reports that lack accurate site addresses.
- Missing or undocumented historical cases of hazardous waste disposal.
- A lack of high-resolution imagery in available historical aerial photographs and lack of industrial land use notation in United States Geological Survey (USGS) topographic maps.

4.3.1 Standard Historical Environmental Records Sources

The following three additional types of historical records of the RSA were reviewed:

- Historical topographic maps (EDR 2016b,f and 2019b)
- Historical aerial photographs (EDR 2016c,g and 2019c)
- Historical Sanborn fire insurance maps (EDR 2016d,h and 2019d)

4.3.2 Screening Criteria

The results of the database search report in the EDR Environmental Atlas were reviewed to note reported release sites within up to 1 mile of the project footprint. To evaluate sites identified in the database with the potential to negatively affect the RSA, screening criteria were applied. A site assessed to be a PEC was based on at least one of the following three characteristics (1) the nature of the site's environmental history; (2) the site's proximity to the project alignment; and (3) the groundwater flow direction near the site, or a combination of these factors. The purpose of this assessment was to identify PECs, to the extent feasible, in connection with selected sites within the RSA according to the processes described in this report to establish the baseline conditions.

Sites that were listed in the database search report not identified as release sites (for example, a site listed as a hazardous waste generator but not as having had a release) were considered to have low potential for affecting the project based on reasonably available information. “Closed” cases having the potential presence of residual soil and/or groundwater contamination that may be encountered during excavation activities were considered depending on the prior mitigation performed.

The sites that pose the greatest concerns are (1) those with soil and/or groundwater contamination in or adjacent to the project footprint for an alternative and (2) those with groundwater contamination near areas where excavation down to groundwater would be necessary. Sites that are PECs in and adjacent to the project footprint were chosen by the criteria listed below:

- **High:**
  - Additional investigation and review indicated contamination is present and likely to be encountered during construction.
  - Abatement of building materials will be required prior to construction.
- **Medium:**
  - Additional investigation and review indicated contamination is or may be present at the identified site but is not likely to be encountered during excavation. It is important to maintain this database in case the limits of construction activity change during future activities.
- **Low:**
  - Additional investigation and review indicated that there is no contamination associated with the identified site, and abatement of building materials will not be required.

For those sites with a reported release either in or adjacent to the project footprint, an additional search for information including current case status was conducted online through the DTSC Site Mitigation and Brownfields Reuse Program, CalRecycle Database website (CalRecycle 2016), EnviroStor Database website (DTSC 2016a), and the SWRCB’s GeoTracker website (SWRCB 2016), as appropriate. EnviroStor and GeoTracker are referenced in Appendix F only where further information beyond what was reported by EDR was available.

Furthermore, the proximity to the HSR Build Alternative, extent of documented contamination, and status of remediation, were considered to estimate the relative likelihood of the effect of the PEC (high, medium, or low). It is possible that PEC sites estimated with low likelihood to affect

the project footprint could present situations requiring mitigation; however, these possible scenarios have not been addressed in this report and will be the focus of future parcel-by-parcel, due-diligence investigations prior to the property acquisition phase.

4.4 Agency Records Review

Local and state agencies' current and previous records of hazardous substance use, storage, and/or unauthorized releases were reviewed to assess whether they may have affected the RSA and surrounding properties. Results of the reviewed documents are described hereinafter.

4.4.1 California Regional Water Quality Control Board

GeoTracker data and report resources for regulated environmental cases, provided by the SWRCB and Regional Water Quality Control Boards, were reviewed online at geotracker.swrcb.ca.gov. Additionally, records of active environmental cases that may have the potential to affect the RSA were found for properties within a one-mile buffer from the project footprint. Information gathered from GeoTracker is discussed in Appendix F.

4.4.2 California Department of Toxic Substances Control

EnviroStor investigation data and report resource for cleanup and hazardous waste permitted facilities provided by the California DTSC were reviewed online. According to EnviroStor, no records of active environmental cases were found for the project footprint. However, records of active environmental cases for properties near the project footprint that may have the potential to affect the RSA were found. Information gathered from EnviroStor is discussed in Appendix F.

4.4.3 California Department of Conservation, Division of Oil, Gas, and Geothermal Resources

The California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) online mapping system was reviewed. According to DOGGR, no records of oil wells were found within the RSA (DOGGR 2016). Information gathered from DOGGR is discussed further in later sections of this report.

4.5 Site Historic Use Information

Readily available historical information pertaining to the RSA were reviewed for evidence of activities that would suggest the potential presence of hazardous substances in the RSA and to evaluate the potential for the RSA to be affected by off-site sources of contamination. The following subsections are a summary of the information reviewed.

4.5.1 Historical Aerial Photographs

The general type of activity and land use can often be discerned from the type and layout of structures visible in an aerial photograph; however, specific elements of a site operation cannot normally be determined from the photographs. Historical aerial photographs obtained from EDR were reviewed for the RSA for land-use history. The flight years and source of the photos reviewed are listed in Table 4-2. Historical aerial photographs are provided in Appendix C.

4.5.2 Sanborn Insurance Company Maps

EDR/Sanborn provided historical Sanborn Fire Insurance Maps to evaluate the overall historical land use within and adjacent areas of the RSA. Sanborn coverage was only available for portions of the RSA and not available for the entire RSA. Generally, maps were searched for the areas within the project footprint. Maps were selected for review from available maps found for the years 1888, 1894, 1906, 1920, and 1930. The Historical Sanborn maps supplemented the historical aerial photograph review. Historical Sanborn maps are provided in Appendix D.

Table 4-2 Historical Aerial Photographs Reviewed

Flight Year	Source
2012	USGS
2010	USGS
2009	USGS
2005	USGS
2002	USGS
1994	USGS
1989	USGS
1981	AMI
1972	USGS
1970	Brewster
1964	USGS
1954	EDR
1952	EDR
1948	EDR
1940	Fairchild
1938	Laval
1928	Fairchild

AMI = Aerial Map Industries
EDR = Environmental Database Resources
USGS = U.S. Geological Survey

4.5.3 Historic Topographic Maps

As with aerial photographs, the general type of activity and land use can often be discerned from the type and layout of structures visible on historical topographic maps. However, specific elements of a site operation cannot normally be determined from the maps. Historical topographic maps provided by EDR were reviewed for the RSA and surrounding areas extending from the Burbank to Los Angeles Project Section to assess recorded development. Maps were selected for review from available maps for the years 1894, 1896, 1898, 1900, 1902, 1921, 1924, 1926, 1928, 1948, 1953, 1966, 1972, 1981, 1991, 1994, and 2012. Historical topographic maps are provided in Appendix E.

4.6 Previous Site Assessments

Previous site assessments available on the SWRCB GeoTracker website and the DTSC EnviroStor website were reviewed for properties located within the RSA.

4.7 Site Reconnaissance

A site reconnaissance was not conducted during this stage of the project. Google Earth, detailed aerial photography gathered in the fall of 2015, and cab cam footage shot from the top of a train throughout the Los Angeles to San Diego corridor in December 2013 were reviewed to obtain a general overview of adjoining/nearby existing conditions along the Burbank to Los Angeles Project Section.

4.8 Determining Significance under the National Environmental Policy Act

Pursuant to NEPA regulations (40 C.F.R. 1500–1508), project effects are evaluated based on the criteria of context and intensity. Context means the affected environment in which a proposed project occurs. Intensity refers to the severity of the effect, which is examined in terms of the type, quality, and sensitivity of the resource involved, location and extent of the effect, duration of the effect (short- or long-term), and other consideration of context. Beneficial effects are identified and described. When there is no measurable effect, impact is found not to occur.

Intensity of adverse effects is summarized as the degree or magnitude of a potential adverse effect where the adverse effect is thus determined to be negligible, moderate, or substantial. A significant adverse effect may still exist when on balance the impact is negligible.

A negligible impact is defined as an increased risk to the public or environment related to hazardous materials or substances that is slightly greater, but very close to the existing conditions. A moderate impact is defined as a localized increased risk to the public or environment related to hazardous materials or substances. Substantial effects are defined as increased risk to the public or environment related to hazardous materials or substances on a regional scale.

4.9 Determining Significance under the California Environmental Quality Act

Based on the State CEQA Guidelines, including Appendix G, a project would result in a significant impact if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create 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.
- Emit hazardous air emissions or handles extremely hazardous substances or mixtures containing extremely hazardous substances within 0.25 mile of a school that such use would pose a health and safety hazard to students or employees
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

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5 AFFECTED ENVIRONMENT

5.1 Physiography and Regional Geologic Setting

The US Geological Service (USGS) 7.5-minute quadrangle maps for the quadrangles overlapping the project footprint are provided in Appendix E. The topography of the Burbank to Los Angeles Project Section is dominated by the Los Angeles River alluvial plain. The topography of the 6.5-mile-long northern portion within the San Fernando Valley slopes gently downward from 770 feet above mean sea level (MSL) near the northern end of Hollywood Burbank Airport to 470 feet MSL at SR 134.

The topography of the five-mile section from SR 134 (City of Glendale) to the Metrolink CMF (City of Los Angeles) consists of the alluvial plain on the eastern side of the Los Angeles River that is generally level with a gradual decrease in elevation from 470 feet MSL at SR-134 to 310 feet MSL at the south end of the Metrolink CMF.

The southernmost one-mile section adjacent to the City of Los Angeles Chinatown from Spring Street to LAUS lies on the level western alluvial plain of the Los Angeles River at an elevation of approximately 300 feet MSL.

The project alignment is partially within the San Fernando Valley, an alluvial basin bounded by the Santa Monica Mountains to the south, San Gabriel Mountains to the north, the foothills of the Santa Susana Mountains to the west and the Verdugo Hills to the east. The portion of the project alignment located in the cities of Burbank and Glendale is within the southeastern portion of the San Fernando Valley basin. The San Fernando Valley portion of the alignment lies on basin sediments consisting of Quaternary alluvial sediments overlying Tertiary bedrock formations. The sediments are characterized as predominantly unconsolidated silt, sand, and gravel and are over 200 feet thick in the southeastern area of the basin where the project is located (California Geological Survey 1961).

The project alignment is also partially within the alluvial plain associated with the Los Angeles River within the river canyon between the San Fernando Valley and Downtown Los Angeles. The portion of the project from SR 134 south to Arroyo Seco is commonly referred to as the Los Angeles narrows. The portion from Arroyo Seco south to LAUS is within the northern margin of the river forebay recharge area of the Los Angeles Coastal Plain. The alluvial plain consists of Quaternary fluvial alluvium sediments dominated by sand, gravel, and cobbles, with possible silty lenses and boulders. A more detailed discussion of the geologic conditions of the RSA is presented in the Geology, Soils, and Geologic Resources Technical Report for the Burbank to Los Angeles Project Section EIR/EIS (Authority 2019).

5.2 Hydrology

According to a groundwater contour map published by Upper Los Angeles River Watermaster, 2013 (Watermaster 2013), groundwater levels from the Hollywood Burbank Airport to SR 134 range in depth from approximately 50 feet below the ground surface at Hollywood Burbank Airport to about 40 feet below ground surface near SR 134. Groundwater levels are generally shallow (20 feet or less below surface) within the river plain alluvium along the RSA near the Los Angeles River from SR 134 south to LAUS. Groundwater flows in a south-to-southeast direction within the alluvium (Upper Los Angeles River Watermaster 2013). The bedrock of the Elysian Park hill is considered essentially non-water-bearing due to low permeability, but perched saturation may be encountered within shallow weathered zones.

Based on the review of the Caltrans Logs of test borings and California Geological Survey (CGS 1998a, 1998b, 1998c) data, groundwater was detected in the previous borings near an elevation of approximately 635 feet MSL, approximately 25 feet below ground surface at LAUS. Historically, groundwater has been as high as the ground surface near the Los Angeles River. Borings near the Burbank Airport Station did not encounter groundwater to depth drilled, which was greater than 150 feet below ground surface. The historically high groundwater levels specified by the CGS are shown on Figure 5-1.

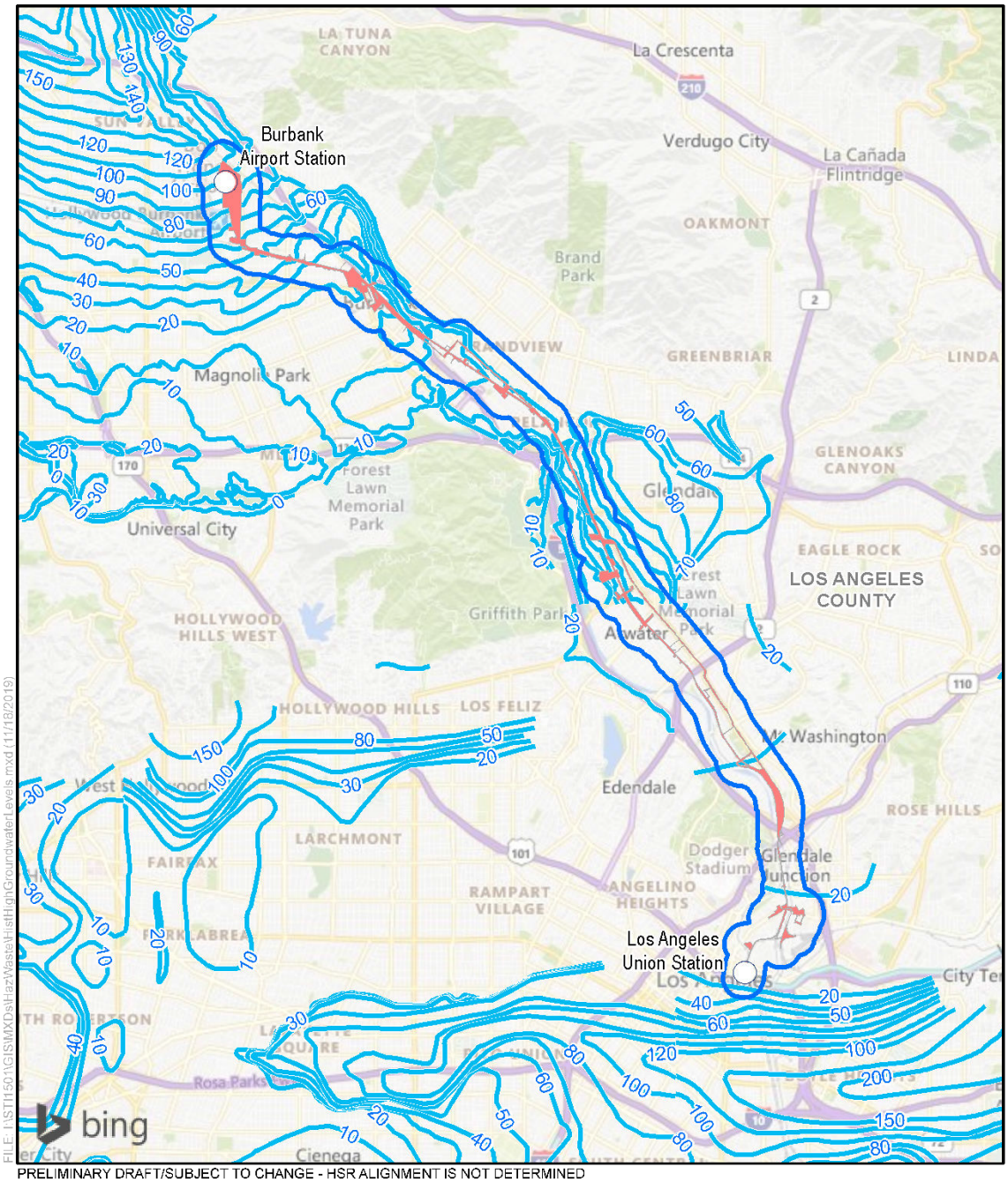


Figure 5-1 Historical Highest Groundwater Contours

The alluvium within the RSA is used for municipal water supplies by the City of Burbank, City of Glendale, and Los Angeles Department of Water and Power (LADWP). In addition, portions of the aquifer in the southeastern area of the San Fernando Valley Groundwater Basin are considered a USEPA Superfund NPL site due to volatile organic compound (VOC) contamination, primarily trichloroethylene (TCE) and tetrachloroethylene (PCE), as well as metal ions chromium III and chromium VI. The City of Burbank operates a production well field within 0.5 mile south of the Hollywood Burbank Airport. The City of Glendale operates a pumping and contamination treatment well field near the SR 134 and I-5 interchange ("Glendale Operable Unit"). The City of Glendale also operates a production well field approximately 0.25 mile south of the existing Colorado Boulevard crossing of the railroad corridor. LADWP operates a production well field adjacently west of the railroad corridor at the SR 2 crossing. Groundwater levels and flow directions are influenced by pumping depressions in the well field areas (Upper Los Angeles River Watermaster 2013).

