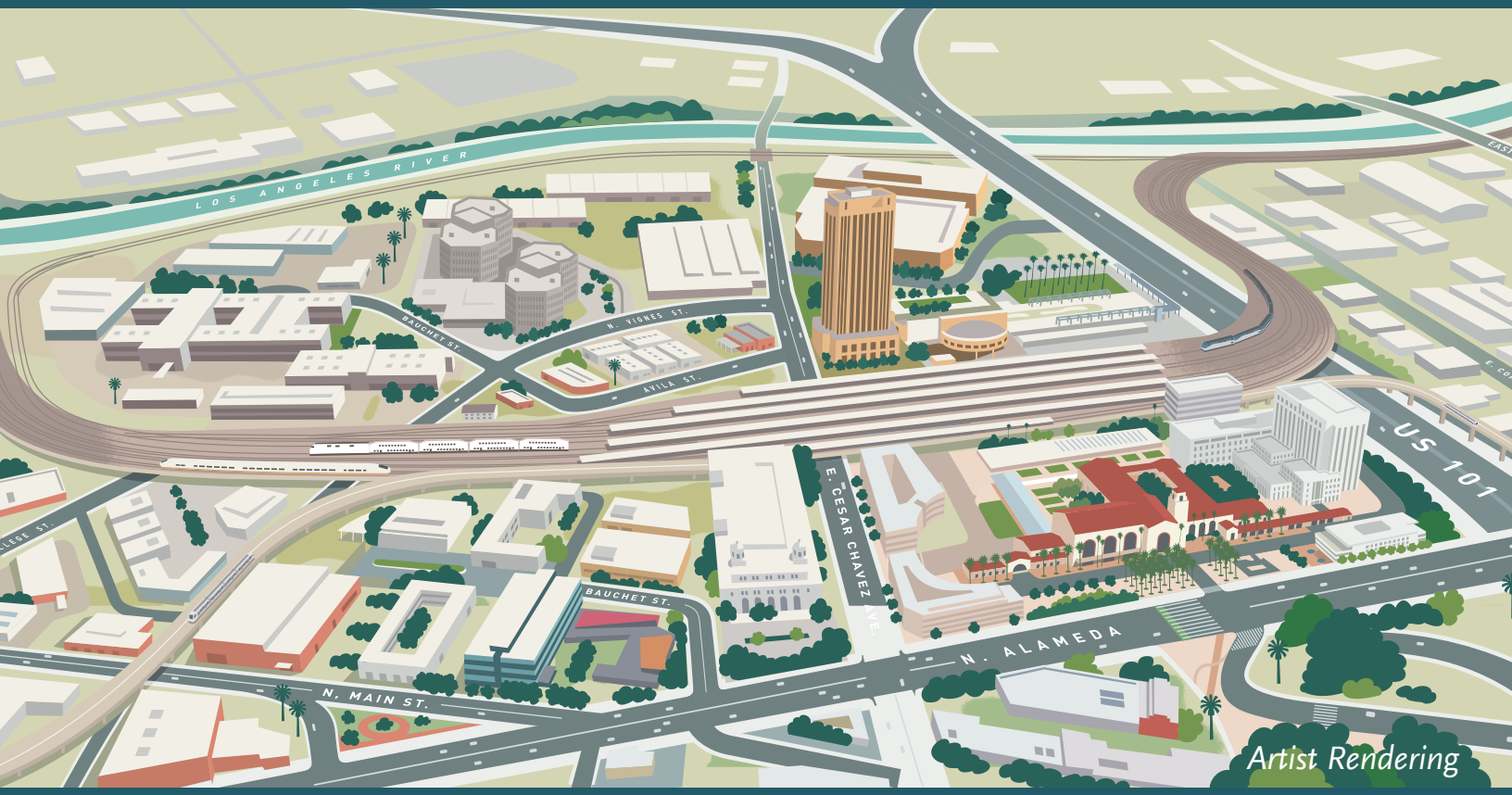
# Link Union Station

## Draft Hazardous Waste Impacts Technical Memorandum

*June 2024*




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.

Metro

CALIFORNIA High-Speed Rail Authority

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# CONTENTS



## FIGURES



## APPENDICES

## ACRONYMS

| | |
|---|---|
| APN | Assessor's Parcel Number |
| bgs | below ground surface |
| Caltrans | California Department of Transportation |
| CHSRA | California High-Speed Rail Authority |
| CREC | Controlled Recognized Environmental Condition |
| EDR | Environmental Data Resources |
| EIS | Environmental Impact Statement |
| ESA | Environmental Site Assessment |
| FRA | Federal Railroad Administration |
| HSR | High-Speed Rail |
| LAFD | City Of Los Angeles Fire Department |
| LAUS | Los Angeles Union Station |
| Link US | Link Union Station |
| LUST | Leaking Underground Storage Tank |
| Metro | Los Angeles County Metropolitan Transportation Authority |
| MGP | Manufactured Gas Plant |
| MOU | memorandum of understanding |
| NEPA | National Environmental Policy Act |
| NFA | No Further Action |
| PAH | Polycyclic Aromatic Hydrocarbon |
| PCB | Polychlorinated Biphenyl |
| PCE | Perchloroethene |
| Project | Link Union Station Project |
| REC | Recognized Environmental Condition |
| ROW | Right-of-Way |
| TCE | trichloroethene |
| TPH | Total Petroleum Hydrocarbon |
| US-101 | United States Highway 101 |
| USC | United States Code |
| UST | Underground Storage Tank |
| VOC | Volatile Organic Compound |

# Executive Summary

The Los Angeles County Metropolitan Transportation Authority (Metro), as the owner of Los Angeles Union Station (LAUS), is proposing the infrastructure improvements associated with the Link Union Station (Link US) Project (Project or proposed action) to address existing capacity constraints at LAUS. This technical memorandum provides information regarding environmental concerns within the Project study area from the time the October 2016 Phase I Environmental Site Assessment (ESA) was prepared through October 2020. In addition to changes that occurred in the Project study area, further development of the proposed infrastructure associated with the Build Alternative under consideration allowed for reevaluation of environmental conditions presented in the 2016 Phase I ESA.

No sites with new environmental conditions occurring after 2016 were identified as recognized environmental conditions (REC) within the Project footprint for the Build Alternative. Six sites were identified as being high risk to the Build Alternative. High-risk sites are those locations where subsurface contamination is documented or highly likely to be present based on the site history and where the contractor may encounter this contamination during construction. All the high-risk sites are located within the Run-Through Segment of the Project study area south of LAUS:

- **#12. Southern California Gas Company/Aliso Street Manufactured Gas Plant (MGP)/Towwerks LLC/Viertel's Tow Yard.** 500 Center Street
- **#13. S&P/California Department of Transportation (Caltrans).** 501 and 531 East Commercial Street, 516 Aliso Street (historic address)
- **#26. Metro.** 703 East Commercial Street
- **#31. A&H Greenfield Sheet Metal/Viertel's Tow Yard/Police Impound Garage.** 830 East Commercial Street
- **#33. Metro Temporary Storage Facility.** 840 East Commercial Street
- **#41. Southern California Gas Company/Aliso Street MGP Sector C, Block G.** Northwest corner of East Commercial and Center Streets (same as #26)

  The Southern California Gas Company/Aliso Street MGP site has documented contamination affecting surface soil, subsurface soil, and soil vapor to depths up to 26 feet below ground surface (bgs), and a groundwater contaminant plume currently being monitored. The Southern California Gas Company/Aliso Street MGP site represents the greatest Project risk from any individual site because of its large horizontal and vertical extent and a considerable probability that previously unknown areas of contamination could be encountered during construction. Other, but lesser, risks are petroleum-contaminated soil within LAUS, aerially deposited lead common to surface soil along roadways, and the possibility of encountering methane.

In general, hazardous waste risks are manageable if proper planning and investigation is performed prior to construction and if proper disposal practices are followed during construction. If contamination is documented at a site, preparation of parcel-specific Construction Soil

Management and Health and Safety Plans would inform the construction activities and protect workers. For sites where environmental documentation is lacking and the site history is concerning (such as historic manufacturing), performance of a sampling and analysis program based upon anticipated depths of disturbance in the various segments of the Project study area would confirm the presence or absence of contaminated soil and groundwater within the Project footprint prior to undertaking intrusive construction activities.

# 1.0 Introduction

The Los Angeles County Metropolitan Transportation Authority (Metro), as the owner of Los Angeles Union Station (LAUS), is proposing the infrastructure improvements associated with the Link Union Station (Link US) Project (Project or proposed action) to address existing capacity constraints at LAUS. For the purposes of the National Environmental Policy Act (NEPA), Metro is serving as the local Project sponsor and joint lead agency.

Pursuant to 23 United States Code (USC) Section 327 and a memorandum of understanding (MOU) between the Federal Railroad Administration (FRA) and the State of California, effective July 23, 2019, under a program known as NEPA Assignment, the California High-Speed Rail Authority (CHSRA) is responsible for the federal review and approval of environmental documents for projects on the high-speed rail (HSR) system and other passenger rail projects that directly connect to the HSR system, including the Link US Project. For the purposes of the environmental impact statement (EIS) being prepared, CHSRA is serving as the federal lead agency with NEPA responsibilities pursuant to the requirements of the NEPA Assignment MOU. CHSRA and Metro are preparing the EIS in compliance with NEPA (42 USC Section 4321 et seq.), the Council on Environmental Quality regulations implementing NEPA (40 Code of Federal Regulations [CFR] Parts 1500–1508), FRA's Procedures for Considering Environmental Impacts (FRA's Environmental Procedures) (*Federal Register* [FR] 64(101), 28545-28556, May 26, 1999), 23 USC Section 139, and the NEPA Assignment MOU.[1, 2]

Pursuant to the MOU requirements between FRA and the State of California, FRA's Environmental Procedures are being used to determine environmental effects of the No Action Alternative and the Build Alternative.

Below is an overview of the purpose and need, the Project study area, the No Action Alternative, and the major components associated with the on-site infrastructure improvements proposed at and within the vicinity of LAUS that are associated with the Build Alternative considered in the EIS.

## 1.1 Purpose

The purpose of the proposed action is to increase the regional and intercity rail service capacity of LAUS and to improve schedule reliability at LAUS through the implementation of a run-through

[1] While this environmental document was being prepared, FRA adopted new NEPA compliance regulations (23 CFR 771). Those regulations only apply to actions initiated after November 28, 2018. See 23 CFR 771.109(a)(4). Because this environmental document was initiated prior to that date, it remains subject to FRA's Environmental Procedures rather than the Part 771 regulations.

[2] The Council on Environmental Quality issued new regulations, effective April 20, 2022, updating the NEPA implementing procedures at 40 CFR Parts 1500–1508. However, because this environmental document was initiated prior to the effective date, it is not subject to the new regulations and CHSRA is relying on the regulations as they existed on the date of the initial Notice of Intent, May 31, 2016. Therefore, all citations to Council on Environmental Quality regulations in this environmental document refer to the 1978 regulations and the 1986 amended regulation.

tracks configuration and elimination of the current stub end tracks configuration while preserving current levels of freight rail operations, accommodating the planned HSR system in Southern California, increasing the passenger/pedestrian capacity and enhancing the safety of LAUS through the implementation of a new passenger concourse, meeting the multi-modal transportation demands at LAUS.

## 1.2 Need

The need for the proposed action is generated by the forecasted increase in regional population and employment; implementation of federal, state, and regional transportation plans that provide for increased operational frequency for regional and intercity trains; and introduction of the planned HSR system in Southern California. Localized operational, safety, and accessibility upgrades in and around LAUS will be required to meet existing demand and future growth.

## 1.3 Project Location and Study Area

The Build Alternative consists of infrastructure improvements in Downtown Los Angeles in the vicinity of LAUS (Figure 1-1). LAUS is located at 800 Alameda Street in the City of Los Angeles, California. LAUS is bounded by United States Highway 101 (US-101) to the south, Alameda Street to the west, Cesar Chavez Avenue to the north, and Vignes Street to the east. The northern Project limit is at North Main Street (Mile Post 1.18) and the southern Project limit is in the vicinity of Control Point (CP) Olympic, south of Interstate 10 and Olympic Boulevard (Mile Post 142.70).