5.3 Surface Water

Surface water drainage in the RSA is controlled by storm drains in the streets. The nearest surface water body is the Los Angeles River, as described above. Other major surface water features in the RSA include the Lockheed Drain Channel, Burbank Western Channel, Hansen Heights Channel, and Verdugo Wash. The alignment crosses Verdugo Wash immediately to the north of SR 134, in the City of Glendale. The alignment would cross the Los Angeles River north of Chinatown (City of Los Angeles) between SR 110 and I-5, and the Arroyo Seco Wash near SR 110.

5.4 Sites with Potential Environmental Concerns

Using the criteria outlined in Chapter 4, there are 41 high-risk, 102 medium-risk, and 235 low-risk PEC sites that may affect the HSR Build Alternative. Additional information regarding each site is provided in Appendix F including EDR identification number, facility name (current and/or previous), address of the facility, listing description, and the risk level of the PEC. Figure 5-2 (Sheets 1–6) shows the locations of the PEC sites. PEC sites identified adjacent (within a 1-mile buffer zone of the project footprint) to the RSA are also included in the figures based on both of the following: (1) search distances for the specified database, noted in Table 4-1; and (2) screening criteria described in Section 4.3.2. Appendix F includes additional information regarding these PECs.

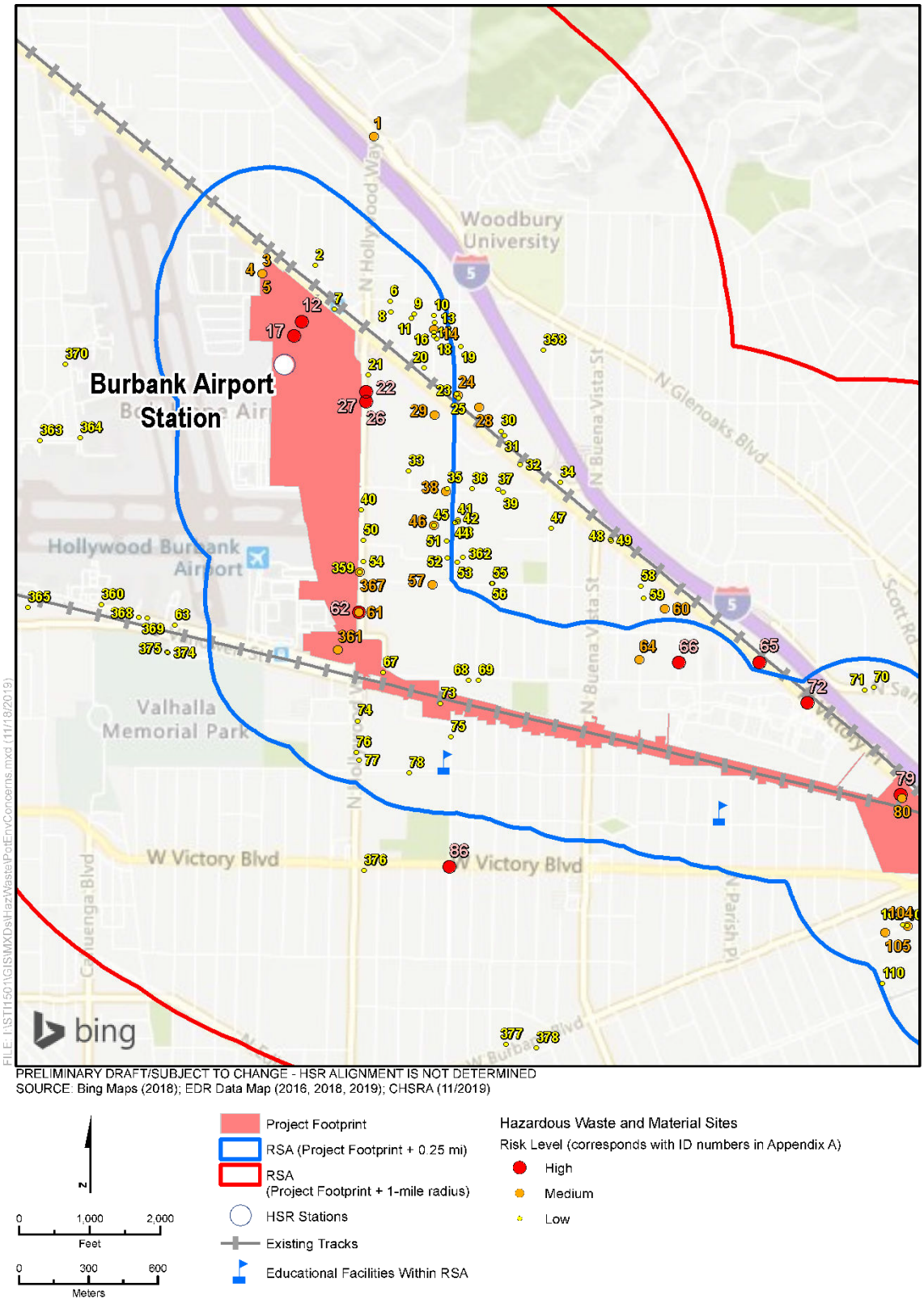


Figure 5-2 Potential Environmental Concern Sites

(Sheet 1 of 6)

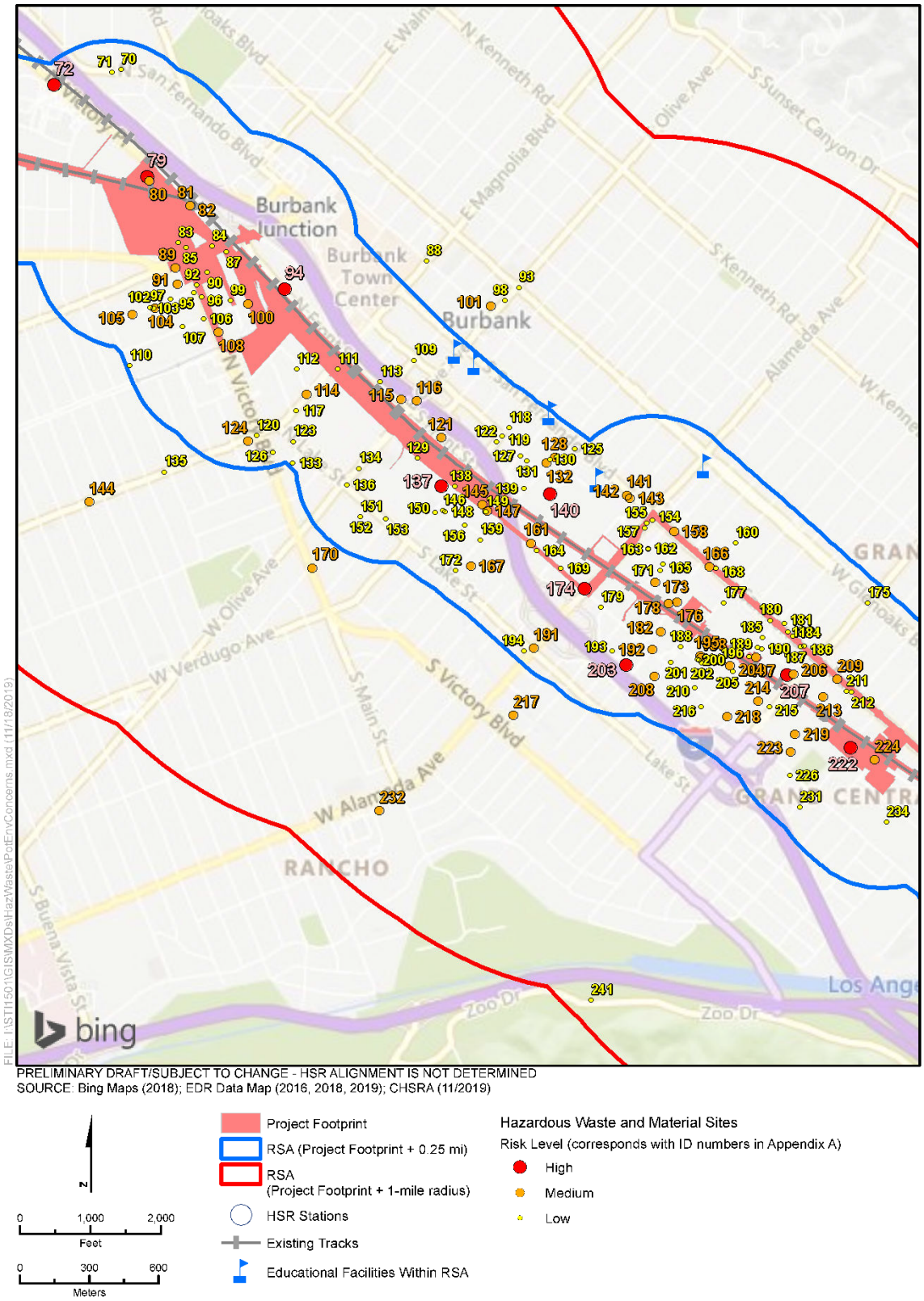
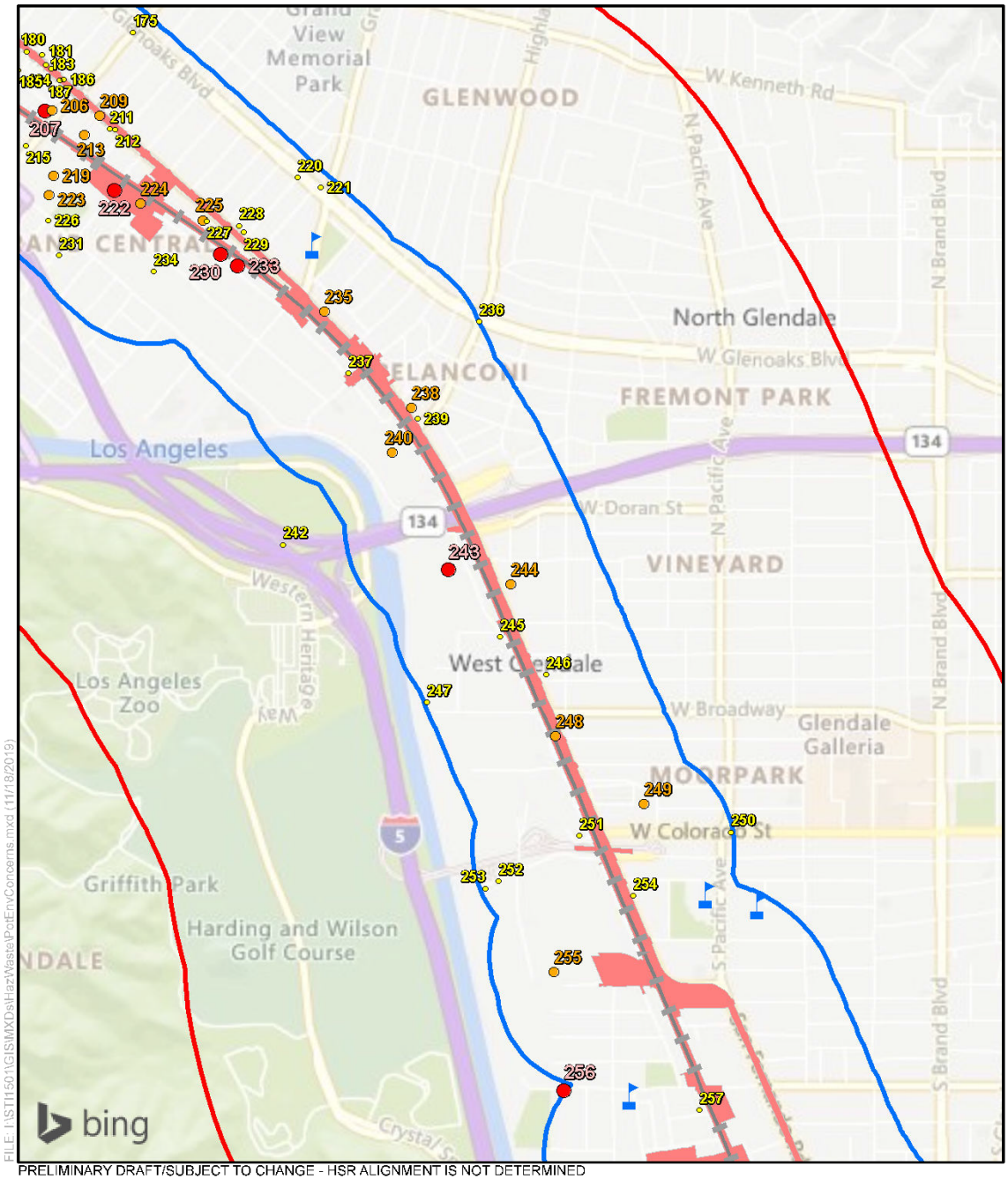


Figure 5-2 Potential Environmental Concern Sites

(Sheet 2 of 6)



FILE: I:\STI\1501\GIS\MXDs\HazWaste\PotEnvConcerns.mxd (11/18/2019)

PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Bing Maps (2018); EDR Data Map (2016, 2018, 2019); CHSRA (11/2019)

N

0 1,000 2,000
Feet

0 300 600
Meters

Project Footprint
RSA (Project Footprint + 0.25 mi)
RSA (Project Footprint + 1-mile radius)
HSR Stations
Existing Tracks
Educational Facilities Within RSA

Hazardous Waste and Material Sites
Risk Level (corresponds with ID numbers in Appendix A)
High
Medium
Low

Figure 5-2 Potential Environmental Concern Sites

(Sheet 3 of 6)

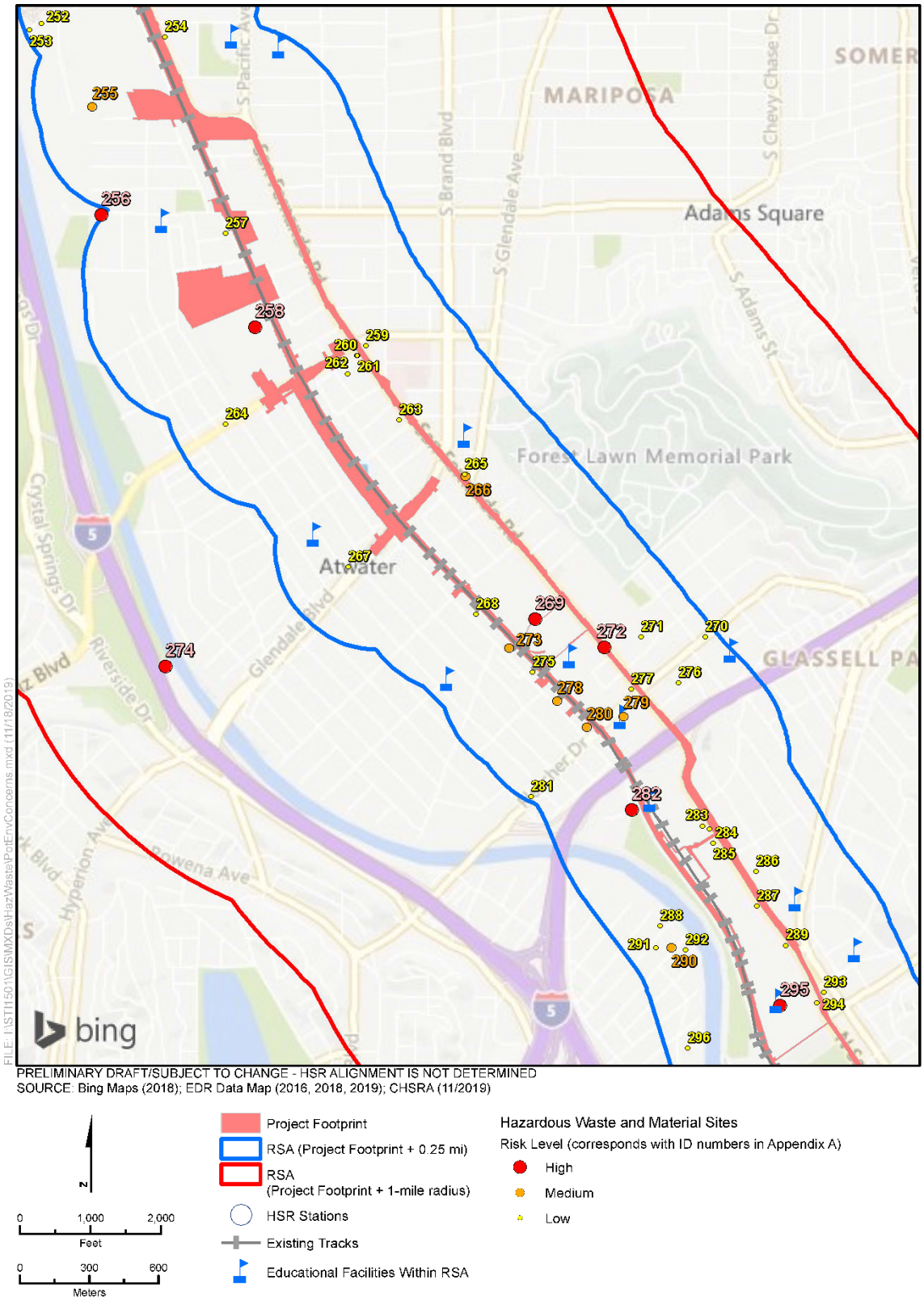


Figure 5-2 Potential Environmental Concern Sites

(Sheet 4 of 6)

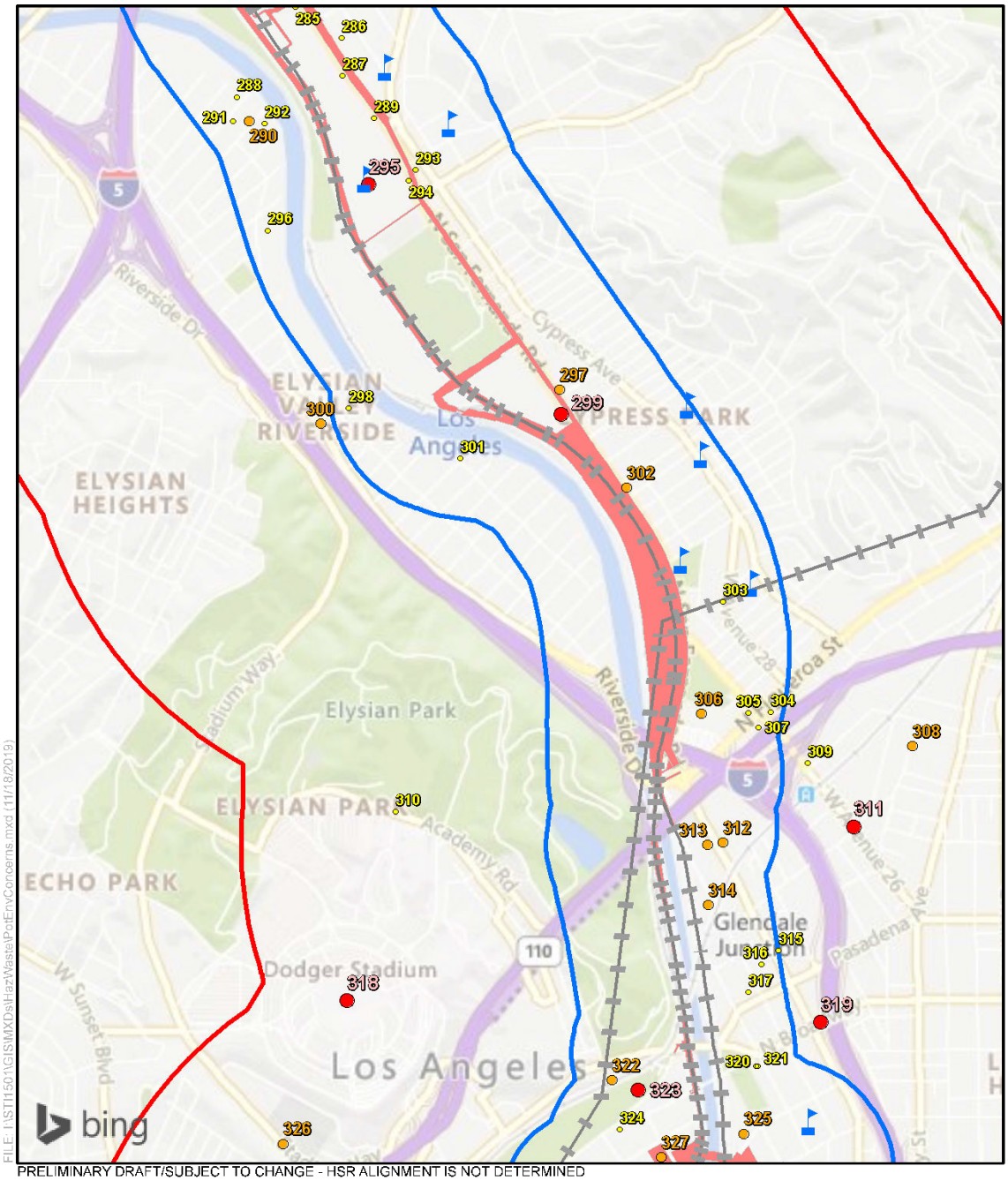


Figure 5-2 Potential Environmental Concern Sites

(Sheet 5 of 6)

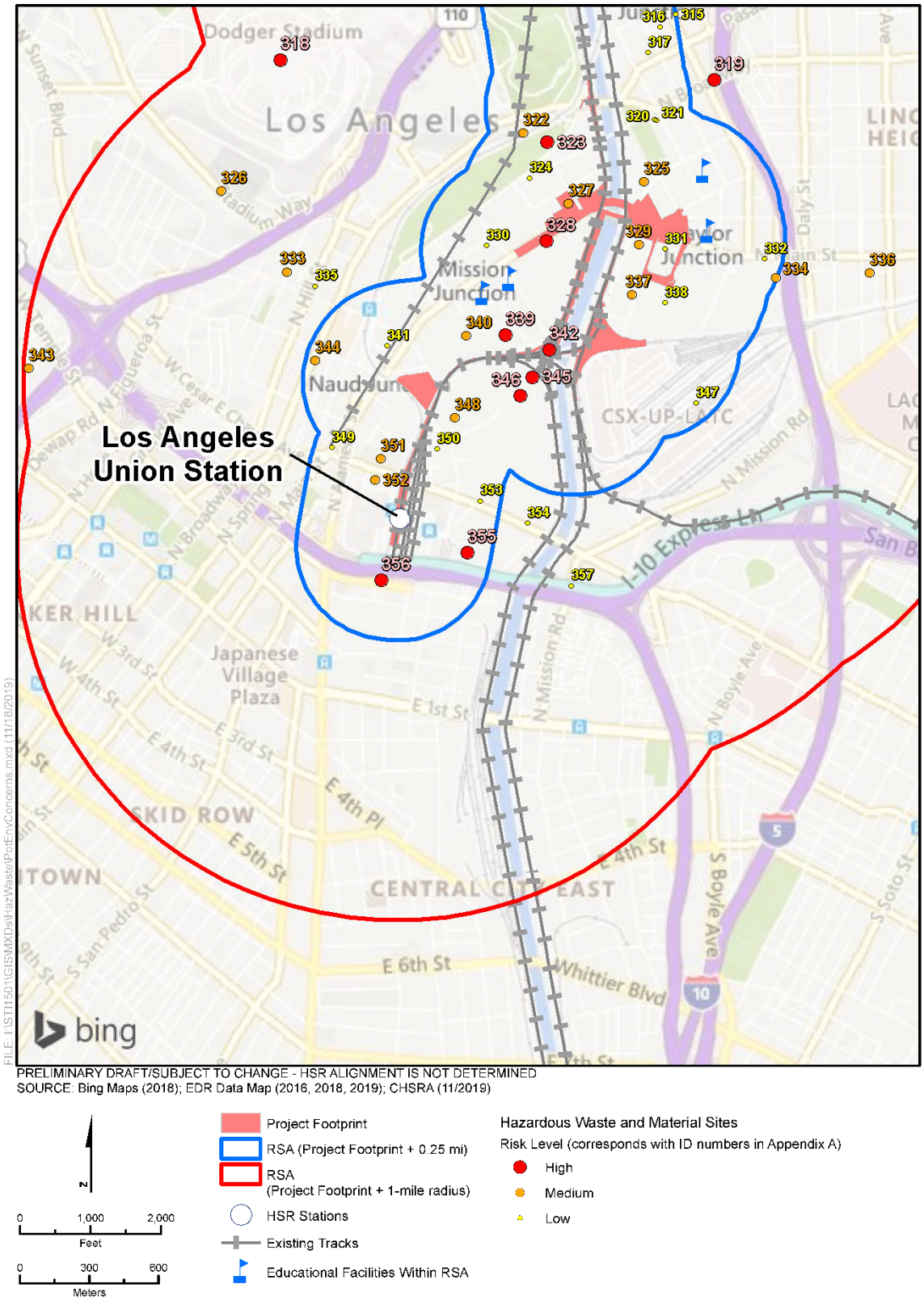


Figure 5-2 Potential Environmental Concern Sites

(Sheet 6 of 6)

5.5 General Environmental Concerns

General environmental concerns include lead-based paint (LBP), asbestos-containing materials (ACM), pesticides, polychlorinated biphenyls (PCB), aerially deposited lead (ADL), naturally occurring asbestos (NOA), landfills, and oil and gas wells.

5.5.1 Lead-Based Paint

LBP is recognized as a potential health risk because of the known toxic effects of lead exposure on the central nervous system, kidneys, and blood stream. Lead exposure occurs primarily through the ingestion and inhalation of LBP. Concern for LBP is primarily related to residential structures, though the concern may also apply to commercial structures. The risk of lead toxicity in LBP varies based on the condition of the paint and the year of its application. Paint applied to residential structure in 1977, or later, is not expected to contain lead due to it being banned, however LBP has not been banned for commercial and industrial use.

Structures along the project alignment that have been constructed before 1970 may have LBP present. Also, yellow thermoplastic and yellow-painted traffic stripes and pavement markings may contain lead chromate, according to Caltrans Standard Special Provision 14-001 (Caltrans 2009).

5.5.2 Asbestos-Containing Materials

Although the use of asbestos in the manufacture of most building materials has not been fully prohibited by federal law, the use of asbestos in building materials has for the most part been discontinued since the late 1970s. Thus, because of the older date of construction of many structures along the project alignment, including concrete bridge abutments, there exists the possibility that they may have been built with structural and building materials that contain asbestos. The interior building materials that could be ACMs in structures along the corridor would have included floor tiles and mastic; wallboard and joint compound; wall, ceiling, and pipe insulation; and acoustic ceiling panels. Exterior building materials that could be ACMs in structures along the corridor would have included transite siding, roofing materials, window sealants, patching material, concrete bridge construction materials, and transite pipe. However, no survey of ACMs was specifically done for this report.

5.5.3 Pesticides

In the project alignment, numerous agricultural enterprises have historically stored, handled, and applied pesticides and herbicides on row crops or orchards. Pesticide residues, which include both organic compounds and inorganic compounds, may persist in soils within the RSA; however, routine application of these materials would not generally accumulate to levels sufficient to cause concern. The amount of time a pesticide persists in soil depends on the chemical compound in the pesticide, volume of pesticide applied, and the date the pesticide was applied. 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; they also lack rinse water from washout facilities for pesticide application equipment that has not been properly collected and treated before discharge. Other activities common to agricultural operations are farm equipment repair and fueling, including the use of on-site fuel storage tanks. In addition, the railroads have been known to use various substances for weed control within the project footprint.

5.5.4 Polychlorinated Biphenyls

Electrical transformers, hydraulic equipment, capacitors, and similar equipment may contain PCBs in hydraulic or dielectric insulating fluids within the units. PCBs were domestically manufactured from 1929 until their manufacture was banned in 1979. They belong to a broad family of man-made organic chemicals known as chlorinated hydrocarbons.

PCBs have a range of toxicity and vary in consistency from thin, light-colored liquids to yellow or black waxy solids. Due to their non-flammability, chemical stability, high boiling point, and electrical insulating properties, PCBs were used in hundreds of industrial and commercial applications. Equipment in the RSA that might contain PCBs includes transformers, capacitors,

and other electrical equipment; oil used in motors and hydraulic systems; and thermal insulation material. In particular, older, pole-mounted electrical transformers typically contain PCBs.

5.5.5 Aerially Deposited Lead

Leaded gasoline was utilized for 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., ADL), and surface and near-surface soils along heavily used roadways have the potential to contain elevated concentrations of lead (USEPA 2009). In more urbanized California highway corridors, exposed soils have been found contaminated with lead, primarily due to historic emissions from automobile exhausts. In situ sampling and laboratory testing has shown that some of the soil contains concentrations of lead in excess of State regulatory thresholds; thus, any generated waste from disturbance of the soil would be regulated as a hazardous waste (DTSC 2009b).

5.5.6 Naturally Occurring Asbestos

NOA is found in serpentine rock and is a potential contamination issue. NOA is a fibrous mineral that often takes the form of long, thin fibers; however, NOA can degrade from weathering or excavation activities into microscopic fibers and become airborne. If NOA does not become airborne, it does not pose a threat, but when suspended in the air and inhaled, the thin fibers can irritate tissues and resist the body's natural defenses.

The RSA is approximately 10 miles south of the nearest reported asbestos occurrence or fibrous amphibole (California Department of Conservation 2011). Therefore, NOA is not considered a substantial concern for the Burbank to Los Angeles Project Section.