Figure 1-2 depicts the Project study area, which is generally used to characterize the affected environment, unless otherwise specified, and provide a geographic context for the existing and proposed infrastructure improvements at and within the vicinity of LAUS. The Project study area includes three main segments (Segment 1: Throat Segment, Segment 2: Concourse Segment, and Segment 3: Run-Through Segment). The existing conditions within each segment are summarized north to south below:

- **Segment 1: Throat Segment** – This segment, known as the LAUS throat, includes CP Chavez and the area north of the platforms at the LAUS rail yard, from North Main Street at the north to Cesar Chavez Avenue at the south. In the throat segment, all arriving and departing trains are required to traverse through a complex network of lead tracks, switches, and crossovers. Five lead tracks provide access into and out of the rail yard, except for one location near the Vignes Street Bridge, where it reduces to four lead tracks. Currently, special track work consisting of multiple turnouts and double-slip switches are used in the throat to direct trains into and out of the appropriate assigned terminal platform tracks. The Garden Tracks (stub-end tracks where private train cars are currently stored) are also located just north of the platforms. Land uses in the vicinity of the throat segment are residential, industrial, and institutional.
- **Segment 2: Concourse Segment** – This segment is between Cesar Chavez Avenue and US-101 and includes LAUS, the rail yard, the East Portal Building, the baggage handling building with associated parking areas and access roads, the ticketing/waiting halls, and

the 28-foot-wide pedestrian passageway with connecting ramps and stairways below the rail yard. Land uses in the vicinity of the concourse segment are residential, commercial, and public.

- **Segment 3: Run-Through Segment** – This segment is south of LAUS and extends east to west from Alameda Street to the west bank of the Los Angeles River and north to south from Keller Yard to CP Olympic. This segment includes US-101, the Commercial Street/Ducommun Street corridor, Metro Red and Purple Lines Maintenance Yard (Division 20 Rail Yard), BNSF Railway (BNSF) West Bank Yard, Keller Yard, the main line tracks on the west bank of the Los Angeles River from Keller Yard to CP Olympic, and the Amtrak lead track connecting the main line tracks with Amtrak's Los Angeles Maintenance Facility in the vicinity of 8th Street. Land uses in the vicinity of the run-through segment are primarily industrial and manufacturing.

The Project study area has a dense street network ranging from major highways to local city streets. The roadways within the Project study area include the El Monte Busway, US-101, Bolero Lane, Leroy Street, Bloom Street, Cesar Chavez Avenue, Commercial Street, Ducommun Street, Jackson Street, East Temple Street, Banning Street, First Street, Alameda Street, Garey Street, Vignes Street, Main Street, Aliso Street, Avila Street, Bauchet Street, and Center Street.

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*Figure 1-1. Project Location and Regional Vicinity*

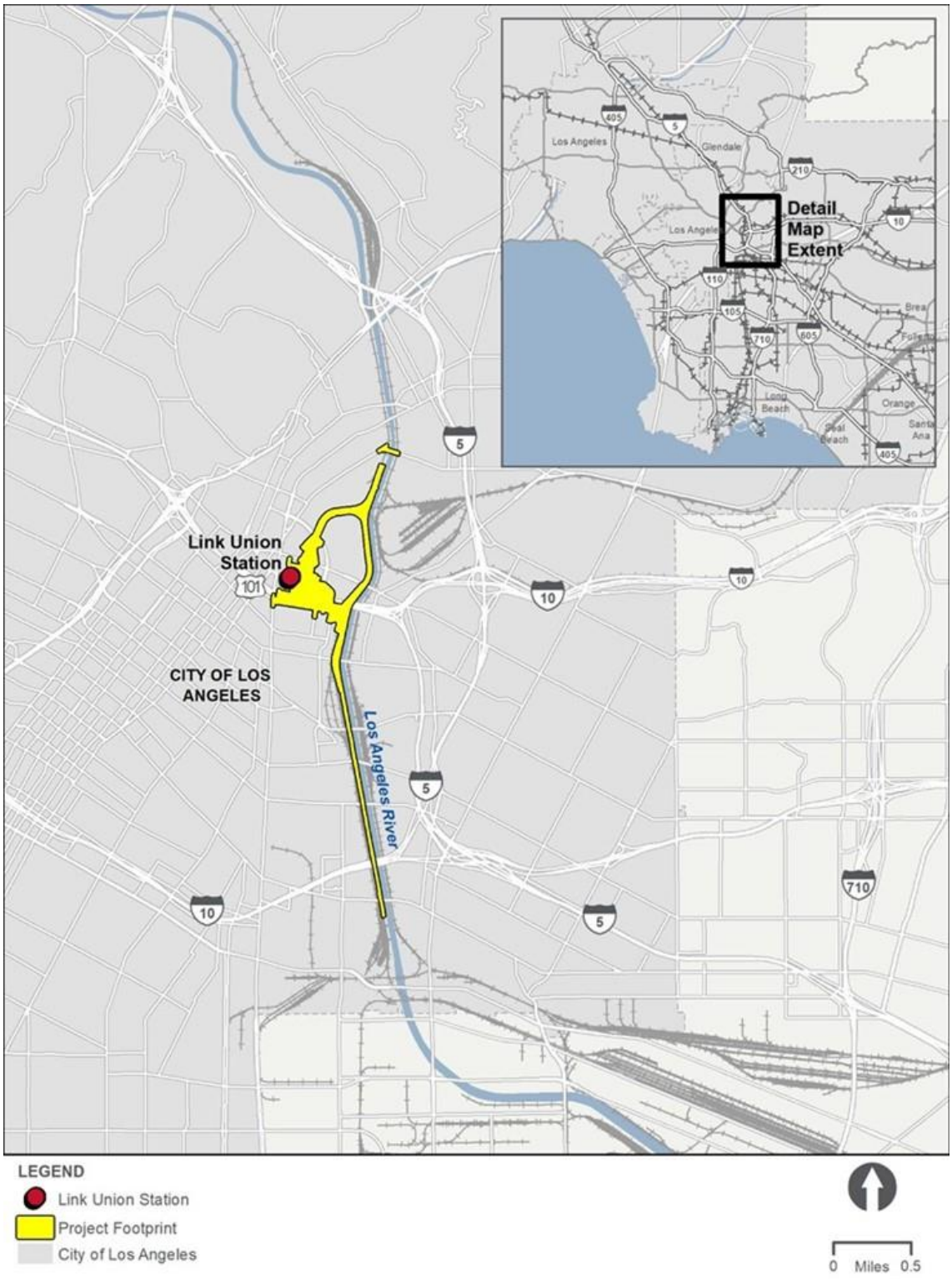

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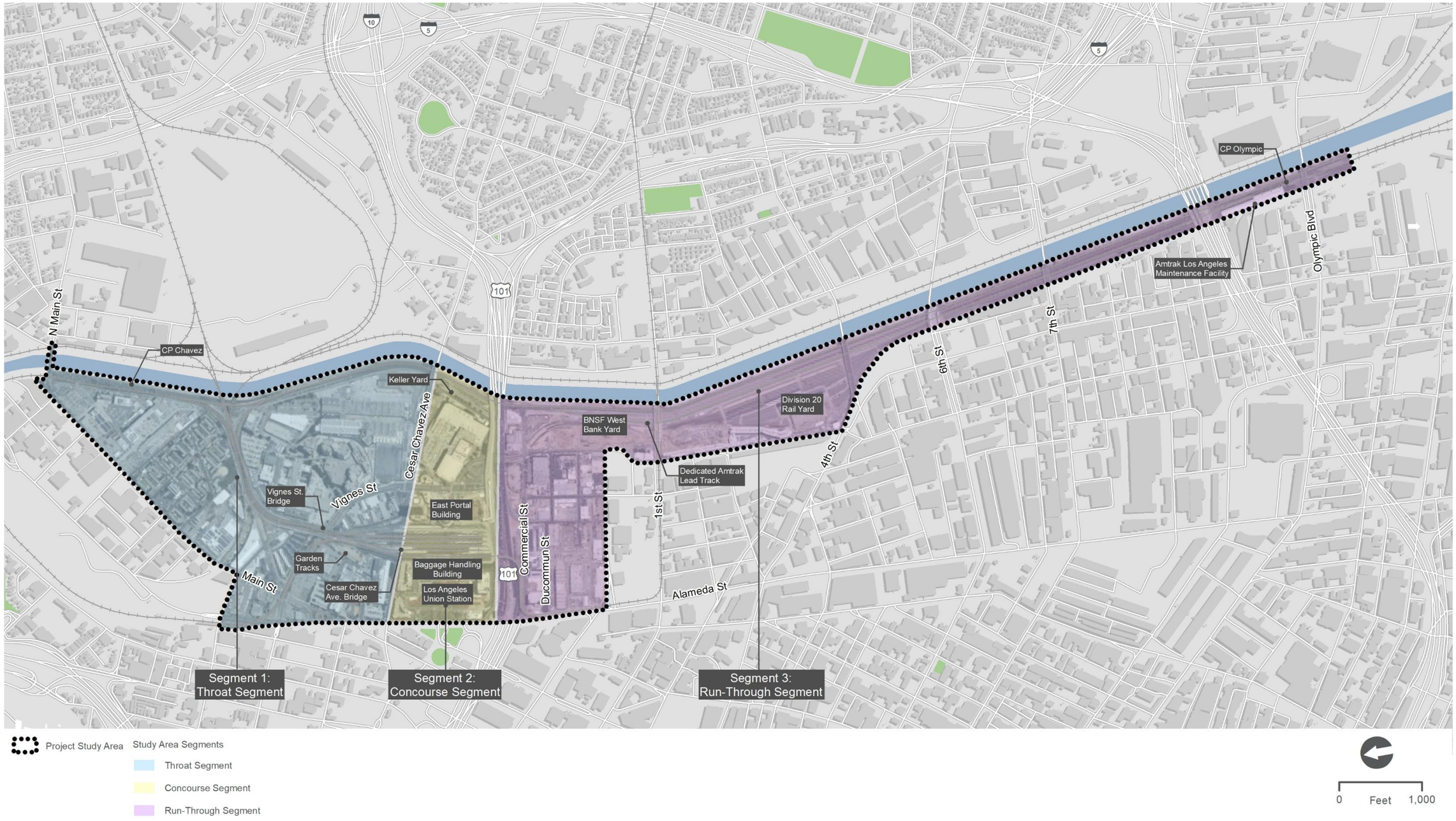
*Figure 1-2. Project Study Area*



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## 1.4 Project Alternatives

The EIS includes an evaluation of the No Action Alternative and one build alternative (Build Alternative). The Build Alternative would include, but not be limited to, new lead tracks north of LAUS (Segment 1: Throat Segment), an elevated throat and rail yard with concourse-related improvements at LAUS (Segment 2: Concourse Segment), and 10 run-through tracks south of LAUS (Segment 3: Run-Through Segment).

### 1.4.1 No Action Alternative

NEPA (40 CFR 1502.14(d)) requires federal agencies to include an analysis of "the alternative of no action." For NEPA purposes, the No Action Alternative is the baseline against which the effects of implementing the Build Alternative is evaluated against to determine the extent of environmental and community effects. For the No Action Alternative, the baseline year is 2016, and the horizon year is 2040.

The No Action Alternative represents the future conditions that would occur if the proposed infrastructure improvements and the operational capacity enhancements at LAUS were not implemented. The No Action Alternative reflects the foreseeable effects of growth planned for the area in conjunction with other existing, planned, and reasonably foreseeable projects and infrastructure improvements in the Los Angeles area, as identified in planning documents prepared by Southern California Association of Governments (SCAG), Metro, and/or Metrolink, including the *2023 Federal Transportation Improvement Program* (FTIP) (SCAG 2023), *Final 2008 Regional Comprehensive Plan* (SCAG 2008), and the *2020 Regional Transportation Plans/Sustainable Communities Strategy: Connect SoCal* (SCAG 2020).

Conditions in the Project study area would remain similar to the existing condition, as described below:

- **Segment 1: Throat Segment** – Trains would continue to operate on five lead tracks that do not currently accommodate the planned HSR system. The tracks north of LAUS would remain at the current elevation, and the Vignes Street Bridge and Cesar Chavez Avenue Bridge would remain in place.
- **Segment 2: Concourse Segment** – LAUS would not be transformed from a stub-end tracks station into a run-through tracks station, and the 28-foot-wide pedestrian passageway would be retained in its current configuration. No modifications to the existing passenger circulation routes or addition of vertical circulation elements (escalators and elevators) at LAUS would occur.
- **Segment 3: Run-Through Segment** – Commercial Street would remain in its existing configuration, and implementation of active transportation improvements would likely be implemented along Center Street in concert with the *Connect US Action Plan* (Metro 2015). No modifications to the BNSF West Bank Yard would occur.