5.5.7 Landfills and Waste Disposal sites

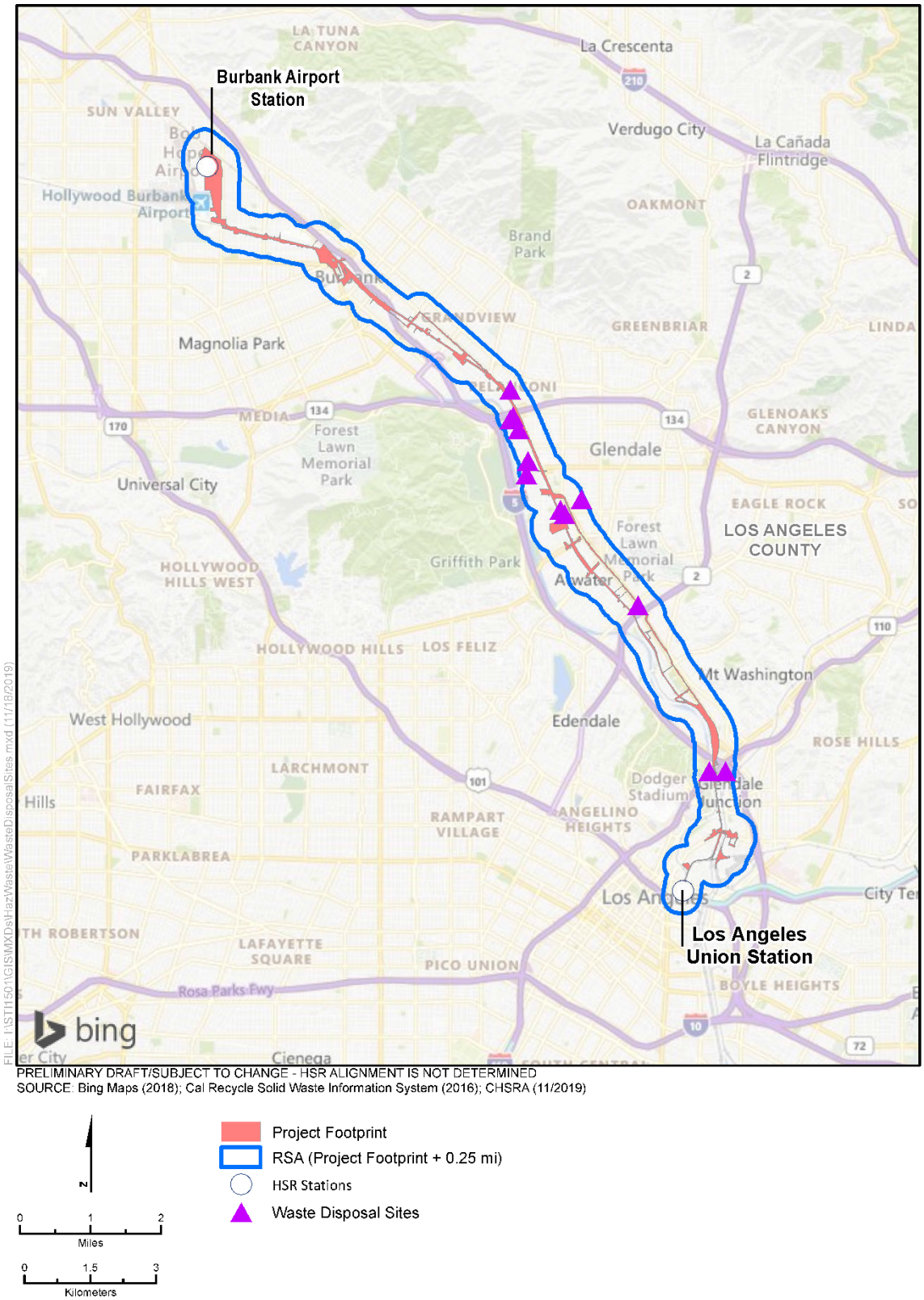
Landfills and waste disposal sites within 0.25 mile of the RSA were evaluated for their potential to release methane gas, which may present an explosion risk; this is summarized in Table 5-1 and Figure 5-3. These sites include historical burn dumps, closed landfills, and an active municipal landfill. Typically, old burn dumps pose a limited landfill gas risk because the methane-forming organic material has been burned and cannot further decompose. However, the risk would vary based on the degree to which each old burn dump 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 affecting an area beyond the landfill property is low.

Table 5-1 Waste Disposal Sites in the Resource Study Area

Facility Name	Address	Status	Location from Project Footprint	Potential for Landfill Gas Release?
Kelly Avenue Dump	630 Kellogg Avenue, Glendale	Not accepting waste; Solid-waste facility – closed site; No violations or areas of concern reported	Approximately 100 feet northeast	Low – inspection on January 2016 reported no evidence of past landfill activities observed; no methane gas emissions detected; no gas like odors detected in the neighborhood; and no water accumulation observed.
American Reclamation Chipping and Grinding	4560 Doran Street, Los Angeles	Active transfer/processing for construction/ demolition, inert, green materials and wood waste. No violations or areas of concern reported	Approximately 500 feet southwest	Low – There is no known release.
E.L. Flemming Dump	5431 San Fernando Road, Los Angeles	Not accepting waste; Solid-waste facility – closed site; No violations or areas of concern reported	Approximately 150 feet southwest	Low – inspection in April 2016 reported that the drainage and the erosion control systems appeared intact, and the integrity of the post-closure land uses, roads, and structures were maintained at the time of the inspection. There was no visible exposure of solid waste where the public can come into contact with the buried trash and the leachate.
San Fernando & Brazil LF	3950 West Colorado Boulevard, Los Angeles	Not accepting waste; Solid-waste facility – closed site; No violations or areas of concern reported	Approximately 50 feet southwest	Low – inspection in April 2016 reported that there was no major unevenness of the ground, potentially caused by the soil settling over time of trash was observed.
Silverlake St. Maintenance District Yard	4610 Colorado Boulevard, Los Angeles	Active; limited volume transfer operation for construction/ demolition, inert, green materials and mixed municipal. No violations or areas of concern reported	Approximately 1,100 feet southwest	Low – inspection in May 2016 reported that the yard is maintained satisfactorily and no violations or areas of concern were observed during inspection.
City of Glendale Corporation Yard	541 Chevy Chase Boulevard, Glendale	Active transfer/processing for construction/ demolition, inert, green materials and mixed municipal. No violations or areas of concern reported	Approximately 50 feet northeast	Low – inspection in May 2016 reported that the yard is maintained satisfactorily and trash is removed at least once a week.

Facility Name	Address	Status	Location from Project Footprint	Potential for Landfill Gas Release?
City of Glendale MRF and TS	540 Chevy Chase Boulevard, Glendale	Not accepting trash at transfer/processing, only recyclable materials. No violations or areas of concern reported	Approximately 50 feet northeast	Low – inspection in April 2016 reported that maintenance of sorting equipment is satisfactory and the area under equipment is periodically maintained during the day and the area is thoroughly cleaned after 1:00 pm every day.
San Fernando Maintenance District Yard	11370 San Fernando Road	Active; limited volume transfer operation for construction/ demolition, inert, green materials and mixed municipal. No violations or areas of concern reported.	Approximately 700 feet northeast	Low – inspection in June 2016 reported that no areas of concern were observed during and the facility has not been accepting solid waste.
East Street Maintenance District Yard	452 San Fernando Road, Los Angeles	Active transfer/processing for construction/ demolition, mixed municipal, and tires. No violations or areas of concern reported	Approximately 400 feet northeast	Low – inspection in May 2016 reported that there was no solid waste material being tracked out of the transfer station to public streets.
Avenue 26 & Figueroa Solid Waste Disposal	400 Avenue 26, Los Angeles	Closed, solid waste disposal site	Approximately 200 feet west	Low – inspections in January and May 2016 reported no violations or areas of concern were observed.

Source: Solid Waste Information System (SWIS) (2017)



PRELIMINARY DRAFT/SUBJECT TO CHANGE - HSR ALIGNMENT IS NOT DETERMINED
SOURCE: Bing Maps (2018); Cal Recycle Solid Waste Information System (2016); CHSRA (11/2019)

Figure 5-3 Waste Disposal Sites

5.5.8 Oil and Gas Wells

The Burbank to Los Angeles Project Section would be located in DOGGR District 1. Oil and gas wells within the RSA were evaluated for their potential release of hazardous gases such as methane, carbon dioxide, and hydrogen sulfide. According to the DOGGR online mapping system, there are no gas wells within the RSA, but multiple known oil wells are mapped within the RSA. See Figure 5-4 for the locations of the oil wells (DOGGR 2016). According to information provided in the DOGGR online map, there are four plugged and abandoned dry holes within the RSA.

5.6 Airports, Airstrips, and Heliports

Seven heliports and one airport are located within the RSA. The heliports within the RSA require special permission to land and are of private use. The contamination at the Los Angeles County Men's Detention Center Main Jail was identified prior to the facility being used as a heliport. The Federal Aviation Administration (FAA) considers Hollywood Burbank Airport to be a primary commercial service airport (FAA 2016). Various sites east and northeast of Hollywood Burbank Airport are also identified as PECs. A list of the heliports and airports located within the RSA (project footprint + 0.25 mile) is presented on Table 5-2. The locations of these facilities are shown on Figure 5-5.

Table 5-2 Airports and Heliports within the Resource Study Area

Facility Name	Operation Status	Type of Service	Distance from Project Footprint (miles)
Hollywood Burbank Airport (formerly Burbank-Glendale-Pasadena Airport)	Active	Commercial	0.40
Dreamworks Helistop Glendale	Active	Private use	0.25
Los Angeles County Men's Detention Center Main Jail Heliport	Active	Private use	0.13
Los Angeles Union Station Terminal Annex Heliport	Active	Private use	0.10
LAPD Jay Hooper Memorial Heliport	Active	Private use	0.19
Metropolitan Water District Heliport	Active	Private use	0.10
Edward Roybal Federal Building Heliport	Active	Private use	0.25

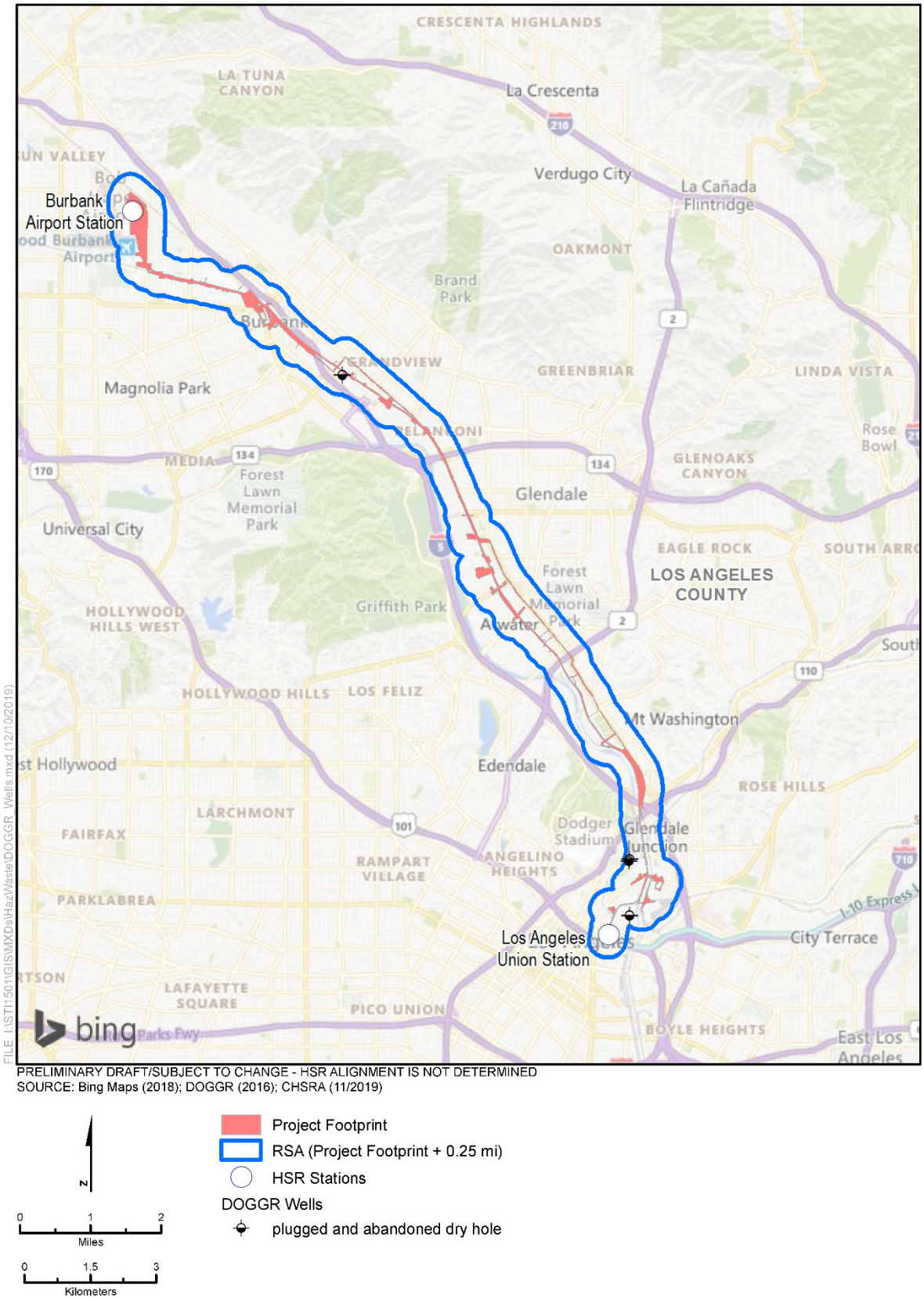


Figure 5-4 Oil Wells in the Resource Study Area

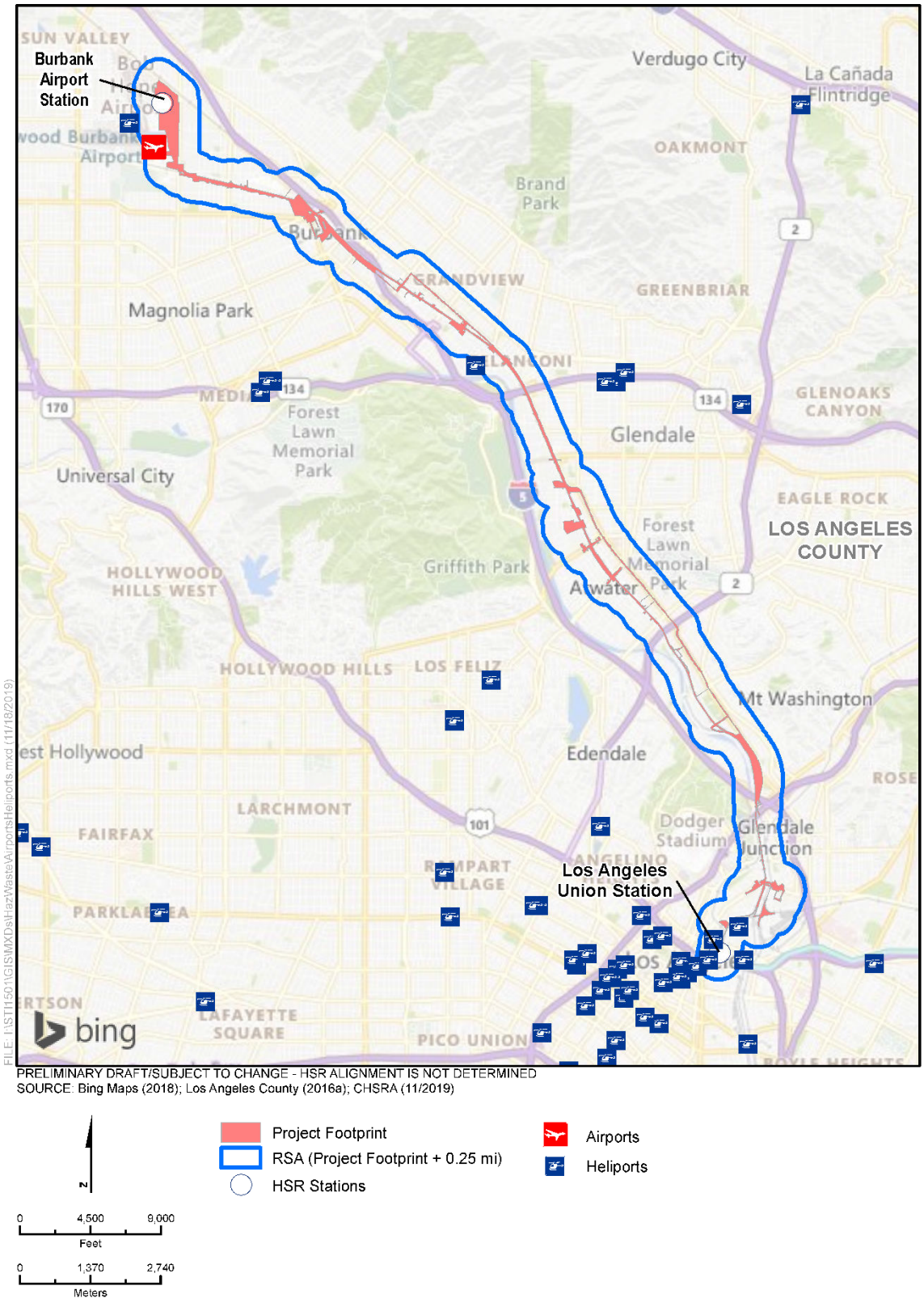


Figure 5-5 Airports and Heliports in the Resource Study Area

5.7 Educational Facilities

Educational facility locations are important to consider because individuals particularly sensitive to hazardous material exposure use and occupy these facilities. Within the schools RSA, there are 30 educational facilities, defined as colleges, high schools, middle schools, elementary schools, after school programs, or charter schools. Table 5-3 provides a summary of these facilities, and they are shown in Figure 5-6.