### 1.4.2 Build Alternative

The key components associated with the Build Alternative are summarized north to south below:

- **Segment 1: Throat Segment (lead tracks and throat track reconstruction)** – The Build Alternative includes subgrade and structural improvements in Segment 1 of the Project study area (throat segment) to increase the elevation of the tracks leading to the rail yard. The Build Alternative includes the addition of one new lead track in the throat segment for a total of six lead tracks to facilitate enhanced operations for regional/intercity rail trains (Metrolink/Amtrak) and future operations for HSR trains within a shared track alignment. Regional/intercity and HSR trains would share the two western lead tracks in the throat segment. The existing railroad bridges in the throat segment at Vignes Street and Cesar Chavez Avenue would also be reconstructed. North of CP Chavez on the west bank of the Los Angeles River, the Build Alternative also includes safety improvements at the Main Street public at-grade railroad crossing (medians, restriping, signals, and pedestrian and vehicular gate systems) to facilitate future implementation of a quiet zone by the City of Los Angeles.
- **Segment 2: Concourse Segment (elevated rail yard and expanded passageway)** – The Build Alternative includes an elevated rail yard and expansion of the existing 28-foot-wide pedestrian passageway in Segment 2 of the Project study area (concourse segment). The rail yard would be elevated approximately 15 feet. New passenger platforms would be constructed on the elevated rail yard with associated vertical circulation elements (stairs, escalators, and elevators) to enhance safety elements and improve Americans with Disabilities Act accessibility. Platform 1, serving the Gold Line, would be lengthened, and elevated to optimize east to west passenger circulation. The pedestrian passageway would be expanded at the current grade to a 140-foot width to accommodate a substantial increase in passenger capacity with new functionally modern passenger amenities while providing points of safety to meet applicable California Building Code and National Fire Protection Association (NFPA) 130 Standards for Fixed Guideway Transit Systems. The expanded passageway and associated concourse improvements would facilitate enhanced passenger circulation and provide space for ancillary support functions (back-of-house uses, baggage handling, etc.), transit-serving retail, and office/commercial uses while creating an opportunity for an outdoor, community-oriented space with new plazas east and west of the elevated rail yard (East and West Plazas). Amtrak ticketing and baggage check-in services would be enhanced, and new baggage carousels would be constructed in a centralized location under the rail yard. A canopy would be constructed over the West Plaza up to 70 feet in height, and two design options are considered for canopies that would extend over the rail yard (Section 1.4.3).
- **Segment 3: Run-Through Segment (10 run-through tracks)** – The Build Alternative includes 10 new run-through tracks south of LAUS in Segment 3 of the Project study area (run-through segment). The Build Alternative includes common rail infrastructure from LAUS to the west bank of the Los Angeles River (vicinity of First Street Bridge) to support run-through tracks for both regional/intercity rail trains and future HSR

trains. At the BNSF West Bank Yard, dedicated lead tracks for Amtrak trains and BNSF trains, in combination with implementation of common rail infrastructure would result in permanent loss of freight rail storage track capacity at the north end of BNSF West Bank Yard (5,500 track feet).

The Build Alternative would also require modifications to US-101 and local streets (including potential street closures and geometric modifications); improvements to railroad signal, positive train control, and communication systems; modifications to the Gold Line light rail platform and tracks; modifications to the main line tracks on the west bank of the Los Angeles River; modifications to the Amtrak lead track; addition of access roadways to the railroad right-of-way (ROW); land acquisitions; addition of utilities; utility relocations, replacements, and abandonments; and addition of drainage facilities/water quality improvements.

### 1.4.3 Rail Yard Canopy Design Options

Two design options for canopies over the elevated platforms in the rail yard are considered in conjunction with the concourse-related improvements as part of the Build Alternative.

- **Rail Yard Canopy Design Option 1 (individual canopies)** – This design option would include replacing the existing historic butterfly canopies with individual canopies above each platform. New individual canopies would extend up to 25 feet above each platform and would be similar in form to the existing butterfly canopies but sized to fit the widened and lengthened platforms. Platform lengths would vary between 450 and 1,445 feet. Platforms would be up to 30 feet wide.
- **Rail Yard Canopy Design Option 2 (grand canopy)** – This design option would include replacing the existing historic butterfly canopies with a large grand canopy that would extend up to 75 feet above the elevated rail yard platforms. The grand canopy would be up to 1,500 feet long and wide enough to provide cover over all elevated platforms in the rail yard.

## 1.5 Project Implementation Approach

The implementation of infrastructure improvements would generally occur in three main phases that are evaluated as scenario years in the EIS: the interim condition, the full build-out condition and the full build-out with HSR condition. The infrastructure improvements for each of these scenarios are described below.

### 1.5.1 Interim Condition

The interim condition is when the run-through track infrastructure south of LAUS and the associated signal modifications, property acquisitions, and civil/structural improvements to facilitate new run-through service would be implemented. The interim condition does not include new lead tracks north of LAUS, or the elevated rail yard and new concourse-related improvements at LAUS. The interim condition aligns with a construction completion date as early as 2026.

A summary of the proposed activities associated with the interim condition is provided below.

- Acquire properties south of LAUS within the Project footprint;
- Relocate utilities north and south of LAUS;
- Acquire a portion of the BNSF West Bank Yard (majority north of First Street) and remove 5,500 feet of existing storage tracks at BNSF West Bank Yard;
- Construct special track work and modify signal/communication infrastructure north of LAUS;
- Construct a run-through track ramp on the southern extent of Platform 4 at LAUS;
- Construct a common viaduct/deck over US-101;
- Construct a common embankment from Vignes Street to Center Street south of LAUS;
- Construct common Center Street Bridge south of LAUS;
- Construct common embankment or new common bridge from Center Street to Amtrak Bridge south of LAUS;
- Construct common Amtrak Bridge south of LAUS;
- Construct Division 20 access road;
- Construct common rail embankment on the west bank of the Los Angeles River (from Amtrak Bridge to First Street Bridge);
- Construct new dedicated lead tracks for BNSF freight trains and Amtrak trains; and
- Construct two run-through tracks from Platform 4 at LAUS to the main line tracks along the west bank of the Los Angeles River.

Some embankments and/or bridges south of LAUS could be constructed in a phased manner.

### 1.5.2 Full Build-Out Condition

The full build-out condition is when new lead tracks and the elevated throat north of LAUS, along with the elevated rail yard and concourse-related improvements at LAUS would be implemented. The full build-out condition aligns with a construction completion date as early as 2031.

A summary of the proposed activities associated with the full build-out condition is provided below.

- Construct new compatible lead tracks and reconstruct throat north of LAUS;
- Construct new bridges over Vignes Street and Cesar Chavez Avenue north of LAUS;
- Construct elevated rail yard, concourse-related improvements, and East/West Plazas at LAUS; and

- Construct remaining run-through tracks for regional/intercity rail operations on previously constructed structures south of LAUS.

### 1.5.3 Full Build-Out with High-Speed Rail Condition

The full build-out with HSR condition is when HSR tracks and catenaries would be implemented through the Project limits to facilitate operation of the planned HSR system. CHSRA is responsible for construction and operation of the planned HSR system, and the EIS identifies where future HSR tracks, catenaries, and related operational infrastructure would be located throughout the Link US Project limits. Operation of HSR trains would occur on two of the lead tracks north of LAUS, Platforms 2 and 3 and associated Tracks 3 through 6 at LAUS, and common rail bridges and embankments south of LAUS. The full build-out with HSR condition corresponds to an HSR opening year consistent with CHSRA's 2022 Business Plan (as early as 2033).

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# 2.0 Background

This technical memorandum was prepared in response to stakeholder comments received on the October 2016 Phase I ESA, and to incorporate updated environmental database and site reconnaissance information from 2016 into the environmental documentation to support the EIS. The hazardous waste impact analysis presented herein is intended to support the NEPA documentation for the Build Alternative relative to hazardous waste and materials. However, this analysis does not constitute a Phase I ESA that conforms to the ASTM 1527-13 standard.

The objective of this technical memorandum is to:

1. Provide supporting information in response to stakeholder comments on the October 2016 Phase I ESA.
2. Document substantial changes that have occurred to sites reported in the October 2016 Phase I ESA through October 2020, and whether these changes result in reclassification of sites (e.g., formerly a REC, no longer a REC).
3. Determine if new sites of concern have arisen that pose a risk to the Build Alternative or new conditions of concern at previously identified sites warranting evaluation between the preparation of the 2016 Phase I ESA and additional analysis performed in October 2020.

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# 3.0 Methodology

In order to meet the objectives, the following approach was taken:

- A new environmental database area/corridor report and associated geographic information system files were procured from Environmental Data Resources (EDR). The Project study area was used as the subject property from which to search for database listings within ASTM E1527-prescribed search radii. This was the same approach used in preparation of the October 2016 Phase I ESA.
- A site reconnaissance was conducted in October 2020 to observe changes to the Project study area that had taken place since 2016.
- The geographic information system shapefile of sites identified in the 2020 report (EDR 2020) was overlaid on top of the most recent Project footprint for the Build Alternative to determine locations where Project-related ground disturbance would intersect sites listed in the database report (Figure 3-1).
- Sites intersecting the Project footprint were sorted by street address. After sorting, the listings were reviewed to determine whether those listings that had multiple addresses or names were referring to the same parcel of land.
- In addition to the October 2016 Phase I ESA, other reports prepared within the Project study area were consulted (see references provided in Section 9.0). Relevant information on the listed sites was included and edited accordingly for this memo.
- Historic Sanborn® Fire Insurance maps were reviewed for each site intersecting the Project footprint (EDR 2014). This information was used to corroborate database information and to validate site locations as street addresses changed over time. Construction of US-101 considerably altered the Project study area's street layout. Incorporating a more detailed review of Sanborn® maps also addressed stakeholder comments received on the October 2016 Phase I ESA.
- Maximum vertical excavation depths were estimated for the Build Alternative (Figure 3-2). This information was used to evaluate hazardous waste risks resulting from Project-related construction at each site identified on Figure 3-1. For example, if only surface soil disturbance is necessary to construct the proposed infrastructure, the risk is generally less than if deep, structural foundations are required.
- Recommendations are provided to mitigate hazardous waste risks.

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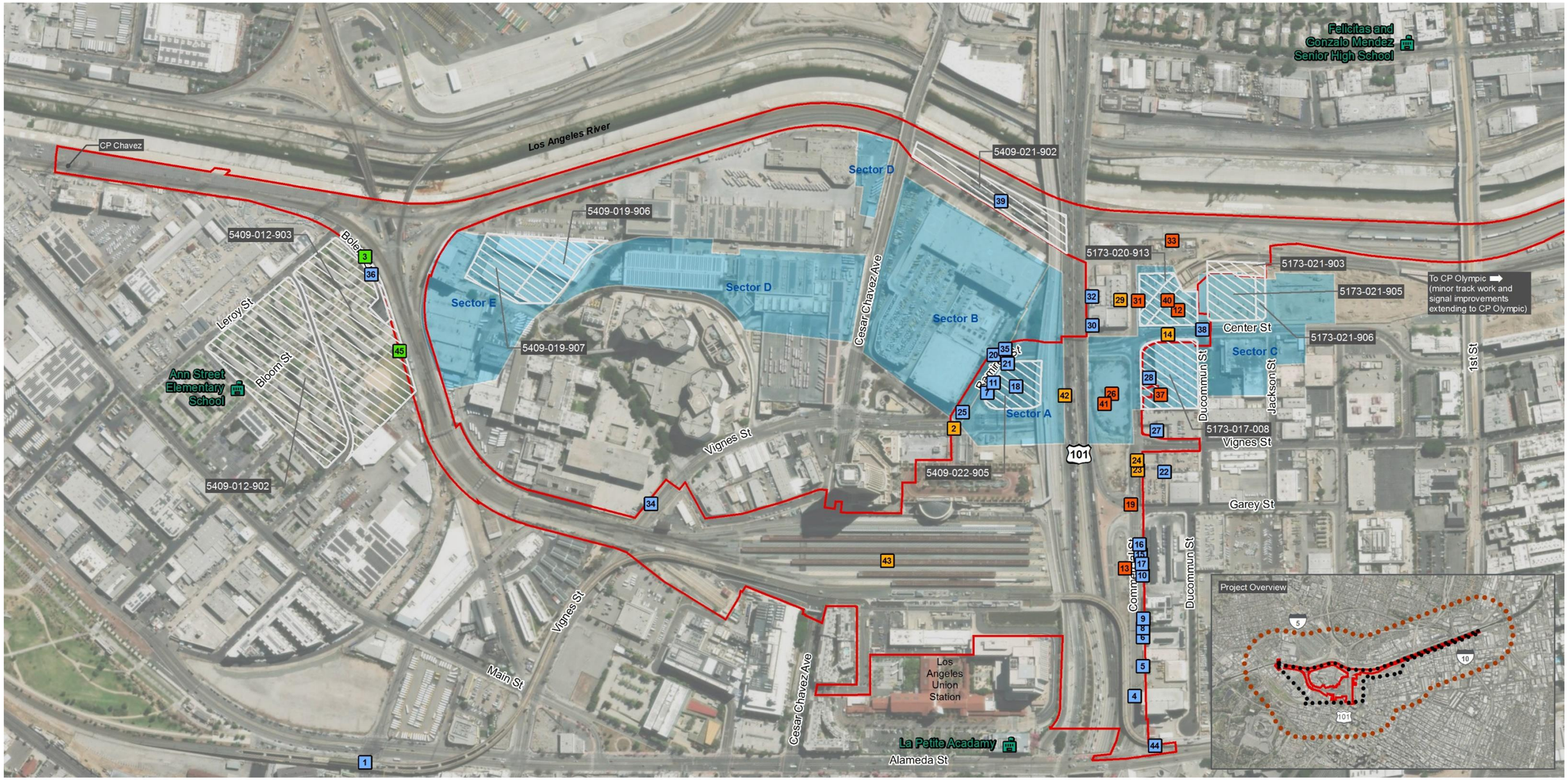
*Figure 3-1. Recognized Environmental Conditions in the Project Study Area*