Table 5-3 Educational Facilities in the Resource Study Area

Facility	City	Type	Description	District
Providencia Elementary	Burbank	Public	Elementary	Burbank USD
Monterey High School (Continuation)	Burbank	Public	Elementary	Burbank USD
Magnolia Park School	Burbank	Public	K-12	Burbank USD
Intercoast Colleges	Burbank	Private	College	–
Make-Up Designory	Burbank	Private	College	–
Burbank USD Community Day	Burbank	Public	After School Program	Burbank USD
Little Angels Academy Burbank, Inc.	Burbank	Private	K–12	–
Scholars Preparatory	Burbank	Private	K–12	–
Cypress Park Head Start	Los Angeles	Public	Early Childhood	Los Angeles County
Glendale Career College	Glendale	Private	College	–
Thomas Edison Elementary School	Glendale	Public	Elementary	Glendale USD
Cerritos Elementary School	Glendale	Public	Elementary	Glendale USD
Jewel City Community Day	Glendale	Public	Grades 7–10	Glendale USD
Pacific Avenue – Early Bird Preschool	Glendale	Public	Preschool	Glendale USD
Perlita Early Childhood Education	Los Angeles	Private	Elementary	–
Holy Trinity Elementary School	Los Angeles	Private	Elementary	_
Atwater Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
Alliance Environmental Science and Technology High School	Los Angeles	Public	High School	Los Angeles USD
Los Feliz Charter Schools for the Arts	Los Angeles	Private	Arts	–
Glassell Park Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
Sonia Sotomayor Learning Academies	Los Angeles	Public	High School, Middle School	Los Angeles USD
Divine Saviour	Los Angeles	Private	Grades K–8	–
Albion Street Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
PUC Milagro Charter Elementary School	Los Angeles	Private	Elementary	–
Catholic Charities of Los Angeles – Archdiocesan Youth Employment Services	Los Angeles	Private	Youth Center	–
Ann Street Elementary School	Los Angeles	Public	Elementary	Los Angeles USD
William Mead Head Start	Los Angeles	Private	Early Childhood	–
Cypress Park Familysource Center	Los Angeles	Public	Early Childhood	City of Los Angeles
Aragon Avenue Elementary School	Los Angeles	Public	Elementary	Los Angeles USD

Facility	City	Type	Description	District
Washington Irving Middle School Math Music Engineering Magnet	Los Angeles	Public	Middle School	Los Angeles USD
Ribét Academy College Preparatory	Los Angeles	Private	K-12	–
Renaissance Arts Academy	Los Angeles	Public	K-12	Los Angeles USD

PUC = Partnerships to Uplift Communities
USD = Unified School District

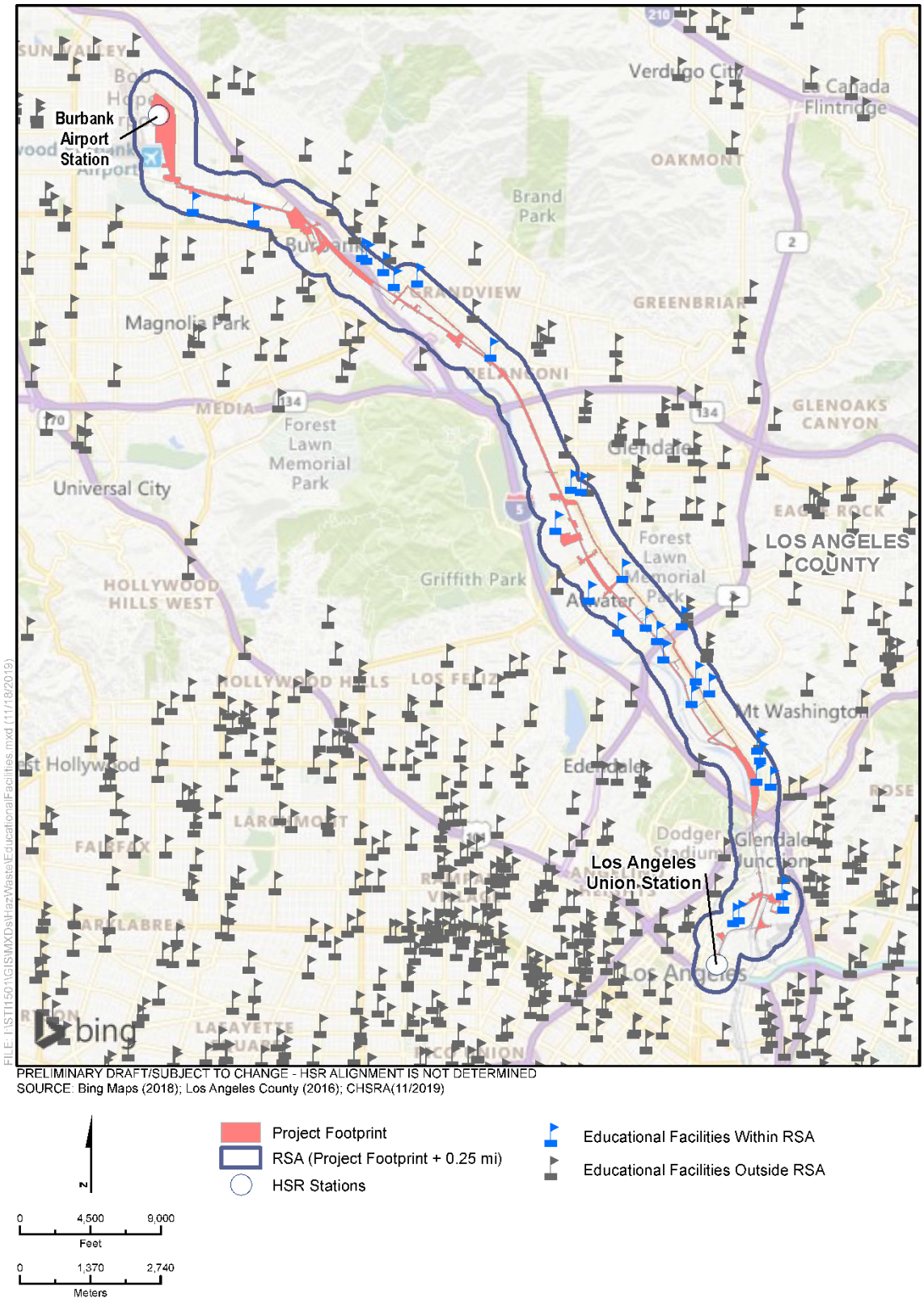


Figure 5-6 Educational Facilities in the Resource Study Area

5.8 Wildlands

Based on the local fire hazard severity zone maps available from the California Department of Forestry and Fire Protection, the Burbank to Los Angeles Project Section lies adjacent to mapped Very High Fire Hazard Severity Zones. Relatively infrequent grass fires have occurred during the dry season at the Elysian Park and Griffith Park areas that lie adjacent to the RSA, so the placement of structures in fire-prone areas requires special consideration (CalFire 2007). Figure 5-7 shows the location of the project section relative to the locations of the statewide fire hazard severity zones.

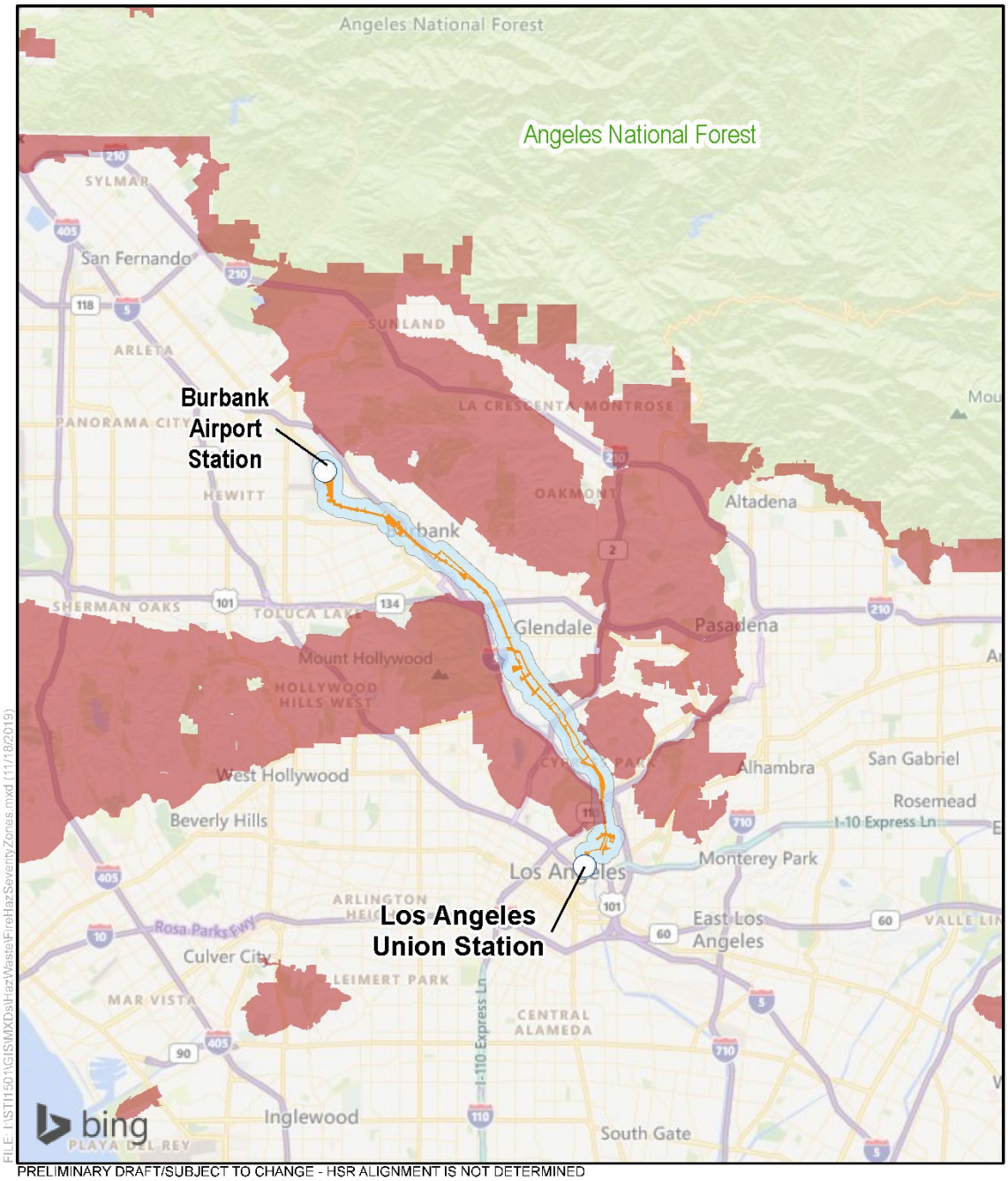


Figure 5-7 Fire Hazard Severity Zones Map

6 EFFECTS ANALYSIS

This chapter discusses the effects resulting from the No Project Alternative and the HSR Build Alternative, including construction phase effects from existing PEC sites; the use, storage, and handling of hazardous materials during the construction and operation phase; and hazardous waste generation during the construction and operation phase. Best management practices and regulations controlling site runoff, such as those used by Caltrans and Los Angeles County, designed to limit the potential for hazards associated with an accidental spill of hazardous materials, would reduce the potential for hazardous environmental effects. Permanent use of hazardous materials (such as those from routine use and disposal of hazardous materials and wastes for HSR Build Alternative operation) would be governed by regulations that prescribe the proper use and disposal of such materials. The methodology for the effects analysis is presented in Section 4.

6.1 Introduction

Construction of the HSR Build Alternative would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and petroleum products (such as diesel fuel, lubricants, paints and solvents), and cement products containing strong basic or acidic chemicals. These materials are commonly used at construction sites. 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.

The potential severity of the effects from hazardous waste/material releases from existing PEC sites on the construction, operation, and maintenance of the HSR Build Alternative would depend on two factors: the nature and severity of the contamination and the construction, operation, and maintenance activities that would likely occur near the PEC sites.

The PEC sites that pose the greatest concern are those with soil or groundwater contamination in or adjacent to the alignment rights-of-way or those where the alignment right-of-way is adjacent to freeway and highway rights-of-way so that ADL may be a concern. In addition, PEC sites with groundwater contamination near areas where excavation will be necessary would be of concern, because dewatering during excavation, trenching, or bored tunneling could alter local subsurface hydraulic gradients and draw groundwater contamination into excavated areas or trenches. In addition, fuel or chemical vapors could move through the vadose zone to excavated areas (during construction) or to underground structures associated with the rail line, such as vaults and manholes (during project operation). These effects could occur near contaminated sites, depending on the nature and extent of the contamination.

The cleanup or remediation associated with the presence of a hazardous waste/material site in the RSA could result in additional construction costs. These additional costs could make a major difference in the practicality or feasibility of an alternative. Generally, remediation of a given site is negotiated during property acquisition, and remediation is conducted by the property owner prior to transfer of the property.

Most of the alignment will be within existing railroad rights-of-way, and because of the historic transportation of hazardous materials, additional unknown contamination from spills, accidental releases, and other releases of contaminants, are possible. Consequently, some unavoidable hazardous waste and hazardous material effects are expected as a result of the HSR Build Alternative.

This project-level effects analysis does not provide a detailed assessment of the nature or extent of any hazardous wastes or hazardous materials that may be present at the identified sites. Nor does this analysis specify the degree or specific nature of the potential effects under the various alignment options. However, the analysis results are useful for comparing design options and identifying areas where avoidance may be possible.

6.2 No Project Alternative

The No Project Alternative represents the existing conditions of the Burbank to Los Angeles Project Section as they exist today and as they would exist in the future without the project, based on future development projects and improvements to the intercity transportation system that are already programmed and funded for construction.

Under future conditions, future project-related effects associated with hazardous materials and wastes within the region would not be substantially different from those under existing conditions. Construction and operation of other projects within the project section would subject workers to potential hazards, especially in the event that contaminated soil and/or if groundwater is encountered. However, implementation of other individual project-related effects avoidance and minimization features, which include development of a contingency plan to address soil/groundwater contamination, proper removal and disposal of contaminated soils/groundwater, preparation of a Health and Safety Plan that applies to excavation may reduce the effects associated with hazardous materials and wastes under the No Project Alternative.

6.3 HSR Build Alternative

This section evaluates potential direct and indirect effects that would result from construction and operation of the HSR Build Alternative. Construction of the HSR Build Alternative would temporarily use and dispose of hazardous materials and wastes associated with construction. Effects that would result in contamination of the HSR Build Alternative include the following:

- Construction effects related to the routine transport, use, or disposal of hazardous materials.
- Construction and operation effects related to the accidental release of hazardous materials into the environment.
- Construction and operation effects from hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Construction effects associated with hazardous sites identified in the RSA.

6.3.1 HSR Build Alternative Effects

6.3.1.1 Effect 1: Potential Effects Related to Routine Transport, Use, or Disposal of Hazardous Materials and Hazardous Wastes

Hazardous materials would be used during construction, operation, and maintenance of the HSR Build Alternative, and it is anticipated that hazardous waste would be generated during construction and operation.

Construction

Construction of the HSR Build Alternative would temporarily increase the regional transport, use, storage, and disposal of hazardous materials. Hazardous materials and wastes are substances that are flammable or combustible, explosive, toxic, noxious, corrosive, or radioactive, or are oxidizers or irritants. Potentially hazardous materials used in railway construction and are likely to be transported to or from construction sites include, but are not limited to:

- Acids and caustics
- Compressed gases
- Caulking
- Adhesives and glues
- Degreasers
- Refrigerants
- Oils and lubricants
- Batteries and battery acid
- Fuels and additives
- Herbicides and pesticides

- Wood preservatives
- Paints, varnishes, and shellacs
- Paint strippers
- Solvents and thinners
- Mineral spirits

Materials that are likely to be stored in quantities greater than 5-gallon (19-liter) containers include fuels, oils and lubricants, antifreeze, and some solvents. As discussed in Section 5.5, existing structures within the RSA likely contain ACMs, LBP, and, potentially, other chemical wastes, such as PCBs, and will require demolition and transportation from the RSA to appropriate disposal sites.

The increased use of hazardous materials could, in turn result in an incremental increase in hazardous waste generation. Additionally, hazardous waste generation would likely occur during excavation or other activities that result in currently in situ contaminated media becoming waste after the property acquisition phase or during construction. This waste generation may include soil or groundwater contaminated by petroleum hydrocarbons, pesticides, herbicides, asbestos, heavy metals, or other hazardous materials. Waste generation may also include demolition materials that contain friable or non-friable asbestos and/or lead. Waste management strategies that seek to prevent pollution by reducing waste generation at its source are considered the most desirable approach.

Additionally, before the construction of project facilities near the existing PEC sites discussed in Section 5.4, remediation (i.e., cleanup) of contaminated soil would generate hazardous waste for shipping to appropriate off-site disposal facilities. Furthermore, if remediation of soil is considered, the soil contaminated by ADL along freeways, highways, and major thoroughfares in more urbanized corridors would be classified as hazardous waste for shipping to off-site disposal facilities. The transport of these hazardous wastes would be subject to state and federal regulations regarding the transportation of hazardous materials. Compliance with existing regulations would protect the public and environment from exposure to substantial hazards.

Risks associated with hazardous materials and hazardous wastes are exacerbated when construction activities occur in proximity to sensitive receptors such as residential areas, schools, hospitals, parks, playgrounds, clinics, and other locations where people are known to congregate. For example, approximately 30 educational facilities are in the project vicinity (see discussion in Section 5.7). Also of concern would be the project's proximity to sensitive environments such as waters of the state, waters of the U.S., or sensitive habitat/species (e.g., Los Angeles River).

The HSR Build Alternative would include several IAMFs to reduce potential impacts resulting from the routine transport, use, or disposal of hazardous materials and wastes during construction through the following mechanisms. HMW-IAMF#5 requires preparation and implementation of a demolition plan for any location with positive results for asbestos or lead. The plan would specify how to appropriately contain, remove, and dispose of the asbestos- and lead-containing material while meeting all requirements and best management practices (BMP) to protect human health and the environment. HMW-IAMF#7 requires compliance with applicable state and federal regulations related to the transport of hazardous materials and wastes during construction. It also requires preparation and implementation of a hazardous materials and wastes plan describing responsible parties and procedures for hazardous wastes and hazardous materials transport. HMW-IAMF#8 requires compliance with the Clean Water Act Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. It also requires preparation and implementation of a hazardous materials and wastes plan describing responsible parties and procedures for hazardous wastes and materials transport, containment, and storage BMPs that would be implemented during construction. Finally, HMW-IAMF#9 requires use of an Environmental Management System to describe the process that would be used to evaluate the full inventory of hazardous materials, as defined by federal and state law, employed on an annual basis, and that would replace hazardous substances with nonhazardous materials. Material substitutions would be contained in the annual inventory.

Operation

The operation and maintenance of the HSR Build Alternative would involve the transport, use, storage, and disposal of hazardous materials or wastes associated with routine maintenance. Operation of the HSR Build Alternative would require only minor amounts of hazardous materials. Examples are the periodic use of herbicides in the right-of-way to control weeds, and greases to lubricate switching equipment along the trackway. Hazardous materials used at the station sites could include landscape maintenance chemicals and janitorial supplies. The transportation, storage, use and disposal of these substances will be regulated by a number of federal, state, and local laws consistent with HMW-IAMF#10 (preparation and implementation of hazardous materials monitoring plans). The HSR Build Alternative would be dedicated to passenger transport and would not be used for the transport of hazardous materials or wastes. The realignment of the non-electrified tracks, which are used by freight and passenger rail, closer to the right-of-way boundary would not create unique impacts with respect to the use, transport, or storage of hazardous materials or hazardous wastes because existing procedures and protocols would remain in place. Therefore, no effect would result from the transportation of hazardous materials or hazardous waste during operation.

6.3.1.2 Effect 2: Potential Effects Related to Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment

Accidental spills or releases of hazardous materials or wastes can occur during construction and operation, or if any existing contamination is exposed.

Construction

Releases or spills can occur from the improper storage of hazardous materials, improper handling of hazardous materials, negligence, transportation accidents, derailments, vehicle or rail collision or similar accidents, seismic activity, or inclement weather. The degree of effect from a hazardous-material-related release or spill is dependent on the proximity of the spill to population densities, concentrated development, and environmentally sensitive areas.

Off-site accidents during hazardous materials or waste transport to or from the job sites could expose individuals and the environment. Although transportation accidents are infrequent, accidents could occur during shipment of hazardous commodities (such as gasoline, diesel, or compressed gases) for construction and operation. Accidents could also occur during the transportation of hazardous waste materials generated during construction or during the cleanup of existing contaminated sites before construction prior to the property acquisition phases.

In the event that an accident, collision, or derailment occurs on- or off-site during transportation, hazardous materials/wastes may be released into the environment. In the case of some chemicals, toxic fumes may be carried away from the accident site. A fire and explosives hazard may be present at the site if flammable substances are present during an accident, collision, or derailment. Although the state enforces standard accident and hazardous materials recovery training and procedures, which are followed by private state-licensed, certified, and bonded transportation companies and contractors, the HSR project's location along interstate rail and highway corridors may include a potential risk of exposure.

The pathways through which the community or the environment (e.g., local air quality, local plant and animal life) could be exposed to hazardous substances include dermal contact, inhalation from air emissions and dust; and ingestion of contaminated water.

During construction the Contractor will comply with applicable state and federal regulations, such as the RCRA, CERCLA, the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act. The State of California enforces standard accident and hazardous materials recovery training and procedures. Private state-licensed, certified, and bonded transportation companies and contractors follow these procedures when dealing with situations involving hazardous materials. Further, pursuant to 40 C.F.R. Part 112, a spill prevention, containment, and countermeasures plan (or, for smaller quantities, a spill prevention

and response plan that identifies BMPs for spill and release prevention) is required. These plans provide procedures and responsibilities for rapidly, effectively, and safely cleaning up and disposing of any spills or releases, and would be implemented prior to commencement of construction of the HSR Build Alternative. 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 implemented throughout the construction period. However, even with compliance with applicable regulations, there would still be a possibility that a spill or accidental release could occur.

The HSR Build Alternative would conform to permit requirements and spill prevention plans prepared under State Water Resources Control Board Construction General Permit (2009-0009 DWQ) to avoid spills and releases of hazardous materials and wastes. Inspections would be conducted to verify consistent implementation of general construction permit conditions and BMPs to avoid and minimize the potential for spills and releases and ensure the immediate cleanup and response thereto. BMPs may include, but would not be limited to, the designation of special storage areas and labeling, containment berms, coverage from rain, and concrete washout areas.

In addition to the regulatory requirements outlined above, the HSR Build Alternative would incorporate IAMFs to avoid or minimize effects arising from reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. HMW-IAMF#1 calls for conducting Phase 1 ESAs to characterize each parcel and Phase 2 ESAs (e.g., soil, groundwater, and soil vapor subsurface investigations) if sites are determined to be contaminated. Remediation or corrective action (e.g., removal of contamination, in-situ treatment, or soil capping) would be conducted as necessary. HMW-IAMF#3 would implement work barriers as needed to limit the potential release of volatile subsurface contaminants in conjunction with site investigation and remediation. HMW-IAMF#4 would require the preparation and implementation of a Construction Management Plan (CMP) that would address undocumented contamination that could be encountered during construction activities. Resolution would be conducted in accordance with oversight agencies' requirements. HMW-IAMF#6 would require the preparation of a CMP to address spill prevention. A Spill Prevention, Control, and Countermeasure (SPCC) plan or Soil Prevention and Response Plan, as applicable, would describe procedures to prevent hazardous materials releases and cleanup, if required. Additionally, HMW-IAMF#5, HMW-IAMF#7, HMW-IAMF#8, and HMW-IAMF#9 would be implemented, as described under Impact HMW#1. The HSR Build Alternative would also include a hydrology and water resources IAMF, HYD-IAMF#3, which requires the preparation and implementation of a Construction Stormwater Pollution Prevention Plan.

Implementation of project IAMFs and compliance with existing regulations would avoid or minimize temporary effects associated with construction activities related to reasonably foreseeable upset and accident conditions involving the potential release of hazardous materials into the environment.

Operation

Although the HSR Build Alternative will not be transporting, storing, or disposing of hazardous materials in quantities greater than needed to support standard operation (regulated and defined operation), there is an increased probability, comparatively to the No Project Alternative, of a spill, release, or accident to occur. Minimal potential exposure to the public, project work staff and the environment could be a result of standard operations. Because these exposures would be minimal, they would not be considered a risk.

Releases or spills can occur from the improper storage of hazardous materials, improper handling of hazardous materials, negligence, derailments, vehicle or rail collision or similar accidents, seismic activity, or inclement weather. Additional types of potential hazardous material releases along rail corridors can also include, but are not limited to, valve leakage or safety valve releases, which carry the potential of releasing hazardous material in the form of liquids or gases. The degree of effect from a hazardous-material-related release or spill is dependent on the proximity of the spill to population densities, concentrated development, and environmentally sensitive

areas. HMW-IAMF#10 would avoid or minimize potential operational effects through the preparation of a hazardous materials business plan addressing HSR operations.

6.3.1.3 Effect 3: Potential Effects Related to Construction near PEC Sites

Construction and operation on or near sites with potential environmental concerns, including Cortese list sites, could result in the release of hazardous materials and wastes that could affect public health and the environment.

Construction

Implementation of demolition or construction activities is expected to result in earthmoving or excavation activities in areas of known or potential soil and/or groundwater contamination. Sites with known or suspected contamination (e.g., PEC sites) would be investigated during right-of-way acquisition. Generally, PEC sites would be remediated by the property owner prior to acquisition of the property and construction on the site, depending on the arrangement negotiated during property acquisition. Construction of portions of the project alignment still may occur at or near PEC sites with ongoing remediation activities. Construction activities could encounter contaminants or interfere with the ongoing remediation efforts. Construction activities will be coordinated with site remediation activities, reducing potential effects of damaging or interfering with remediation site controls such as soil containment areas. Construction activities such as demolishing structures, excavating, and drilling into the ground could also increase the risk of damaging or interfering with groundwater remediation facilities such as extraction and monitoring wells, pumps, or pipelines. In addition, construction activities at sites with existing contamination could result in the generation of contaminated waste materials from the project. As shown in the maps in Section 5 of this report, the main PECs in the RSA are the San Fernando Valley Superfund Areas 2 and 4. The San Fernando Valley Superfund Sites are located in the eastern portion of the San Fernando Valley between the San Gabriel and Santa Monica Mountains. Hazardous substances such as TCE and PCE were detected in concentrations above State Action Levels in a number of water production wells in the San Fernando Valley. Construction in the San Fernando Valley Superfund Sites Areas 2 and 4 may encounter contaminated groundwater and soil if excavation depths extend to the water table.

In addition, construction at sites with existing contamination could result in the following impacts: potential localized spread of contamination; exposure to chemical compounds in soils, soil gases, and groundwater; exposure to airborne chemical compounds migrating from the demolition or construction areas; potential accidents during transportation of contaminated soils or groundwater; potential accidents during remediation as a result of operational failure of treatment systems; and potential interference with ongoing remediation activities.

As described in the effects associated with the inadvertent encounter of contaminated sites, there are various established procedures, of construction at PEC sites, to help reduce the potential effects on human health or the environment.

Many of the PECs are located in urban areas where grade separations are proposed. In these areas, construction could avoid effects on some known contaminated sites by adjusting construction work areas outside of the PEC sites. Consistent with the programmatic EIR/EIS commitment, potential hazards would be minimized through the careful design and placement of project elements. In addition, HMW-IAMF#1 would be implemented as part of the HSR Build Alternative and would avoid or minimize potential effects associated with construction near PEC sites because these sites would be investigated and remediated prior to construction. In addition, implementation of HMW-IAMF#4 would avoid or minimize effects associated with the discovery of unanticipated contamination by requiring preparation of a CMP, which would establish procedures for resolving (through cleanup or disposal) undocumented contaminated soil.

Operation

Potentially hazardous substances would remain undisturbed at the contaminated PEC sites if the appropriate procedures and regulations are being followed during operations. However, PEC sites that have groundwater contamination could require monitoring of groundwater and/or

maintenance of a cap to contain the contamination. As a part of this monitoring, vapor intrusion would also be monitored and appropriate BMPs would be deployed if needed. PEC sites that have shown groundwater contamination in the past and present are described in Section 5. In addition, as required by IAMF-HMW#1, testing and appropriate remediation of hazardous materials sites would be part of HSR Build Alternative construction. Because hazardous materials sites would be remediated, or barriers would be implemented prior to construction, HSR operations would not affect hazardous materials sites.

6.3.1.4 Effect 4: Potential Effects Related to Increased Exposure to Asbestos and LBP as a Result of Building Demolition from Project Development

Construction

Existing buildings, structures, and roadways in the project footprint could have been constructed using ACMs and LBP. When construction of the HSR Build Alternative begins, a number of these structures could be demolished for project development resulting in the potential release of asbestos fibers and LBP toxins into the environment. The release of these contaminants could have potential health effects on workers and the general public.