**LEGEND**

- Project Footprint
- 0.5-mile EDR Buffer
- Project Study Area
- REC Site - High Risk
- REC Site - Moderate Risk
- REC Site - Low Risk
- REC Site - No Risk
- REC Site 42 - Southern California Gas Company/Aliso Street MGP
- LUC Site
- School

0 Feet 500

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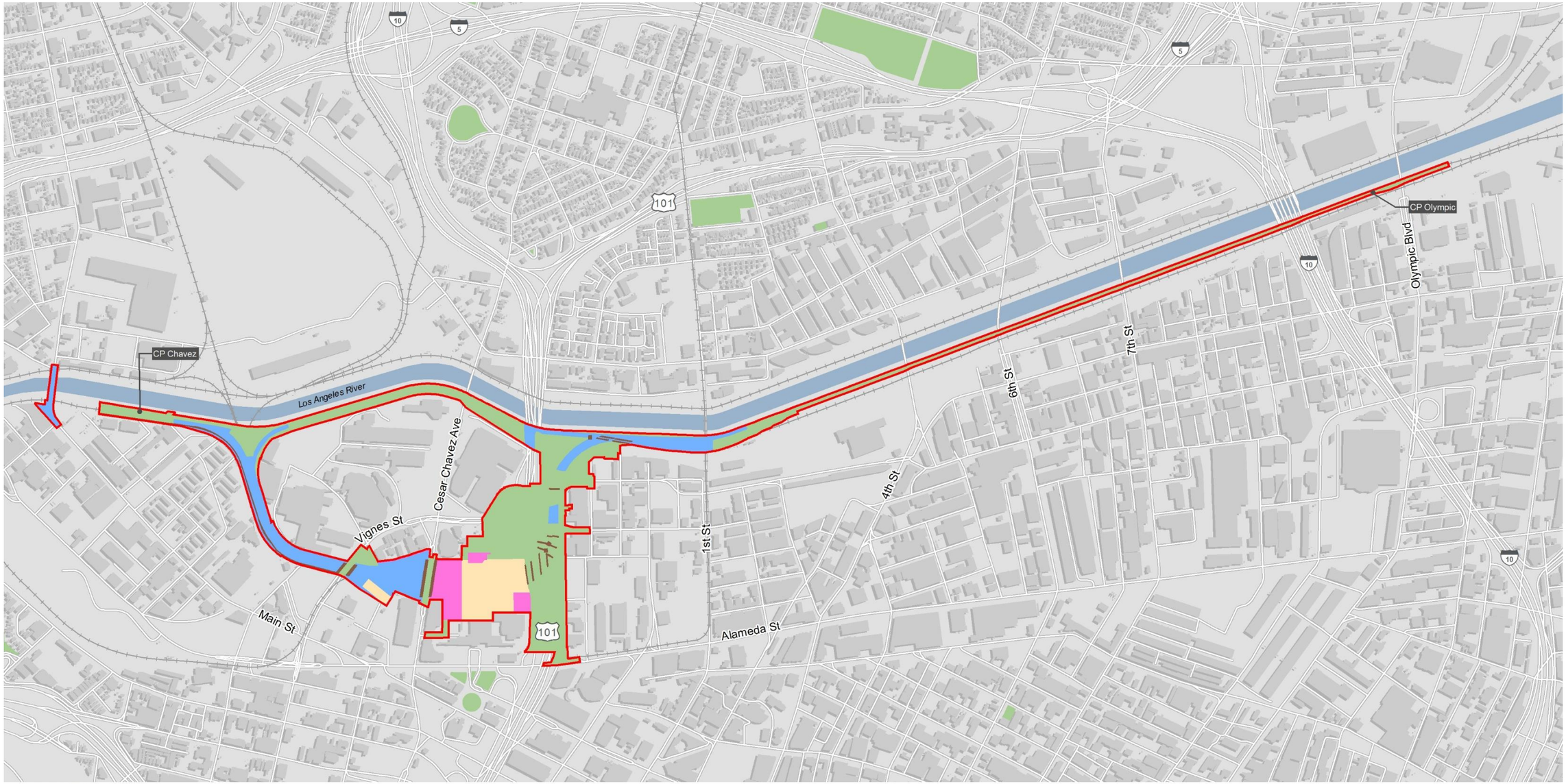
*Figure 3-2. Estimated Maximum Vertical Excavation Depths*



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# 4.0 Environmental Database Sites within the Project Footprint

A total of 45 sites evaluated for potential RECs were located within the Project study area, of which after further review, a total of 13 sites were determined to be within or adjacent to the Project footprint for the Build Alternative, and of High or Moderate Risk. Sites that are High or Moderate Risk are denoted with bold text in the narratives below. The description of each site provided below also includes where the site is located relative to the three Project segments: Throat Segment, Concourse Segment, and Run-Through Segment. Refer to Section 1.3 for detailed descriptions of the segment locations and land uses in each segment.

Each description incorporates information from the 2020 environmental database report, review of Sanborn® maps, review of site information provided by others using the references cited in this document and changes noted, if any, from the October 2020 site reconnaissance.

1. **Parcel PA-018.** This site is located at West College Street and North Spring Street in the northwestern Throat Segment with the street address 924 North Spring St. GeoTracker states, “The Site was previously owned by Union Pacific Railroad Company, and at present, is owned by the Los Angeles to Pasadena Metro Blue Line Construction Authority. The Site is about 6 acres and is surrounded by industrial and commercial use land. Historically, the Site has been used for a wood and coal yard, an oil warehouse, dwellings, and for small businesses. Since 1905, it was used as a rail freight yard, but it has been vacant since about 1970. Buildings at the Site were demolished in the late 1980s. A gasoline tank was removed in April 1987, with no evidence of leakage. Reports from 1989 indicate that the Site was used for the storage of tanks and shipping containers.” Over 17,000 tons of green-colored soil contaminated with arsenic and lead was excavated and disposed off-site in the early 2000s. Post-excavation soil samples did not have lead or arsenic concentrations above cleanup target levels. “Several water-bearing zones underlie the Site, but there are no production wells within one mile of the property. The shallow semi-perched zone is about 30 feet bgs, and the groundwater flow direction is in a south-southwest direction. Groundwater in the southwestern portion of the site has been impacted by heavy-end hydrocarbons (diesel-range and total recoverable petroleum hydrocarbons). Based on regional groundwater flow and documented historic service station operations at neighboring off-site properties, the groundwater contamination appears to be from off-site sources” (State Water Resources Control Board 2020).

   California Regional Water Quality Control Board Los Angeles Region issued a no further action (NFA) letter on February 20, 2003, for the remaining residual levels of contaminants in soil “which pose minimal threat to human health or groundwater quality.” This site is a historical REC. No ground disturbance is proposed as part of the Build Alternative at this location; therefore, the site does not present a hazardous waste risk.

2. **One Gateway Plaza.** This site consists of the Gateway Station Complex entrance, the eastern access to the rail tunnel and passenger platforms, retail businesses, and an

entrance to the Metro Red/Purple Line Station below. It is located within the Concourse Segment (see also Site Number 7 in this list). According to Sanborn® maps, between the years 1950 to 1970, the area that is now One Gateway Plaza was the location of two automotive repair facilities, two buildings labeled oil and gas, a building labeled welding and a lumber yard. The current facility has underground storage tank (UST) database listings (no details on tanks provided), actively stores chemicals, and is a small quantity hazardous waste generator. Administrative violations have been issued in association with waste generation and the USTs. The facility was complying as of August 2018.

Natural petroleum seeps occur on the lowest level of the parking garage. These natural seeps are composed of weathered crude oil that has been depleted of its more volatile components; however, they remain a source of petroleum volatile organic compounds (VOC) (Metro 2016a).

A 2011 Phase II subsurface investigation found contaminated groundwater at Gateway Plaza with the highest concentrations of VOCs near the intersection of Vignes Street and Cesar Chavez Avenue (TPG Capital, L.P. 2011). The data, in conjunction with the documented groundwater flow direction to the south-southwest, suggested that the impact was originating from off-site sources located to the northeast (Metro 2016a). This site is a REC because of the land use history detailed on Sanborn® maps and documented groundwater contamination, although it may be from an off-site source. **The risk to the Build Alternative is moderate**, as much of the site has already been redeveloped and extensively excavated, making it less likely to encounter contaminated soil associated with historic occupancies depicted on Sanborn® maps. Proposed construction activities are not expected to encounter groundwater in this area.

3. **BNSF Railway, Mission Tower.** This cleanup program site is in the Throat Segment at 1430 Bolero Lane and East Bloom Street. Heavy hydrocarbons contamination is in the soil between 5 to 35 feet bgs. Groundwater monitoring occurred between August 1999 and February 2003. No remediation was conducted due to the technical infeasibility of cleaning up the residual heavy, relatively immobile, nonvolatile petroleum hydrocarbons and access limitations within an active railroad yard. The case was closed in September 2012 (Metro 2016a). The site is a REC because of documented subsurface contamination. As only surface (0 to 1 feet bgs) disturbance would occur during construction, and contamination is documented between 5 and 35 feet bgs, it is considered a low risk.

4. **A&A Towing Co.** This site was located at 415 East Commercial Street in the Run-Through Segment at the northeast corner of East Commercial and North Alameda Streets. The site is currently part of US-101. Historically, prior to construction of US-101, it was developed with a restaurant, store, and handball court. A gasoline service station adjoined to the north. The site is listed in the EDR Recovered Government Archive Leaking Underground Storage Tank (LUST) Database, but no further information was provided in the listings. The Recovered Government Archive LUST database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. The site is a REC because of the historical LUST listing. No

Project-related disturbance would occur at this location, so the site does not pose a hazardous waste risk.

5. **Rasmussen AM.** This site was a gasoline service station in 1933, according to database listings, and was located at 418 Aliso Street in the Run-Through Segment. Based on review of historical Sanborn® maps, it was a blacksmith and wagon shop in 1906 and vacant land in 1950. What was 418 Aliso Street is now located beneath US-101. The site is a REC because of the historical gasoline station. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
6. **MV Transportation.** This site was located at 434 East Commercial Street between North Alameda and North Garey Streets in the Run-Through Segment (see also Site Number 8 in this list). This facility is a REC because it was a hazardous waste generator with above-ground petroleum and chemical storage. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
7. **435 Ramirez Street**. This site is a historical UST site within the One Gateway Plaza area, at the northwestern corner of Ramirez and North Vignes Streets. Sanborn® maps depict automotive repair and gas and oil at 431 – 435 Ramirez from 1960 through 1970. This site is a REC because of historical automotive repair activities and UST listing. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
8. **Los Angeles Department of Transportation – Material Control and Commercial Street Traffic Yard.** This facility was in the Run-Through Segment at 444 East Commercial Street between North Alameda and North Garey Streets and was a small quantity hazardous waste generator with no violations. Manifest records list 0.2755 tons of contaminated soil from site cleanup. From 1950 through 1957, the site was occupied by the Department of Supplies Municipal General Store, office, and warehouse. Drums of oil were stored on the site in 1950. From 1960 through 1970, the site was occupied by the Sign Rolling Department machine shop of the Los Angeles traffic department. This site is a REC because of prior soil contamination and hazardous waste generation. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
9. **Los Angeles Department of Transportation Bus Operations.** This facility was in the Run-Through Segment at 454 East Commercial Street between North Alameda and North Garey Streets. Historically, it was vacant land from 1953 to 1970. Prior to that time, it was developed with a residential dwelling. It is currently a hazardous waste generator with chemical storage and has a historical UST listing. Bus maintenance and cleaning operations are listed in association with a National Pollution Discharge Elimination System permit, per the EDR database report. Bus maintenance facilities generate significant volumes of waste oil and hazardous waste and are frequently contaminated. The site is a REC, given its prior occupancy by a bus maintenance facility. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.

10. **500 East Commercial Street.** This property is currently a parking lot located in the Run-Through Segment. It is listed in environmental databases as a historical UST site with no further information. Circa 1950 to 1970, it was the location of the Maier Brewing Company facilities offices, which included a machine shop. The site is a REC because it was historically used as a machine shop and has a historical UST listing. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
11. **500 East Ramirez Street.** This location is adjacent to Keller Yard. It is listed as a hazardous waste generator for acids and organics. In 1950, it contained purifier tanks associated with the Southern California Gas Company/Aliso Street MGP site, Butadiene Division, Purifying Yard Number 2. The site is a REC because of its location within the MGP site (Figure 3-1). No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
12. **Southern California Gas Company/Aliso Street MGP/Towwerks LLC/Viertel's Tow Yard.** This facility was located at 500 Center Street, on the east side of Center Street between East Commercial and Ducommon Streets, in the Run-Through Segment. Sector C, Block K within the Southern California Gas Company/Aliso Street MGP site, contained a large gas storage holder over most of the parcel. Carcinogenic polycyclic aromatic hydrocarbons (PAH), including benzo-a-pyrene and naphthalene, as well as benzene and total petroleum hydrocarbons (TPH), were identified as contaminants of concern in soil (Metro 2017). The parcel has land use restrictions because of the contamination. The site is a controlled recognized environmental condition (CREC) because of documented soil contamination with land use restrictions and the site's location within the Southern California Gas Company/Aliso Street MGP site. Project construction would involve deep pilings up to 100 feet bgs, so **the site is high risk.**
13. **S&P/Caltrans.** This cleanup program site is located at the former street addresses 501 East Commercial Street, 531 East Commercial Street, and 516 Aliso Street in the Run-Through Segment. It is also known as S&P Co. doing business as Cleveland Wrecking and Former Brew 102, according to historical UST records from the City of Los Angeles Fire Department (LAFD). Former development was eliminated by ramp realignments providing ingress and egress to US-101 with the properties at former 501 and 531 East Commercial Street improved with the US-101 ramps. The property at 516 Aliso Street is currently graded, undeveloped land. Depth to groundwater ranges from 32 to 40 feet bgs and flows southeast according to site-specific UST investigation documentation.

    Maier Brewing Company occupied the eastern portion of the site as a brewery beginning prior to 1929. The areas within the brewery included a blacksmith and repair shop, copper shop, kettle and mash tubs, and a beer cellar. The western third of the site was occupied by a wire and metal works shop, other non-specified shops, truck storage, and an automotive painting facility (1906 and 1929). By 1957, the brewery structures occupied most of the site. In 1965, the western portion of the site (former parking lot from 1953 to 1970) became a beer bottling and warehouse facility. The brewery was demolished before

the removal of seven USTs in 1988 without regulatory oversight. The USTs were likely located on the adjacent property to the east before their removal in 1988; however, this cannot be confirmed as the documentation is unclear. The USTs included a 3,000-gallon fuel oil tank (Tank Number 4), a 550-gallon waste oil tank (Tanks Number 5), and two 6,000-gallon fuel oil tanks (Tanks Number 6 and Number 7). Tanks Number 1 (10,000-gallon), Number 2 (10,000-gallon), and Number 3 (3,000-gallon) stored barley.

Previously obtained LAFD records document on-site gasoline and diesel fuel USTs and a gasoline spill in 1960. A 1994 drilling and well installation program detected concentrations of TPH up to 24,000 milligrams per kilogram in soil without significant detections of VOCs. The assessment concluded that the TPH was indicative of weathered crude oil but may also be consistent with heavy-end refined products, such as bunker oil or #6 fuel oil. The groundwater analytical results also detected hexavalent chromium in groundwater at concentrations up to 0.14 milligrams per liter. Additional groundwater monitoring wells were installed in 1998. Two of the seven wells installed contained measurable floating product. Analysis indicated the product to be diesel-range TPH. Impacts on soil were noted during drilling up to a depth of 35 feet bgs. Borings were advanced in 2002 through 2003, primarily concentrated around the southeastern corner, near the intersegment of Vignes and East Commercial Street. Gasoline- and diesel-range TPH were detected primarily at depths below 20 feet bgs. The impacted area was limited to the southeastern corner of the property, east of Garey Street, and extended across East Commercial Street. TPH was detected in groundwater at concentrations up to 424 milligrams per liter. A tank leak was reported in 2009; however, the release may have occurred prior to 1988, when the USTs were removed (Metro 2019). Because of the documented presence of contaminated soil, groundwater, and floating product on the water table, and construction activities involving deep pilings and dewatering, **this site is a REC and high risk**. See also Site Numbers 16 and 19 in this list.

14. **Southern California Gas Company/Aliso Street MGP, Sector C/Tosco Refining/ Unocal Center Street Terminal/Conoco Phillips.** This facility is located at 501 North Center Street on the eastern side of Center Street, between Ducommon and Jackson Streets, in the Run-Through Segment. It is currently under construction for Metro's Emergency Security Operations Center Project. It was formerly part of the Southern California Gas Company/Aliso Street MGP Ducommon Street plant until approximately 1970. The plant had a metering station, scrubbers, pipe trench areas, and compressors. The more recent Center Street Terminal on the site was a petroleum bulk storage facility for gasoline but also had waste oil and chemical storage. Petroleum hydrocarbons, PAH, and VOCs were detected in soil. Fifteen tons of contaminated soil were generated from cleanup activities. It was listed as a hazardous waste generator, and the property has land use restrictions. Based on its MGP and petroleum storage terminal history, the documented presence of contamination, land use restrictions, and its hazardous waste generator listing, this site is a CREC. **It is a moderate risk**, as only a small area of disturbance would occur at the northeastern corner of the parcel for an overhead structure footing.

15. **510 East Commercial Street.** See also Site Number 10 in this list. This site is currently a vacant lot on the southern side of East Commercial Street, between North Alameda and North Garey Streets. In 1950, it was developed with a warehouse, and from 1953 through 1970, the Meyer Brewing Company general offices were located here. This site is listed in the CA HIST UST database. A LUST was documented in 1988. The tank had a 4,000-gallon capacity and contained regular unleaded gasoline (Metro 2019). According to LAFD records, property use was classified as an "auto fueling station" in 1969, possibly for Meyer Brewing Company business vehicles. Hazardous materials on site in 1967 included Chevron White Oil (four grades) (eighty 55-gallon drums) and standard pan oil (twenty 55-gallon drums). Historic registration records show a 280-gallon gasoline UST from 1/1/1923 "filled with sand" on 6/19/1939; one 4,000-gallon gasoline UST from 3/1/1939; and one 4,000-gallon diesel UST from 3/1/1939. Four soil samples were collected at the gasoline USTs in 1987, and there were no detections of petroleum constituents. The site is a REC because of its history as an auto fueling station and historic oil storage. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
16. **516 Aliso Street.** This site is in the Run-Through Segment (see description for Site Number 13 in this list).
17. **516 East Commercial Street.** This site is located at the southwestern corner of East Commercial and North Garey Streets and was recently improved with an electric vehicle charging facility. From 1950 to 1968, 512 East Commercial Street had a cake box manufacturing and printing company. The street address 516 was not shown on Sanborn® maps. At least 15 tons of contaminated soil was generated from a site cleanup. Because contaminated soil was generated, and printing is likely to have previously occurred on site, it is a REC. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.
18. **Southern California Gas Company/Aliso Street MGP, Sector A/Denny's parcel/ Caltrans/Metro Union Station/Patsaouras Plaza El Monte Busway Station Project.** 530 East Ramirez Street is located between the Concourse Segment and Keller Yard, which is part of the Throat Segment. The parcel is located east of North Vignes Street, south and west of East Ramirez Street and north of US-101. In 1950, the parcel was larger, having later been partially eliminated by construction of US-101 ramps. At that time, the larger parcel was the location of multiple Southern California Gas Company/Aliso Street MGP Butadiene Division facilities, including the Number 2 Exhauster building, precipitator units, water cooling towers, oil scrubbers, and three purifier tanks. By 1953, only the Number 2 Exhauster building remained. In 1954 to 1960, the former exhauster building was occupied by the Southern California Gas Company pipeline shop. In 1968 and 1970, the parcel was improved with a restaurant. Contaminated soil was documented at a depth of 26 feet bgs. Contaminants of concern remaining on site include carcinogenic PAHs with a benzo(a)pyrene equivalent concentration ranging from nondetect to 255.68 milligrams per kilogram at 22 feet bgs. Naphthalene concentrations in soils range from nondetect to 11,600 milligrams per kilogram also at 22 feet bgs. Southern California Gas Company is continuing to monitor the groundwater at the property as part of the entire former Southern

California Gas Company/Aliso Street MGP Site Groundwater Operable Unit. As of May 2015, one monitoring well was located on the property. Land use restrictions are in place (Metro 2016a). Based on being part of the Southern California Gas Company/Aliso Street MGP facility with documented soil and groundwater contamination, this site is a CREC. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.

19. **PBR Realty LLC/Caltrans District 7/Commercial Street Widening.** This site is located at 531 East Commercial Street (see description for Site Number 13 in this list).

20. **547 Ramirez Street.** Across East Ramirez Street from Denny's (see description for Site Number 18) at the entrance to the C. Erwin Piper Technical Center. This address has historical UST listings, but no additional details were available. In 1950, two purifier tanks associated with the Southern California Gas Company/Aliso Street MGP, Sector B were located on the northern side of Ramirez Street, between Howard and Center Streets (both shown as private streets on Sanborn® maps) along with a building labeled "store room (built 1927) and offices (built 1910 – 1924)" at the address of 555 Ramirez. In 1960, the former store room/office building was labeled as an instrument shop (see Site Number 21 in this list for further details). It is a REC because of the historic UST listings. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.

21. **555 East Ramirez Street.** This site was listed as 555 East Ramirez and 555 Ramirez, with numerous Los Angeles City agencies as occupants and as the C. Erwin Piper Technical Center. The site is located between the Concourse Segment and Keller Yard in the Throat Segment. Site history is provided in Site Number 20 in this list, as these two addresses appear to correspond to the same parcel. A UST was removed in October 2000. Extensive records were obtained from LAFD but none pertain to the 2000 UST removal. According to the LAFD records, the C. Erwin Piper Technical Center has multiple USTs and significant storage of automotive repair-related chemicals (fleet shop USTs: 5,000-gallon motor oil, 2,000-gallon automatic transmission fluid, and 5,000-gallon waste oil). The vehicle maintenance facility also stores smaller quantities of waste batteries, hydraulic oil, cleaning solution, R 134-A, oil rags, ethylene glycol, acetylene, ethyne, waste antifreeze, oxygen, propane, used oil absorbent, and used oil filters. USTs listed under City of Los Angeles – Department of General Services includes the following: Tank 1: 15,000-gallon jet fuel; Tank 2: 15,000-gallon jet fuel; Tank 3: 15,000-gallon diesel generator tank; Tank 4: 1,000-gallon spill tank for jet fuel; Tank 5: 2,000-gallon diesel tank for generator; and Tank 6: 1,000-gallon waste oil.

    Perchloroethene (PCE) and trichloroethene (TCE) were detected in groundwater above applicable cleanup criteria, with groundwater monitoring since 2009 (Metro 2016a). Metro owns and currently uses the property for offices, storage, and maintenance of buses. Based on the documented presence of contamination, the site's history as part of the Southern California Gas Company/Aliso Street MGP site and bus maintenance activities; it is a REC. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.

22. **Los Angeles Police Department Property Division 454.** This site is at 620 East Commercial Street, located in the Run-Through Segment, on the south side of East Commercial Street, between North Garey and North Vignes Streets. On the 1950 Sanborn® map, the parcel was labeled "rotary aluminum smelter," and in 1953 through 1960 "junk and rag salvage." By 1964, the parcel had been redeveloped with the Maier Brewing Company beer warehouse, which is shown on Sanborn® maps through 1970. The site is currently listed as a Resource Conservation and Recovery Act large quantity hazardous waste generator for acids, off-spec inorganics and organics, inorganic solid waste, unspecified solvent mixture, pharmaceutical waste, laboratory waste chemicals, oxygenated solvents (acetone, butanol, ethyl acetate, etc.), alkaline solution pH >12.5 with metals, lead, and reactive waste. The northeastern corner of the site adjoins the Southern California Gas Company/Aliso Street MGP site Sector C and is a REC. No Project-related disturbance would occur at this location. Therefore, it does not present a hazardous waste risk.