The California Department of Industrial Relations/Occupational Safety and Health Administration has established comprehensive programs to address this issue. Specifically, in California Code of Regulations Title 8, Section 1529, policies and procedures have been promulgated that establish requirements for transport, disposal, storage, containment, and housekeeping activities associated with activities involving asbestos. Compliance with the California Code of Regulations and the development of facility- or building-specific asbestos management plans would ensure full disclosure and awareness of risks to establish project-specific requirements for containment and housekeeping, and to protect workers and other local sensitive populations from dangerous exposure levels associated with the demolition of facilities (e.g., residential, commercial, and warehouse).

Prior to building demolition, the construction contractor would prepare a demolition plan for the safe dismantling and removal of building components and debris that would include a plan for asbestos abatement (HMW-IAMF#5). If ACM is handled appropriately from demolition through disposal, effects associated with exposure would be avoided or minimized.

Operation

Existing structures containing ACM and LBP within the HSR project right-of-way would be removed during construction prior to operation of the project. Operation of the HSR Build Alternative would not involve building demolition and would therefore not increase risk of exposure to ACM or LBP.

6.3.1.5 Effect 5: Potential Effects related to Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School

Construction

Potentially hazardous materials and items containing potentially hazardous materials commonly used in railway construction and demolition of existing structures would be used or stored in the project footprint, in some cases within 0.25 mile of schools. The educational facilities identified within the RSA are listed in Table 5-3. Trucks hauling hazardous materials could drive past these schools. An accident or collision during transport of materials during construction could result in a leak or spill within 0.25 mile of a school. However, effects to schools are unlikely due to the generally small quantities of materials transported or used at any given time during construction. Additionally, hazardous wastes may also be generated due to construction activities. Demolition of the existing structures within the project footprint may require the removal of ACM and LBP, which would create exposure to hazardous substances for workers and the general public.

Hazardous materials use associated with the HSR Build Alternative would be subject to federal, state, and local regulations and policies. 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. Compliance with California Public Resources Code Section 21151.4 allows any school located within 0.25 mile of HSR Build Alternative activities to comment on the project and express related concerns that may result in potential prescriptive actions (e.g., limits on the materials used or restrictions on the transport and storage of such materials).

Engineering controls would be applied to contain emissions that might affect an adjacent school. These controls may include, but would 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 olfactory measuring and quantification of odor strength in the ambient air. The HSR Build Alternative would comply with this and all other applicable federal, state, and local regulations, as well as with HMW-IAMF#6, HMW-IAMF#7, and HMW-IAMF#8.

Operation

Long-term risks associated with handling hazardous materials or wastes in the vicinity of schools during HSR Build Alternative operation would be negligible because the passenger rail service would not involve hazardous emissions or the transport of acutely hazardous materials. Hazardous materials used for maintenance activities would be similar to those used for other transportation facilities and would not require additional control measures.

6.3.1.6 Effect 6: Potential Effects Related to Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5

Government Code Section 65962.5 is discussed in Section 3.2.9. The EDR database search reports included a list of the DTSC's EnviroStor and identified sites that fit the criteria discussed in Government Code Section 65962.5. The sites that were under the subject government code were included as a PEC sites and were reviewed during the baseline conditions assessment for a PEC. It should be noted that while these sites have been defined as a PEC, it is not intended to conclude a definitive contaminant release at the site.

Construction

Sites in compliance to Government Code 65962.5 that are located in urban areas where construction activities are proposed could avoid effects on some known contaminated sites by adjusting construction work areas outside of the sites that are compliant to Government Code 65962.5. The 378 sites are discussed in Appendix F. Consistent with the programmatic EIR/EIS commitment, potential hazards would be minimized through the careful design and placement of project elements.

However, construction of portions of the HSR Build Alternative may occur at or near PEC sites (some of which may have ongoing remediation activities). Sites with known or suspected contamination would be investigated during right-of-way acquisition. Generally, PEC sites would be remediated by the property owner prior to acquisition of the property and construction on the site, depending on the arrangement negotiated during property acquisition.

Construction activities such as grading, tunneling, trenching, or any other ground-disturbing activities could encounter contaminants or interfere with ongoing remediation efforts. Unless construction activities for the HSR Build Alternative are coordinated with site remediation activities, there could be a temporary increased risk of damage to or interference with remediation site controls (e.g., soil containment areas). Construction could also increase the risk of damage to or interference with groundwater remediation facilities (e.g., extraction and monitoring wells, pumps, and pipelines). Construction at sites with existing contamination could also result in the generation of additional waste materials and could expose workers to hazardous materials. For these reasons, construction activities would be coordinated with site remediation activities, reducing potential effects of damage to or interference with remediation site controls, such as soil containment areas.

HMW-IAMF#1 would be implemented as part of the HSR Build Alternative and would avoid or minimize potential effects associated with construction near PEC sites because these sites would be investigated and remediated prior to construction. In addition, implementation of HMW-IAMF#4 would avoid or minimize effects associated with the discovery of unanticipated contamination by requiring preparation of a CMP, which would establish procedures for resolving (through cleanup or disposal) undocumented contaminated soil.

Operation

Potentially hazardous substances will remain undisturbed at the potentially contaminated DTSC sites if the appropriate procedures and regulations are being followed during operations. As required by IAMF-HMW#1, testing and appropriate remediation of hazardous materials sites would be part of HSR Build Alternative construction. However, DTSC sites that have groundwater contamination could require monitoring of groundwater and/or maintenance of a cap to contain the contamination. DTSC sites that have shown groundwater contamination in the past and present, are described in Section 5 and in the sites discussed in Appendix F.

6.3.1.7 Effect 7: Potential Public Safety Effects Related to Airport Land Use Plans or Public Airports or Private Airstrips within 2 Miles (3 Kilometers) of the Project

Multiple active public and private heliports and one airport are located within RSA. The locations and distances of the heliports and airport from the project footprint are presented in Figure 5-5 and Table 5-2, respectively. Activities involving the use of hazardous materials at these facilities can generally be associated with the routine fueling, maintenance, and repair of aircraft and other airport-related vehicles.

Construction

Construction is anticipated adjacent to LAUS where the Terminal Annex and the Los Angeles County Men's Detention Center Main Jail heliports are located; and adjacent to the proposed Burbank Airport Station where the Hollywood Burbank Airport is located. In these areas, construction could avoid effects if they are compliant with the FAA construction regulations and specifications. The FAA has outlined the construction operation requirements when performing construction near an airport or heliport.

Operation

The soils will remain undisturbed during operations. However, the PEC sites could require monitoring of groundwater and/or maintenance of a cap to contain contamination on site. Operations may be influenced and altered based on the regulations and specifications required by the FAA.

6.3.1.8 Effect 8: Effects Related to Interference with Adopted Emergency Response Plans or Emergency Evacuation Plans

Traffic increase on local roads and freeways used as emergency response routes has the potential to increase emergency response times of hazardous materials response teams. Likewise, traffic increase on evacuation routes has the potential to increase evacuation times in the event of an evacuation during a hazardous materials spill or release.

Construction

Lane or road closures during the construction of the project have the potential to affect emergency response or evacuation routes that intersect the HSR Build Alternative. Within the RSA, lane closures of city streets have the potential to affect traffic flow, particularly during rush hour.

The routes that are the main thoroughfares used by emergency response services during an emergency and, if the situation warrants, during an area evacuation are discussed in further detail in Section 3.11, Safety and Security, of the Burbank to Los Angeles Project Section Administrative Project EIR/EIS. As discussed in further detail in Section 3.11 of the EIR/EIS,

implementation of the HSR Build Alternative could result in a temporary reduction of the number of lanes along these roadway sections in the RSA and impede the flow of traffic. During the construction activities, the project could include short-term, single-lane closures along these routes, which could slow evacuation.

Operation

The HSR Build Alternative would be grade-separated from the main thoroughfares used by emergency response services during an emergency and, if the situation warrants, during an area evacuation. Therefore, the interference with adopted emergency response plans or emergency evacuation plans is not an effect during operation of the project.

6.3.1.9 Effect 9: Potential Exposure of People or Structures to Loss, Injury, or Death Involving Wildland Fires

The statewide fire hazard severity zone maps available from the California Department of Forestry and Fire Protection indicate that no portions of the RSA are in areas generally subject to effects from wildland fire (CalFire 2007).

Construction

Unless current conditions change, potential wildland fires during construction of the HSR Build Alternative are not an effect.

Operation

Unless current conditions change, potential wildland fires during operation of the HSR Build Alternative are not an effect.

6.3.1.10 Effect 10: Potential to Encounter Hazardous Gases from Landfills and Oil and Gas Wells

Construction

Petroleum products and product conveyances, including crude oil and refined products such as fuels, solvents, 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 CERCLA. 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 disturbance of contaminated soil or groundwater.

Effects from landfills include their potential to release methane gas, which may present an explosion risk when exposed to a flame or spark during excavation activities. The likelihood of landfill methane gas affecting an area beyond the landfill properties is low because the landfills have existing gas mitigation control systems and monitoring programs. As required by HMW-IAMF#2, prior to any ground-disturbing activities, the contractor would prepare a technical memorandum verifying to the Authority that methane protection measures would be implemented for all work within 1,000 feet of a landfill, including gas detection systems and personnel training, pursuant to State of California Title 27, Environmental Protection – Division 2, Solid Waste, and the hazardous materials BMPs plan.

As described in Section 5.5.8, there are few plugged and abandoned oil wells in the RSA. Release could occur through rupture of an abandoned or unknown pipeline or a well casing that is disturbed during construction. Prior to construction, the Authority would require construction contractors to prepare a plan addressing spill prevention (HMW-IAMF#6). This plan would prescribe BMPs that must be followed to respond to inadvertent releases, including from oil and gas wells. Spill response preparedness would minimize the effect of an inadvertent release should one occur.

Hazards related to the potential migration of hazardous gases due to the presence of oil fields, gas fields, or other subsurface sources can be avoided or minimized by following strict federal and state Occupational Safety and Health Administration regulatory requirements for excavations, and by consulting with other agencies as appropriate (e.g., the Department of Conservation, DOGGR, the California Environmental Protection Agency, and the DTSC) regarding known areas of concern. Practices would include using safe and explosion-proof equipment during construction and testing for gases regularly. In accordance with GEO-IAMF#3, the installation of passive or active gas venting systems and gas collection systems, as well as active monitoring systems and alarms, would be required in underground construction areas and facilities where subsurface gases are present.

Operation

The hazards related to potential migration of hazardous gases from landfills or oil fields would be evaluated and necessary action would be taken as required during construction and prior to operation of the project. Operation of the HSR Build Alternative would not increase the risk of exposure to hazardous gases from landfills or oil and gas sites.

6.4 Station Sites

6.4.1 Effect 1: Potential Effects related to Routine Transport, Use, or Disposal of Hazardous Materials and Hazardous Wastes

Construction and operation of the HSR stations would temporarily increase the regional transport, use, storage, and disposal of hazardous materials and petroleum products. Construction activities at the Burbank Airport Station would be more intensive than at LAUS; therefore, the potential for release of hazardous materials during transport, use, or disposal would be greater at the Burbank Airport Station. The construction-period and operational impacts and IAMFs associated with routine transport, use, or disposal of hazardous materials and hazardous wastes would be the same as for the alignment (Section 6.3.1).

6.4.2 Effect 2: Potential Effects Related to Reasonably Foreseeable Upset and Accident Conditions Involving the Release of Hazardous Materials into the Environment

Accidental spills or releases of hazardous materials or wastes can occur during construction and operation of the HSR stations. Construction activities at the Burbank Airport Station would be more intensive than at LAUS; therefore, the potential for foreseeable upset or accidents related to hazardous materials would be greater at the Burbank Airport Station. The construction-period and operational impacts and IAMFs associated with potential effects related to reasonable foreseeable upset and accidents involving the release of hazardous materials would be the same as for the alignment (see Section 6.3.1).

6.4.3 Effect 3: Potential Effects Related to Construction near PEC Sites

Implementation of demolition or construction activities at the Burbank Airport Station is expected to result in earthmoving or excavation activities in areas of known or potential soil and/or groundwater contamination. Based on research and database queries conducted in support of this technical report, there are seven properties with high-priority PECs relatively close to the proposed Burbank Airport Station (Figure 5-2 and Appendix F). These sites are primarily associated with past land use and development activities. Sites with known or suspected contamination (e.g., PEC sites) would be investigated during right-of-way acquisition. The construction-period impacts and IAMFs related to PEC sites at the Burbank Airport Station would be the same as for the alignment (Section 6.3.1). Because hazardous materials sites would be remediated prior to construction, HSR operations at the Burbank Airport Station would not affect hazardous materials sites.

The construction of the proposed HSR station at LAUS would include raising the passenger platforms to accommodate HSR and installing the OCS. Grading and excavation activities would not be required at LAUS. Therefore, although there are six PECs relatively close to LAUS, it is not

expected that construction or operation of LAUS would affect areas of known or potential soil and/or groundwater contamination associated with PECs.

6.4.4 Effect 4: Potential Effects Related to Increased Exposure to Asbestos and Lead-Based Paint as a Result of Building Demolition from Project Development

Existing buildings, structures, and roadways in the project footprint could have been constructed using ACMs and LBP. A number of these structures could be demolished for the Burbank Airport Station, resulting in the potential release of asbestos fibers and LBP toxins into the environment. The release of these contaminants could have potential health effects on workers and the general public. The construction-period impacts related to exposure to ACM and LBP during demolition for the Burbank Airport Station and the related IAMFs would be the same as for the alignment (Section 6.3.1). No buildings would be demolished to construct the HSR station at LAUS.

6.4.5 Effect 5: Potential Effects related to Handling of Hazardous Materials, Substances, or Waste within 0.25 Mile of an Existing or Proposed School

There are no schools within 0.25 mile of the Burbank Airport Station or LAUS. Therefore, no impact related to the use or handling of potentially hazardous materials would occur within 0.25 mile of schools during construction or operation of the stations.

6.4.6 Effect 6: Potential Effects Related to Hazardous Material Sites Compiled Pursuant to Government Code Section 65962.5

Government Code Section 65962.5 is discussed in Section 3.2.9. The EDR database search reports included a list of the DTSC's EnviroStor and identified sites that fit the criteria discussed in Government Code Section 65962.5. The sites that were under the subject government code were included as a PEC sites and were reviewed during the baseline conditions assessment for a PEC. There are seven high-priority PECs relatively close to the Burbank Airport Station and six PECs relatively close to LAUS. It should be noted that while these sites have been defined as a PEC, it is not intended to conclude a definitive contaminant release at the site. Construction of portions of the Burbank Airport Station would require earthmoving and excavation activities, which may occur in areas with existing contamination. The potential effects and IAMFs related to hazardous materials sites compiled pursuant to Government Code Section 65962.5 would be the same as for the alignment (Section 6.3.1).

The construction of the proposed HSR station at LAUS would include raising the passenger platforms to accommodate HSR and installing the OCS. Grading and excavation activities would not be required at LAUS. Therefore, it is not expected that construction or operation of LAUS would affect areas of known or potential contamination associated with PECs.

6.4.7 Effect 7: Potential Public Safety Effects Related to Airport Land Use Plans or Public Airports or Private Airstrips within 2 Miles (3 Kilometers) of the Project

Activities involving the use of hazardous materials at airport facilities and private airstrips are generally associated with the routine fueling, maintenance, and repair of aircraft and other airport-related vehicles and facilities. The potential effects related to airport land use plans or public airports or private airstrips would be the same as for the alignment (Section 6.3.1).

6.4.8 Effect 8: Effects Related to Interference with Adopted Emergency Response Plans or Emergency Evacuation Plans

The potential effects related to interference with adopted emergency response plans or emergency evacuation plans would be the same as for the alignment (Section 6.3.1).