23. **626 Aliso Street.** This site is located on what is now the northern side of East Commercial Street, south of US-101 and east of Center Street in the Run-Through Segment. It is outside of the Southern California Gas Company/Aliso Street MGP Sector C. It has a Historic UST listing in the EDR report, but no further details were available. UST records from LAFD are pending. The 1954 Sanborn® map depicts paper and cloth bailing, bailed paper and rag storage, which appears to have been part of a burlap bag manufacturing warehouse. The building was a beverage warehouse in 1970. The building is still present and attached to what is currently the Life Storage facility (self-storage). On Aliso Street, attached to the fence, is a private property sign with the Metro logo. The site is a REC based on historical manufacturing use. As part of the Build Alternative, the building would be demolished, and soil would be disturbed down to 5 feet bgs. **The site is a moderate risk,** given the apparent lack of any prior investigations to determine if contamination is present or not.

24. **636 Aliso Street.** The site is currently Amay's Bakery & Noodle Co. Inc. at the modern-day street address of 837 East Commercial Street, adjoining to the west of the railway tracks and the Los Angeles River in the Run-Through Segment. A Historic UST listing in the EDR report provides no further details. It is outside of the Southern California Gas Company/Aliso Street MGP Sector C. The site was home to the National Mill and Lumber Co. lumber planing mill in 1906. From 1954 to 1970, it was a beer warehouse. It is a REC because of the historic UST listing. UST records from LAFD are pending. As part of the Build Alternative, the building would be demolished, and soil would be disturbed down to 5 feet bgs. **The site is a moderate risk,** given the apparent lack of any prior investigations to determine if contamination is present or not.

25. **700 North Vignes Street.** This site is located at the northwestern corner of the intersection of North Vignes Street and the entrance to US-101, south of the entrance to One Gateway Plaza (see Site Number 2 in this list). The site is located east of the Concourse Segment and was part of with the Patsaouras Transit Plaza Expansion Project. The site was a furniture warehouse and part of the Maier Brewery Company in 1906. From 1950 to 1960,

Maier's Bottling Works operations occupied the entire site. By 1964 only the beer warehouse remained but had been expanded in 1965. The parcel adjoins the Southern California Gas Company/Aliso Street MGP site, Sector A to the west. EDR lists a historic UST with no further details. The site is a REC because of the historic UST listing. No Project-related disturbance would occur at this location, so it does not present a hazardous waste risk.

26. **Metro.** 703 East Commercial Street is in the Run-Through Segment on the northern side of East Commercial Street, at the intersections with North Vignes and Center Streets. It is currently used as a contractor's yard for Metro's Regional Connector Project and has been for the past several years. In 1950, it was used as a parking lot for an oven manufacturer and brewery, and it remained a parking area for the brewery through 1970. It is located within the Southern California Gas Company/Aliso Street MGP site, Sector C, Block G. A soil investigation at Block G indicated that potentially impacted soils were removed during the subway tunnel construction. EDR reported 0.35 ton of contaminated soil from site cleanup. The site is a REC because of its location within the Southern California Gas Company/Aliso Street MGP site and documented soil contamination. Surficial and deep soil impacts would result from the Build Alternative; therefore, **it is a high risk.**

27. **S&P Co.** 706 East Commercial Street is located at the southeastern corner of East Commercial Street and North Vignes in the Run-Through Segment. The site is currently the parking lot for the Dejà Vu Gentlemen's Club. The EDR report lists Statewide Environmental Evaluation and Planning System and Historical USTs at this address with no further details. LAFD records include a drawing showing two 10,000-gallon gasoline tanks and associated fuel pumps and permit to "maintain two existing underground tanks presently installed, after construction of an open-sided, all metal canopy over the site thereof, and without installing safeguards against overfilling" dated 6/23/1960-6/24/1960. One 550-gallon UST was removed in 1985 along with the 1960s gas tanks. The parcel was vacant from 1950 through 1960. The 1964 through 1970 Sanborn® maps label the site gas and oil and truck storage. The site is located outside the Southern California Gas Company/Aliso Street MGP site Sector C. Because of the UST listings and gas and oil notation on the Sanborn® maps, it is a REC. No Project related disturbance would occur at this location. Therefore, it does not present a hazardous waste risk.

28. **Southern California Gas Company/Aliso Street MGP site, Sector C, Block L/ Ironworks Collective Inc.** 718 to 728 East Commercial Street is located at the southwestern corner of East Commercial and Center Streets within the Run-Through Segment. The site occupies Block L within Sector C of the Southern California Gas Company/Aliso Street MGP site. From 1950 through 1970, it was developed with a 15,000,000 cubic feet steel gas tank: Holder Number 2. PAHs and lead were documented as contaminants of concern in soil. 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, naphthalene, toluene, and methyl tertiary-butyl ether were identified as contaminants of concern in groundwater (Metro 2017). Contaminated soil was excavated and thermally treated off site, and the site was backfilled with clean soil. Subsurface contamination did not extend laterally to off-site areas. Based on the historical

use as part of the former Southern California Gas Company/Aliso Street MGP, land use restrictions prohibit the site from being used for residential, hospital, school, and daycare center purposes. In addition, restrictions prohibit the construction of groundwater wells for injection or extraction and utilization. Given the site history described above, and the land use restrictions, the site is a CREC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

29. **Friedman Bag Co., Inc.** 801 East Commercial Street is located at the northeastern corner of East Commercial and Center Streets, within the Run-Through Segment. Currently, Life Storage, a self-storage facility, occupies the site. From 1950 through 1970, the site was improved with a burlap bag warehouse belonging to the Friedman Bag Co. Sanborn® map labels also say cleaning, mending, and sewing. The parcel adjoins the Southern California Gas Company/Aliso Street MGP site Sector C to the northeast. A gasoline LUST was reported in May 1987, and the site was granted a letter of NFA in August 2002. It is listed as a Resource Conservation and Recovery Act small quantity hazardous waste generator. Because an NFA was issued for a gasoline LUST, the site is a historical REC. Under the Build Alternative, the building would be demolished resulting in ground disturbance. **It is a moderate risk.**

30. **Benavente Ray.** 802 Aliso Street is located on the eastern side of the Los Angeles River, at the southeastern corner of East Aliso and North Meyers Streets. According to the EDR proprietary database, this site was the location of a dry cleaners in 1929; however, it is approximately 450 feet outside and east of the Run-Through Segment of the Project study area. No corroborating information was available regarding the historical dry cleaners. It is not a REC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

31. **A&H Greenfield Sheet Metal/Viertel's Tow Yard/Police Impound Garage.** 830 East Commercial Street at the southeastern corner of the intersection of East Commercial Street and Center Street in the Run-Through Track Segment (see also Site Number 12 in this list). The site is currently under construction for Metro's Division 20 Portal Widening Project for the Red Line subway tunnel. The former building on site was a warehouse, used as storage for smelting compounds in 1950 through 1953, burlap bags in 1954, and metal window frames in 1957 through 1970. The property is part of the former Southern California Gas Company/Aliso Street MGP, Sector C, Block K. A Voluntary Cleanup Agreement, California Environmental Quality Act Notice of Exemption, Removal Action Workplan, and Response Action Completion Report were completed for the property. The property was issued an NFA for soils. Land use restrictions allow commercial or industrial uses only. Groundwater is contaminated with petroleum hydrocarbons. Because of the land use restrictions, the site is a CREC. Excavation on the site is proposed as part of the Build Alternative; therefore, **it is a high risk.**

32. **Mission Garage.** 832 Aliso Street is located on the east side of the Los Angeles River, adjacent to Site Number 30. The site was an automotive repair business in 1933 and 1937 according to the proprietary EDR historical auto database. The site is approximately 450 feet outside and east of the Run-Through Segment of the Project study area. No

corroborating information was available regarding the historical automotive repair facility. It is not a REC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

33. **Metro Temporary Storage Facility.** 840 East Commercial Street is located at the eastern terminus of East Commercial Street, at the railroad tracks and Los Angeles River in the Run-Through Segment, adjacent to Site Number 31. The property is adjacent to the former Southern California Gas Company/Aliso Street MGP, Sector C, Block K. In 1950, the site was occupied by Grand Canyon Lime & Cement Co. lime and cement warehouse. On the 1953 through 1960 Sanborn® maps, the same company is shown, but the label on the building includes chemical manufacturing and warehouse. In 1964, the company name changed to Consolidated Milling Co. From 1965 through 1970, the site was occupied by Continental Chemical Products chemical manufacturing and warehouse. No EDR listings pertain to the current occupant. Given its location adjacent to the MGP site and the history of chemical manufacturing on site, it is a REC. It would be disturbed as part of the Build Alternative. Because of its chemical manufacturing history, **it is a high risk.**

34. **978 North Vignes Street.** This site is located at the southeastern corner of North Vignes and Bauchet Streets in the Throat Segment. The site is currently part of the Twin Towers Correctional Facility. In review of Sanborn® maps, the property was used for residential purposes through 1960. A store and glass warehouse occupied the property from 1965 through 1970. EDR reported a historical UST listing but provided no further details. It is not a REC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

35. **Ramirez Street Investigation.** This site is listed in the EDR report as an approximately 400-foot segment of Ramirez Street between Center and Keller Streets, which is between the Concourse Segment and Keller Yard. In 1894, the site was part of the Los Angeles Lighting Co., improved with generators, condensers, and scrubbers. In 1906, the block was occupied by Los Angeles Electric & Gas Company. The building contained a water gas generating house. Lamp black pits were located north of the building. In 1950, Boiler House Number 1 of the Southern California Gas Company/Aliso Street MGP Butadiene Division Plant Number 1 occupied Ramirez Street itself, but by 1954 the building had been demolished. The block was unoccupied from 1954 to 1970. This area is located within Sector A of the Southern California Gas Company/Aliso Street MGP site. Contaminants include benzene, TPH-diesel, TPH-gas, TPH-motor oil, TCE, and vinyl chloride. In April 2017, a Remedial Action Plan was approved, and a Remedial Action Completion Report is due in October 2021. Based on documented contamination, it is a REC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

36. **Bolero Lane and Bloom Street derailment.** This site is located at the intersection of Bolero Lane and Bloom Street in the northernmost part of the Throat Segment. This was the location of a train derailment, where the responsible party reported two loaded automobile rack railcars derailed upright with no injuries or releases, at Mile Post 482 on the Alhambra Subdivision. This listing is not a REC and does not present a risk.

37. **Southern California Gas Company/Aliso Street MGP, Sector C.** This site is located at Center and East Commercial Streets in the Run-Through Segment. This EDR listing is a catch-all for the Southern California Gas Company/Aliso Street MGP site Sector C. Refer to Site Numbers 14, 26, 28, 31, and 33 for details on specific sites within Sector C.

38. **Division 20 Portal Widening and Turnback Facility Project.** This site is within the Run-Through Segment. EDR lists a permit for stormwater discharges during construction. This EDR identification is likely associated with all parcels that are part of the Division 20 portal widening project. This area consists of the entire eastern side of Center Street from East Commercial to 1st Street. The dead ends of the cross streets have all been vacated, the buildings have been demolished, and the Portal Widening Project is currently under construction. This listing is not a REC, and it does not present a hazardous waste risk.

39. **Southern California Regional Rail Authority (Metrolink) Track Extension.** This EDR listing is a catch-all for the Southern California Gas Company/Aliso Street MGP site Sector A, East and West Parcels. Refer to Site Numbers 18 and 35 for specific sites within Sector A. In total, 8,532 cubic yards of contaminated soil containing TPH and metals (chromium, lead, arsenic, and mercury) were excavated and disposed of off-site. Soil contamination remains above target screening levels, necessitating a deed restriction. Land use restrictions were implemented in August 2009. Because of the documented presence of contamination and land use restrictions, the site is a CREC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

40. **Southern California Gas Company/Aliso Street MGP Sector C, Block K.** This EDR listing is a catch-all for the Southern California Gas Company/Aliso Street MGP site Sector C, Block K. Refer to Site Numbers 12, 31, and 33 for descriptions of sites within Sector C, Block K. According to the EDR report, this site is complying with its land use controls as of June 2018. For individual sites with land use controls, these are CRECs. Refer to the individual listings for Project risk.

41. **Southern California Gas Company/Aliso Street MGP Sector C, Block G.** This site is in the northwestern corner of East Commercial and Center Streets in the Run-Through Segment. Contaminants include benzene, lead, PAHs, TPH-diesel, TPH-gas, 1,3-Butadiene, hexachlorobutadiene, styrene, toluene, xylenes and zinc (see also Site Number 26). The site is a REC because of documented contamination. Surficial and deep soil impacts would result from the Build Alternative; therefore, **it is a high risk.**

42. **Southern California Gas Company/Aliso Street MGP Site-Wide Groundwater.** This EDR listing is a catch-all for groundwater beneath the Southern California Gas Company/ Aliso Street MGP site. The area of impacted groundwater is located between Alhambra Street to the north, Temple Street to the south, North Vignes and Lyon Streets to the west, and Keller Street to the east. Groundwater is contaminated with benzene, lead, PAHs, 1,3-butadiene, styrene, toluene, xylenes and zinc. As of July 30, 2018, groundwater monitoring was on-going. Area-wide groundwater impacts are a REC and pose **a moderate risk**. Only foundations (pilings) deeper than the water table, at approximately 28 feet bgs, would encounter groundwater that is potentially impacted.

43. **LAUS.** 800 North Alameda Street is located on the eastern side of North Alameda Street between US-101 and East Cesar Chavez Avenue in the Concourse Segment. Small releases of petroleum products, primarily diesel and motor oil, from broken fuel lines, broken fuel filters, incidental spills, etc., have occurred in the past. Releases generally occurred in the passenger platforms area. The site was listed as closed in the Spills, Leaks, Investigations, and Cleanup Database and granted an NFA in 1990. In the NFA letter, the Regional Water Quality Control Board gave Metro the approval to reuse soil with concentrations of TPH up to a maximum concentration of 4,000 milligrams per kilogram. Information detailing the location of this soil reuse was not available, although the time frame suggests that it was associated with the construction of the Metro Red/Purple Line Station and tunnels (approximately 1988-1993). The site was listed as operating three USTs in 1993, two 12,750-gallon chemical USTs and one 1,000-gallon motor vehicle fuel UST. A 500-gallon release of diesel fuel resulted from a broken fuel line in 1993, and two non-release emergencies that required emergency response occurred in 2005 and 2011. UST records from LAFD are pending. A limited Phase II ESA was conducted in 2011. Petroleum hydrocarbons were detected to a depth of 10 feet bgs (Metro 2016b). The site has been listed as a large quantity hazardous waste generator since 2012 specifically for asbestos-containing waste, other organic solids, liquids with lead concentrations greater that 500 milligrams per liter, solid ignitable waste, and solids with lead that exceeds the hazardous waste threshold. The site is a historical REC because it was previously issued an NFA by a regulatory agency. The expanded passageway would require excavation up to 20 feet bgs in this area as part of the Build Alternative and **the site is a moderate risk.**

44. **402 East Commercial Street.** This site is located at the southeastern corner of East Commercial and North Alameda Streets in the Run-Through Segment. The site is currently vacant land below an overpass associated with US-101. This site was the location of a filling station from approximately 1954 to 1970 according to Sanborn® maps. It was not listed in the EDR database report. Because of its historical use as a fueling station, this site is a REC. No Project related disturbance would occur at this location, so it does not present a hazardous waste risk.

45. **1300 Cardinal Street.** Known as the William Mead Homes development, this site south of Cardinal Street previously operated as a refinery from 1900 to 1924 by the Southern Refining Company and Amalgamated Oil Company. The site operated refining equipment and aboveground storage tanks. Dark oily materials were discovered during construction of the playground area. The Department of Toxic Substances Control entered into a Voluntary Cleanup Agreement with the Responsible Party for the area south of Cardinal Street in June 1996. The Preliminary Endangerment Assessment revealed visible contamination in the upper 5 feet of soil, and deeper in some locations. PAHs and lead concentrations were elevated. Contaminated soil was removed in 2000–2001. A site investigation for the area north of Cardinal Street was conducted in 2000–2001. Elevated concentrations of PAHs and lead were also present in shallow soil, and contaminated soil was removed and replaced with clean fill in 2004–2005. The property is deed-restricted with engineering controls and land use restrictions. Contaminants of concern include oily

waste, oil/water separator sludge, and aqueous solutions of metals. Project-related disturbance at this site will be limited to a retaining wall between the tracks of the Throat Segment and the southern side of the site, and shallow contaminated soil has been removed and replaced with clean fill, so the hazardous waste risk is low.

# 5.0 Project Study Area-Wide Environmental Conditions

As described in Section 4.0, groundwater is contaminated on a regional scale from the former Southern California Gas Company/Aliso Street MGP site (see Site Number 42 listed in Section 4.0). Because of the presence of MGP-related contaminants in groundwater and, at some locations, unsaturated soil, contaminated soil vapor may result; therefore, this site is a REC. The LAUS concourse is the only Project-related habitable structure, and it will be expanded as part of the Project. Soil vapor intrusion from areawide groundwater contamination could occur if changes in vapor migration pathways result from construction. As this potential effect can be mitigated by incorporating engineered systems into the concourse design, this is a low risk.

Aerially deposited lead exists as elevated lead concentrations in soils along older roadways as a result of the historical use of leaded gasoline and resulting leaded fuel tailpipe emissions. This applies to freeways such as US-101 but is also associated with main thoroughfare streets that were in use during the decades when leaded gasoline was common, such as those found within the Project study area.

Surface soils along railroad tracks and within rail stations and rail yards are frequently contaminated. Such contamination results from spills, leaks, daily operations, and intentional application. Older railroad ties treated with creosote leach PAHs to underlying soil, and newer ties treated with chromated copper arsenate can release heavy metals including arsenic. Herbicides were applied along tracks to combat weeds. Coal ash and cinders in track ballast contain PAHs and heavy metals. Rail maintenance operations can result in releases of fuel and lubricating oils containing VOCs and semi-VOCs.

Aerially deposited lead and railroad-related contamination are RECs. These RECs are a moderate risk, as they are likely to be present within the construction footprint for the Build Alternative but are generally confined to very shallow soil (top 1 to 2 feet) and can be easily removed and disposed of with other contaminated soil in areas where soil contamination from other sources is present.

Many parcels along the Project footprint are within a Methane Zone or Methane Buffer Zone around oil fields, as defined by the Los Angeles Bureau of Engineering. These areas are located predominantly, although not exclusively, south of US-101 to the southern extent of the Run-Through Segment between North Alameda and the Los Angeles River (City of Los Angeles 2004). The presence of naturally occurring methane is not a REC by definition, but it is possible it could pose some concern to the existing concourse and proposed expanded passageway, making the incorporation of methane barriers a design consideration for the Build Alternative.

Naturally occurring oil seeps are also found within the Project study area, in particular, at the lowest level of the parking garage at Metro Headquarters. Although the potential to encounter natural seeps exists, it is not a REC by definition. Should construction activities encounter soil

contaminated by these seeps, the soil would need to be disposed of as petroleum-contaminated waste.

## 5.1 Land Use Restrictions

HDR identified the following sites in the Envirostor and Geotracker database searches with land use restrictions that are located within or adjacent to the Project footprint. See Figure 3-1.

- Southern California Regional Rail Authority (Metrolink) Track Extension – 710 to 720 Keller Street, Assessor's Parcel Number (APN): 5409-021-902 (No. 39).
  - Metrolink currently uses the Keller Yard for storage and the Build Alternative will impact the tracks in this area. Excavation, track work, and related grading under the US-101 and El Monte Busway overcrossing is likely.
  - PAHs and TPH were identified as contaminants of concern in soil.
- SoCalGas/Aliso Street MGP site, Sector C, Block L/Ironworks Collective Inc. – 718 to 728 Commercial Street, APN: 5173-017-008 (No. 28).
  - An overhead rail structure would extend over this property. This construction may require excavation down to competent geologic material and installation of deep shaft pilings.
  - PAHs and lead were identified as contaminants of concern in soil; 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, benzene, ethylbenzene, naphthalene, toluene, and MTBE were identified as contaminants of concern in groundwater.
- A&H Greenfield Sheet Metal/Viertel's Tow Yard/Police Impound Garage – 830 Commercial Street (No. 31) and SoCalGas/Aliso Street MGP, Towwerks LLC/Viertel's Tow Yard – 500 Center Street, (No. 12) APN: 5173-020-010.
  - An overhead rail structure would extend over this property. This construction may require excavation down to competent geologic material and installation of deep shaft pilings.
  - Carcinogenic PAHs, including benzo-a-pyrene and naphthalene, benzene, and TPH, were identified as contaminants of concern in soil.
- SoCalGas/Aliso Street MGP Sector C, Tosco Refining, Unocal Center Street Terminal, Conoco Phillips – 501 Center Street, APNs: 5173-021-903, 5173-021-905, 5173-021-906 (No. 14).
  - In addition to being the location of the planned Metro Emergency and Security Operations Center building, this property may be impacted by an elevated rail structure, which will extend over the northeast corner. A support column may be installed in this corner.
  - VOCs, including benzene and xylene, and PAHs, including naphthalene, were identified as contaminants of concern in soil. VOCs, including benzene and PCE, were identified as contaminants of concern in soil vapor.

- SoCalGas/Aliso Street MGP, Sector A/Denny's Parcel/Caltrans/ Metro Union Station/ Patsaouras Plaza El Monte Busway Station Project – 530 Ramirez Street, APN: 5409-022-905 (No. 18).
  - This parcel is not currently proposed for ground disturbance and would be used for staging purposes.
  - PAHs were identified as contaminants of concern in soil and groundwater.
- William Mead Homes – 1300 Cardinal Street, APNs: 5409-012-902, 5409-012-903.
  - The southern edge of the southern parcel (5409-012-903) would be impacted by the Build Alternative to support construction of a retaining wall/sound wall.
  - Lead, PAHs, PCE, and 1,1,1-TCA were identified as contaminants of concern in soil.
- Metro CMF, MTA Building 6 – 490 and 496 Bauchet Street, APNs: 5409-019-906, 5409-019-907.
  - These parcels are not currently impacted by the Build Alternative.
  - PCE and naphthalene were identified as contaminants of concern in soil. Benzene, MTBE, PCE, TCA, and vinyl chloride were identified as contaminants of concern in groundwater.

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# 6.0 2020 Site Reconnaissance

On October 20, 2020, HDR environmental professional Andrew Cherene conducted a site reconnaissance of the Project study area and surrounding properties to update the findings of the 2016 Phase I ESA. The site reconnaissance was completed from the public ROW, accessed on foot and by vehicle. No private property access was provided. Photographs taken during the site reconnaissance are provided in Appendix A.

Overhead electrical lines, including transformers, were present throughout the Project study area. The surrounding area was fully developed with commercial, industrial, residential, and institutional buildings and facilities. Surface oil staining was present on railroad ballast within the railroad ROW. Groundwater monitoring wells were located throughout the Project study area, many of which were probably associated with the Southern California Gas Company/Aliso Street MGP site groundwater monitoring program. A description of the site reconnaissance by Project segment is discussed below.

The following were not observed within visible areas along the Project footprint(s): odors, pools of liquid, unidentified substance containers, pits, ponds, lagoons, stressed vegetation, solid waste (other than *de minimis* litter), or wastewater.

## 6.1 Throat Segment

The Throat Segment includes the northern extent of the Project footprint, rail bridges over the Los Angeles River, and properties adjacent to the railroad ROW. Main Street and the Los Angeles Department of Water and Power facility, yard, and substation were located to the north. California Drop Forge and an undeveloped property under construction were located to the west. The Los Angeles River with the Union Pacific rail yard and intermodal facility were located to the east. The Los Angeles County Sheriff and Twin Towers Correctional Facility were located to the south. Several areas of the Throat Segment were not accessible during the reconnaissance because of the size of the adjacent facilities. The area of the William Mead residences and playground were accessible and consisted of two-story residential buildings, paved areas, open grass, and play structures. Several groundwater monitoring wells were located within the Throat Segment. Some of the parcels on the eastern side of the segment are associated with the former Southern California Gas Company/Aliso Street MGP. The Union Pacific intermodal facility was located to the east, across the river and two railroad ROWs.

Significant changes since the 2016 Phase I ESA include new construction west of the intersection of Main Street and College Street and construction on the vacant lot south of the California Drop Forge site, located at 1033 Alhambra Avenue. The former location of a large pile of construction demolition waste, north of the intersegment of Mission Road and Cesar Chavez Avenue, had been removed and the site graded flat. Other facilities, buildings, and operations were the same or substantially similar to those reported in the 2016 Phase I ESA.

## 6.2 Concourse Segment

The Concourse Segment includes the historic LAUS buildings, LAUS passenger platforms, underground walkways, and railroad ROW. US-101 and the El Monte Busway were located to the south. North Alameda Street and Olvera Street were located to the west. The railroad ROW where the tracks converge into five sets (the Throat Segment), extending to North Vignes Street, was located to the north. The C. Erwin Piper Technical Center and Los Angeles Police Air Support Division were located to the east. Surface oil stains were present within the railroad tracks on the ballast material. Railroad communication equipment and equipment boxes were present throughout the area.