6.4.9 Effect 9: Potential Exposure of People or Structures to Loss, Injury, or Death Involving Wildland Fires

The statewide fire hazard severity zone maps available from the California Department of Forestry and Fire Protection indicate that no portions of the RSA are in areas generally subject to effects from wildland fire (CalFire 2007). Unless current conditions change, there would be no effect from potential wildland fires during construction and operation at the station sites.

6.4.10 Effect 10: Potential to Encounter Hazardous Gases from Landfills and Oil and Gas Wells

There are no active oil and gas wells or landfills at the Burbank Airport Station or LAUS. Therefore, there is no potential for encountering hazardous gases at these stations.

6.5 Electric Power Utility Improvements

The project effects of electric power utility improvements would be the same as those described in Section 6.3, because the improvement locations are within the project footprint.

6.6 Cumulative Effects

This section presents potential cumulative effects based on current knowledge of the project section. For the purposes of this analysis, "reasonably foreseeable future projects" are defined as those likely to occur within the 2040 planning horizon for the HSR project. For a discussion of the impacts of implementing the California HSR System in its entirety, see the 2005 Statewide Program EIR/EIS (Authority and FRA 2005). Subsequent to this technical report, the Authority will further refine the cumulative effects described herein and present the information in section 3.19 of the EIR/EIS.

Effects regarding hazardous materials and wastes are generally site-specific and not additive across the entire project section. Each past, present, and future projects would comply with the applicable federal, state, and local regulations regarding hazardous materials and wastes.

Of the present and reasonably foreseeable future projects located within a 1-mile area of the HSR Build Alternative, most of the projects are roadway and other infrastructure improvements, including the present widening of I-5 and the improvements planned at LAUS that are already in place or underway. In addition, structures adjacent to the HSR Build Alternative, within the project footprint may be demolished or repurposed, which could generate ACM and LBM. Proper handling of hazardous materials during construction in accordance with existing regulations would minimize the release of contamination.

Construction could also disturb oil wells and landfills or their surrounding environments. The potential for a methane gas release as a result of altered subsurface conditions that could lead to an increased explosion risk is of moderate intensity. Compliance with existing regulations would minimize the potential explosion risk.

The project would result in an incremental increase in the transportation, storage, use, and disposal of hazardous materials, mainly construction materials (e.g., fuels, oils, mechanical fluids, other chemicals). This incremental increase could result in spills and the need for waste disposal. The use of hazardous materials may also increase incrementally during operation of the proposed project, but this incremental increase would likely be less than the increase during construction. Transportation, storage, use, and disposal of hazardous materials during construction and operation of the proposed project and other present and reasonably foreseeable future projects would be required to comply with applicable federal, state, and local statutes and regulations. To the extent that these projects comply with the regulations, the potential for people and the environment to be exposed to hazardous materials would be minimized.

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7 HAZARDOUS MATERIALS AND WASTES EFFECT AVOIDANCE AND MINIMIZATION FEATURES

The HSR Build Alternative incorporates standardized HSR features to avoid and minimize impacts. These features are referred to as IAMFs. The Authority will implement these measures during project design and construction to avoid or reduce impacts.

The following IAMFs would be implemented to avoid and/or minimize adverse effects on hazardous materials and wastes.

HMW-IAMF#1: Property Acquisition Phase 1 and Phase 2 Environmental Site Assessments

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

HMW-IAMF#2: Landfill

Prior to Construction (any ground disturbing activities), the Contractor shall verify to the Authority through preparation of a technical memorandum that methane protection measures would be implemented for all work within 1,000 feet of a landfill, including gas detection systems and personnel training. This would be undertaken pursuant to State of California Title 27, Environmental Protection – Division 2, Solid Waste, and the hazardous materials best management practices plan.

HMW-IAMF#3: Work Barriers

Prior to Construction (any ground disturbing activities), the Contractor shall verify to the Authority through preparation of a technical memorandum the use of work barriers. Nominal design variances, such as the addition of a plastic barrier beneath the ballast material to limit the potential release of volatile subsurface contaminants, may be implemented in conjunction with site investigation and remediation.

HMW-IAMF#4: Undocumented Contamination

Prior to Construction, the Contractor would prepare a CMP addressing provisions for the disturbance of undocumented contamination. The plan would be submitted to the Authority for review and approval. Undocumented contamination could be encountered during construction activities and the Contractor would work closely with local agencies to resolve any such encounters and address necessary clean-up or disposal. Copies of all required hazardous material documentation shall be provided within 30 days to the Authority.

HMW-IAMF#5: Demolition Plans

Prior to Construction that involves demolition, the Contractor shall prepare demolition plans for the safe dismantling and removal of building components and debris. The demolition plans would include a plan for lead and asbestos abatement. The plans would be submitted to the Project Construction Manager (PCM) on behalf of the Authority for verification that appropriate demolition practices have been followed consistent with federal and state regulations regarding asbestos and lead paint abatement.

HMW-IAMF#6: Spill Prevention

Prior to Construction (any ground disturbing activities), the Contractor would prepare a CMP addressing spill prevention. A Spill Prevention, Control, and Countermeasure (SPCC) plan (or Soil Prevention and Response Plan if the total above-ground oil storage capacity is less than 1,320 gallons in storage containers greater than or equal to 55-gallons) shall prescribe BMPs to

follow to prevent hazardous material releases and clean-up of any hazardous material releases that may occur. The plans would be prepared and submitted to the PCM on behalf of the Authority and would be implemented during Construction.

HMW-IAMF#7: Transport of Materials

During Construction, the Contractor would comply with applicable state and federal regulations, such as the Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the Hazardous Materials Release Response Plans and Inventory Law, and the Hazardous Waste Control Act. Prior to Construction the Contractor would provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport.

HMW-IAMF#8: Permit Conditions

During Construction the Contractor would comply with the State Water Resources Control Board Construction Clean Water Act Section 402 General Permit conditions and requirements for transport, labeling, containment, cover, and other BMPs for storage of hazardous materials during construction. Prior to Construction, the Contractor shall provide the Authority with a hazardous materials and waste plan describing responsible parties and procedures for hazardous waste and hazardous materials transport, containment, and storage BMPs that would be implemented during Construction.

HMW-IAMF#9: Environmental Management System

To the extent feasible, the Authority is committed to identifying, avoiding, and minimizing hazardous substances in the material selection process for construction, operation, and maintenance of the HSR System. The Authority would use an Environmental Management System to describe the process that would be used to evaluate the full inventory of hazardous materials as defined by federal and state law employed on an annual basis and would replace hazardous substances with nonhazardous materials. The Contractor shall implement the material substitution recommendation contained in the annual inventory.

HMW-IAMF#10 Hazardous Materials Plans

Prior to Operations and Maintenance activities, the Authority shall prepare hazardous materials monitoring plans. These would use as a basis source, such as a hazardous materials business plan as defined in Title 19 California Code of Regulations and a SPCC plan.

8 REFERENCES

8.1 References Cited

American Society for Testing and Materials (ASTM). 2001. *Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process,* ASTM E1903-11.

California Office of Environmental Health Hazard Assessment. 2003. California Office of Environmental Health Hazard Assessment. Proposition 65 – Law/Regulations/ Rulemaking Activity. January 1, 2003. https://oehha.ca.gov/proposition-65 (accessed October 7, 2009).

California Environmental Protection Agency. 2005. Environmental Protection Indicators for California (EPIC), Addendum to the 2004 EPIC Update. September 2005. http://oehha.ca.gov/multimedia/epic/pdf/ADDENDUM-June2005complete.pdf (accessed June 20, 2016).

_____. 2009. Unified Program. October 1, 2009. https://calepa.ca.gov/ (accessed October 7, 2009).

California Department of Conservation. 2011. *Asbestos Reports, Maps, and Guidelines for Geologic Investigations.* Asbestos Sites PDF. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/ms/59/asbestos_sites.pdf.

California Department of Forestry and Fire Protection (CalFire). 2007. California Fire Hazard Severity Zone Map Update Project – Map of Fire Hazard Severity Zones in State Responsibility Areas. Adopted November 7, 2007. www.fire.ca.gov/fire_prevention/fire_prevention_wildland_statewide.php (accessed June 20, 2016).

California Division of Oil, Gas, and Geothermal Resource (DOGGR). 2016. Well Finder GIS Data File. www.conservation.ca.gov/dog/maps/Pages/GISMapping2.aspx (accessed: December 2016).

California Geological Survey, 1998a. Open File Report 98-07, *Seismic Hazard Evaluation for the Burbank 7.5-Minute Quadrangle, Los Angeles County, California.*

_____. 1998b. Open File Report 98-17, *Seismic Hazard Evaluation for the Hollywood 7.5-Minute Quadrangle, Los Angeles County, California.*

_____. 1998c. Open File Report 98-20, *Seismic Hazard Evaluation for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California.*

California High-Speed Rail Authority (Authority) and Federal Railroad Administration (FRA). 2005. *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System.* Volume 1: Report.

_____. 2016. California High-Speed Train Engineering Plans, Alternatives A & B, Burbank to Los Angeles, Draft PEPD Design Submittal, Volume 1, June 2016.

_____. 2017. *California High-Speed Rail, Project Environmental Impact Report/Environmental Impact Statement, Environmental Methodology Guidelines Version 5.09.* April 2017.

———. 2019. *Burbank to Los Angeles Project Section: Geology, Soils, and Seismicity Technical Report*.

California Department of Transportation (Caltrans). 2006a. *Initial Site Assessment.* In "Hazardous Materials, Hazardous Waste, and Contamination." Chapter 10.Guidance document from the Caltrans Standard Environmental Reference, Environmental Handbook. Volume I.

_____. 2006b. *Project Development Procedures Manual.* Chapter 18.California Office of State Project Development Procedures and Quality Improvement in Division of Design.

_____. 2006c. Initial Site Assessment. In Hazardous Materials, Hazardous Waste, and Caltrans.2006. California Department of Transportation. Caltrans Standard Special Provision, 14-001 “Traffic Stripe and Pavement Marking.”

———. 2006d. *California Manual on Uniform Traffic Control Devices.* September 26, 2006.

City of Burbank. 1997. Community Development Department, Advance Planning Section. Safety Element of the City of Burbank General Plan. Burbank: Burbank City Council. July 1, 1997.

City of Glendale. 2003. Planning Division. Safety Element of the General Plan. Glendale: Planning Division. August 2003.

City of Los Angeles. 1996. City of Los Angeles General Plan, Safety Element. Los Angeles Department of City Planning. November 26, 1996.

_____. 2008. City of Los Angeles Emergency Operations Master Plan and Procedures and Hazardous Materials Annex. City of Los Angeles: Emergency Operations Board. July 21, 2008.

County of Los Angeles. 2016a. Los Angeles County GIS Data Portal. GIS Data for LA County. ArcGIS Transportation Layers.

County of Los Angeles. 2016b. Los Angeles County GIS Data Portal. GIS Data for LA County. ArcGIS Educational Layers.

Department of Toxic Substances Control (DTSC). 2009a. EnviroStor Data Management System (EnviroStor). www.EnviroStor.dtsc.ca.gov/public/ (accessed June 2016).

Environmental Data Resources, Inc. (EDR). 2016a. *EDR DataMap Environmental Atlas.* Inquiry Number: 4589799.2s. April 20, 2016.

———. 2016b. *The EDR Historical Topographic Map Report.* Inquiry Number: 4589799.1. April 13, 2016.

———. 2016c. The EDR Historical Aerial Photo Decade Package. Inquiry Number: 4596109.3. May 17, 2016.

———. 2016d. *The EDR Certified Sanborn Map Report.* Inquiry Number: 4596109.1. April 20, 2016.

———. 2016e. *EDR DataMap Environmental Atlas.* Inquiry Number: 4625886.1r. May 23, 2016

———. 2016f. The EDR Historical Aerial Photo Decade Package. Inquiry Number: 4565524.2. May 23, 2016.

———. 2016g. *The EDR Historical Topographic Map Report.*

———. 2016h. The EDR Historical Aerial Photo Decade Package. Inquiry Number: 4565524.2. May 23, 2016.

———. 2019a. *EDR Radius Map with GeoCheck.* Inquiry Number: 5522294.2s. January 2, 2019.

———. 2019b. *The EDR Historical Topographic Map Report.* Inquiry Number: 5522294.4. January 2, 2019.

———. 2019c. The EDR Historical Aerial Photo Decade Package. Inquiry Number: 5522294.8. January 2, 2019.

———. 2019d. *The EDR Certified Sanborn Map Report.* Inquiry Number: 5522294.3. January 2, 2019.

Environmental Protection Agency (EPA). 2009. Region 9: Superfund, Site Overviews by State, San Fernando Valley (All Areas). September 16, 2009. http://yosemite.epa.gov/r9/sfund/r9sfdocw.nsf/7508188dd3c99a2a8825742600743735/f7880395be7082af88257007005e93fc!OpenDocument (accessed October 2009–April 2012).

Federal Aviation Administration (FAA). 2016. Airport Data and Contact Information. FAA Form 5010, Airport Master Record. https://www.faa.gov/airports/airport_safety/airportdata_5010/ (accessed October 2016).

Federal Railroad Administration (FRA). 2006. CREATE Railroad Property Special Waste Procedures. July 2006.

———. 2010. FRA's Track Safety Standards. Title 49, Chapter II, Part 213. Electronic documents available at website, www.access.gpo.gov/nara/cfr/waisidx_03/49cfr213_03.html (accessed May 12, 2010).

Los Angeles County Fire Department (LACFD). 2016. Health Hazardous Materials Division, Los Angeles County Certified Unified Program. https://www.fire.lacounty.gov/hhmd/ (accessed on June 2016).

Solid Waste Information System (SWIS) 2017, Facility/Site Listing, CalRecycle. www.calrecycle.ca.gov/SWFacilities/Directory/ (accessed on February 2017).

State of California, Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR). Online Mapping System. http://maps.conservation.ca.gov/doms/index.html (accessed December 2010).

State Water Resources Control Board (SWRCB), 2009. GeoTracker Data Management System (GeoTracker). http://www.GeoTracker.swrcb.ca.gov (accessed June 2016).

United States Environmental Protection Agency (USEPA). 2009a. *Emergency Planning and Community Right-To-Know Act Overview.* March 17, 2009. https://www.epa.gov/epcra/what-epcra (accessed October 7, 2009).

———. 2009b. *Lead: Renovation, Repair, and Painting.* www.epa.gov/lead/pubs/renovation.htm (accessed November 8, 2010).

Vance, William A., Ph.D. 2005. *Role of Science and Engineering in Decision-Making within the State and Regional Water Boards.* SWRCB, September 2005.

Watermaster, 2013, Upper Los Angeles River Area Watermaster. Watermaster Service in the Upper Los Angeles River Area, Los Angeles County; 2011-2012 Water Year, May 2013.

8.2 Persons and Agencies Consulted

At this time, no persons and/or agencies have been consulted as part of this project.

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9 PREPARER QUALIFICATIONS

Prior to October 2018, this assessment was performed by Matthew Dennerline, PE, GE, who has more than 14 years of experience, and Saul Cuautle, who has more than 2 years of experience. After October 2018, the report was updated by Chaitanya Kukutla, who has over three years of experience.

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APPENDIX A: POTENTIALLY IMPACTED PARCELS

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APPENDIX B: EDR CORRIDOR REPORT

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APPENDIX C: HISTORICAL AERIAL

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APPENDIX D: SANBORN MAPS

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APPENDIX E: TOPOGRAPHIC MAPS

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APPENDIX F: SITE OF POTENTIAL ENVIRONMENTAL CONCERN

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