Significant changes since the 2016 Phase I ESA include additional progress on the construction of Patsaouras Plaza, adjacent to One Gateway Plaza, and the El Monte Busway, adjacent to the Denny's on Vignes and Ramirez, although neither project has been completed. No other significant changes to land use or environmental conditions were present in the Concourse Segment.

## 6.3 Run-Through Segment

The Run-Through Segment includes US-101 between Alameda Street and the Los Angeles River, parcels on the north and south sides of Commercial Street, mainline tracks located along the western bank of the river, and siding/storage tracks associated with the Metro Division 20 Yard and BNSF Yard. The main line tracks along the Los Angeles River extend south of Olympic Boulevard. The LA River, with a rail yard and industrial properties beyond, were located to the east. Industrial and commercial warehouse operations were located to the west and south, including several recycling facilities. The Concourse and Throat Segments and adjacent properties were located to the north.

On the north side of East Commercial Street, the properties adjacent to the southbound US-101 ramps remained undeveloped. Some construction equipment was still staged at the laydown yard used by Metro's Regional Connector Construction Project, located northwest of the intersection of Commercial and Center Streets. A new Los Angeles Department of Transportation charging facility for electric busses had been constructed on the southwestern corner of East Commercial and North Garey Streets. The former Viertel's Tow Yard site, located on the southeastern corner of Center and East Commercial Streets, was under construction for Metro's Division 20 Portal Widening Project.

Buildings associated with all the properties on the eastern side of Center Street, between East Commercial and 1st Streets, had been demolished, including the former National Cold Storage Company building. Grading and excavation of the sites was ongoing. The dead-end segments of Ducommun Street, Jackson Street, Temple Street, and Banning Street, all east of Center Street, had been vacated for the construction of Metro's Emergency and Security Operations Center and Division 20 Yard Expansion projects. A sign on the fence around the projects indicated that site soils contained metals, petroleum, polynuclear aromatic hydrocarbons, and VOCs.

Several properties on 6th Street had been demolished and a new bridge was under construction adjacent to the electrical substation on 6th Street and Santa Fe Avenue. Construction activities were underway on both sides of the Los Angeles River.

The remainder of the Run-Through Segment remained substantially similar to what was reported in the 2016 Phase I ESA.

## 6.4 Utilities and Polychlorinated Biphenyls

Underground and overhead utilities were present throughout the Project footprint and study area. A substantial utility network has been in place in downtown Los Angeles for over a hundred years. Pole-mounted and pad-mounted transformers were present throughout the Project study area, and it is possible that polychlorinated biphenyls-containing transformers were present. Several pole-mounted transformers looked older, with some rust, but no indications of leaks were present. The Los Angeles Department of Power and Water has a test-and-replace policy for polychlorinated biphenyls transformers, and electrical equipment would be replaced with non-polychlorinated biphenyls transformers. The Department has a large facility located adjacent to the Throat Segment, where many transformers are stored, including retired equipment prior to disposal. The EDR report and agency reviews did not indicate any transformer-fire related listings, however, storage of old transformers could have resulted in releases of PCB-contaminated transformer oil to the ground surface. There is not enough information on this facility to determine whether its use for transformer storage is a REC. Because Project construction activities would not impact this property, it does not pose a risk.

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# 7.0 Conclusions

Since the preparation of the Phase I ESA to support the Project in 2016, a better understanding of the proposed infrastructure associated with the Build Alternative allowed the environmental conditions in the Project study area to be reevaluated. As part of the process, some conditions previously determined to be RECs or a high risk could be eliminated from further consideration, and no sites with new environmental conditions occurring after 2016 were identified as RECs within the Project footprint for the Build Alternative.

All sectors of the former Southern California Gas Company/Aliso Street MGP site (A through E) are partially within or bordering the Throat, Concourse, and Run-Through Segments of the Project study area. This site has documented contamination affecting surface soil, subsurface soil, and soil vapor to depths up to 26 feet bgs. A groundwater contaminant plume from this site is also being monitored regularly under Department of Toxic Substances Control oversight. The former MGP site represents the greatest risk to the Build Alternative because of its large horizontal and vertical extent and a considerable probability that previously unknown areas of contamination could be encountered during construction. For the most part, this risk can be managed by conducting field investigations and careful planning prior to construction. Of greatest concern would be the potential to encounter gas plant wastes or free product on the water table or in unsaturated soil.

Specific sites identified as high risk to the Build Alternative are:

#12. Southern California Gas Company/Aliso Street MGP/Towwerks LLC/Viertel's Tow Yard. 500 Center Street

#13. S&P/Caltrans. 501 and 531 East Commercial Street, 516 Aliso Street (historic address)

#26. Metro 703 East Commercial Street

#31. A&H Greenfield Sheet Metal/Viertel's Tow Yard/Police Impound Garage. 830 East Commercial Street

#33. Metro Temporary Storage Facility. 840 East Commercial Street

#41. Southern California Gas Company/Aliso Street MGP Sector C, Block G. Northwest corner of East Commercial and Center Streets (same as #26)

Of lesser concern are documented environmental conditions, such as petroleum-contaminated soil within LAUS, aerially deposited lead common to surface soil along roadways, and the possibility of encountering methane in the Run-Through Segment. Such conditions are typically encountered during construction in urban areas and can be managed by proper personnel training, soil handling, and disposal practices.

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# 8.0 Recommendations

As a result of the analysis presented in this technical memorandum, the following recommendations should be implemented to mitigate hazardous waste risks.

1. **Prepare Safety and Management Plans.** Plans for investigative work should include a Hazardous Materials Management Plan, a General Construction Soil Management Plan with parcel-specific plans as necessary, and a Health and Safety Plan.
2. **Conduct a Project-wide Phase II ESA.** A sampling and analysis program should be conducted to confirm the presence of contaminated soil and groundwater within the Project footprint. The sampling plan should be based upon anticipated depths of disturbance in the various segments of the proposed action. Laboratory analysis should be tailored to match the contaminants of concern that are either documented to be or likely to be present in each area.
3. **Halt Construction Work if Potentially Hazardous Material/Abandoned Oil Wells are Encountered.** Construction contractors should follow all applicable local, state, and federal regulations regarding discovery, notification, response, disposal, and remediation for hazardous materials or abandoned oil wells encountered during the construction process.
4. **Comply with City of Los Angeles Methane Regulations.** Habitable structures that would be built within a Methane Zone or Methane Buffer Zone should comply with the methane intrusion ordinances set forth by the City of Los Angeles. The ordinances (175790 and 180619) require evaluation of methane hazards and mitigation if a hazard exists.
5. **Investigate Structures Prior to Demolition.** Surveys for lead-based paint and asbestos-containing construction materials should be conducted prior to the demolition of any structures that may contain such materials. Other materials that fall under universal waste requirements should also be quantified, segregated, and disposed of properly during demolition.

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# Appendix A:
# Site Photographs

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**Photo 1.** Mission tower was visible from Bolero Lane in the Throat Segment. This area was adjacent to the William Mead Homes development and the Los Angeles Department of Water and Power storage facility and yard. The view is to the south.

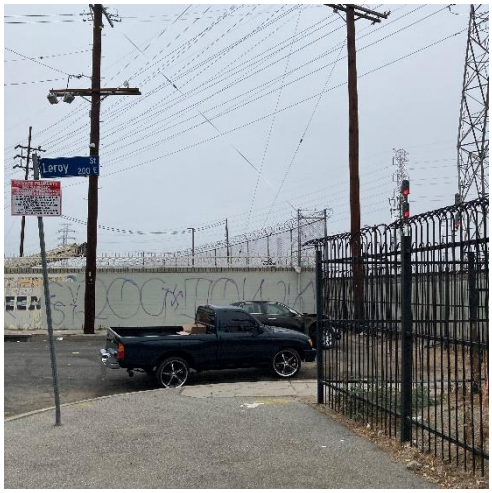


**Photo 2.** The Los Angeles Department of Water and Power facility was surrounded by a block wall, and their transformer storage area was located near the intersection of Leroy Street and Bolero Lane. The view is to the northeast.


**Photo 3.** The entrance to the Los Angeles Department of Water and Power facility was located on Main Street. A substation was also located at the northern end of the site, near the Main Street Bridge. The view is to the southeast.

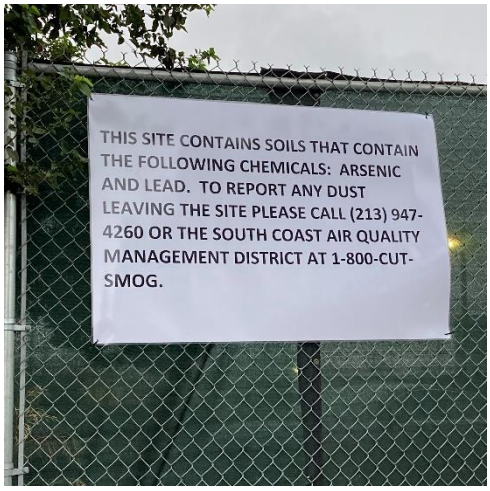


**Photo 4.** The vacant property located on Alhambra Avenue and Vignes Street with heavy staining on the pavement was surrounded by construction fencing. Construction crews were on site, and the concrete pavement had been broken and stockpiled. An Air Quality Management District notification sign was on the fence.


**Photo 5.** The Keller Yard, located on Keller Street in the Run-Through Track Segment, was used for storage and maintenance of Metrolink trains. The view is to the south.

**Photo 6.** The Los Angeles Police Air Support Division building was also located on Keller Street, across from the Keller Yard. The view is to the southwest.

**Photo 7.** Multiple groundwater monitoring wells were located in Keller Street and throughout the Project Area. Many of them were associated with the ongoing monitoring of the former Aliso Street MGP The view is to the southwest.

**Photo 8.** The property located on the south side of Commercial Street, at its eastern end, near the Metro Division 20 access road, was being used as a laydown yard and storage area. The view is to the south.

**Photo 9.** The former Viertel's Tow Yard site, located on the southeastern corner of Center Street and Commercial Street, was under construction for the Metro Division 20 Portal Widening Project. The view is to the southwest.

**Photo 10.** This property on the northwestern corner of Commercial Street and Center Street was previously used as a laydown yard for the Metro Regional Connector Project. Some equipment was left on site, but the site was not being actively used. The view is to the northeast.

**Photo 11.** Some large diameter pipe sections were left on the Regional Connector laydown yard. The view is to the northeast.

**Photo 12.** Some piles of demolition debris, primarily asphalt and concrete were located near the on-ramp to US-101 from Commercial Street. The view is to the west.

**Photo 13.** A new Los Angeles Department of Transportation facility for the charging of electric vehicles and busses had been constructed on the southwestern corner of Commercial Street and Garey Street. The view is to the southwest.

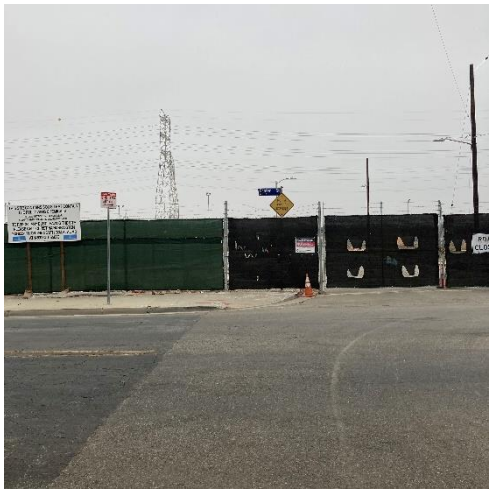

**Photo 14.** The eastern side of Center Street, south of Commercial Street had been vacated and demolished. Excavation and grading activities were ongoing. The Air Quality Management District notification sign indicated that site soil contained metals, petroleum, polynuclear aromatic hydrocarbons, and volatile organics. The view is to the east.

**Photo 15.** The dead-end eastern extents of Ducommun, Jackson, Temple, and Banning Streets had been vacated as part of the construction for Metro's Emergency Security Operations Center and Division 20 Portal Widening Projects. The former National Cold Storage site was among the properties demolished. The view is to the northeast.

**Photo 16.** The Metro Division 20 facility was located on Santa Fe Avenue and 4th Street. The view is to the east.

**Photo 17.** Train maintenance activities occurred within the closed shop building. The view is to the north.

**Photo 18.** Bridge construction was underway at 6th Street and Santa Fe Avenue. The view is to the east.

**Photo 19.** An electrical substation was located adjacent to the 6th Street bridge construction. The view is to the southeast.

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