

4.4 HAZARDS AND PUBLIC SAFETY

4.4.1 Introduction

This section describes the potential adverse effects on human health and the environment due to exposure to hazards that could result from implementation of the McKinley Village Project (proposed project). Hazards evaluated include those associated with hazardous materials including potential exposure to hazardous materials used, generated, stored, or transported in or adjacent to the project site; and existing identified or suspected soil and/or groundwater contamination. Public safety hazards addressed include the project's proximity to the Union Pacific Railroad (UPRR) tracks, the Capital City Freeway, and emergency access. Included in the discussion is a summary of applicable hazardous materials laws, regulations, and agencies responsible for their implementation. Potential hazards and associated impacts related to toxic air contaminant (TAC) emissions, including emissions from proximity to the Capital City Freeway and trains adjacent to the project site, are discussed in Section 4.1, Air Quality and Climate Change, of this Draft EIR, and in the Health Risk Assessment (see Appendix C). Potential hazards associated with an increase in traffic volumes in and around the project site are addressed in Section 4.9, Transportation and Circulation. Public safety during a regional flood event and evacuation of the site in the event of a flood are addressed in Section 4.5, Hydrology, Water Quality and Drainage.

Comments received in response to the Notice of Preparation (NOP) include concerns associated with potential hazards due to past agricultural uses on site and the City of Sacramento's closed 28th Street Landfill (former 28th Street Landfill) located across the Capital City Freeway to the north of the project site, as well as potential hazards associated with construction and operation of the proposed project. This includes potential safety hazards due to proximity to the UPRR tracks and the potential for a train derailment; proximity to the freeway; and the potential for trains to block vehicles at the at-grade railroad crossing at 28th Street in the event of an emergency evacuation. Concerns associated with the prior use of hazardous materials on the site as well as any new uses that involve hazardous materials are addressed in this section. A comment letter from the Sacramento–Yolo Mosquito and Vector Control District indicated a concern regarding the detention basins and the potential for an increase in mosquitoes due to the presence of standing water. A copy of the NOP and the comment letters received is included in Appendix A. The results of the Environmental Database search, letters from the City on the results of methane gas monitoring, the soils report, and results of the aerial lead deposits are included in Appendix L.

Sources reviewed to prepare this section include a Phase I Environmental Site Assessment (Phase 1 ESA) and its appendices (collectively included as Appendix H), monitoring reports for the former 28th Street Landfill, and a current search of available environmental records conducted by Environmental Data Resources (EDR) Inc. (included in Appendix L). The

database search identified facilities within a 1-mile study area of the site that are known to have environmental concerns or are listed as a facility with permits to generate, handle, store, or dispose of hazardous materials.

4.4.2 Environmental Setting

A description of the project site and the existing environmental setting is included below. The approximately 48.75-acre project site is currently undeveloped and contains four freestanding billboards and overhead utility lines and poles, along with groundwater wells and methane gas probes.

Site Description and History

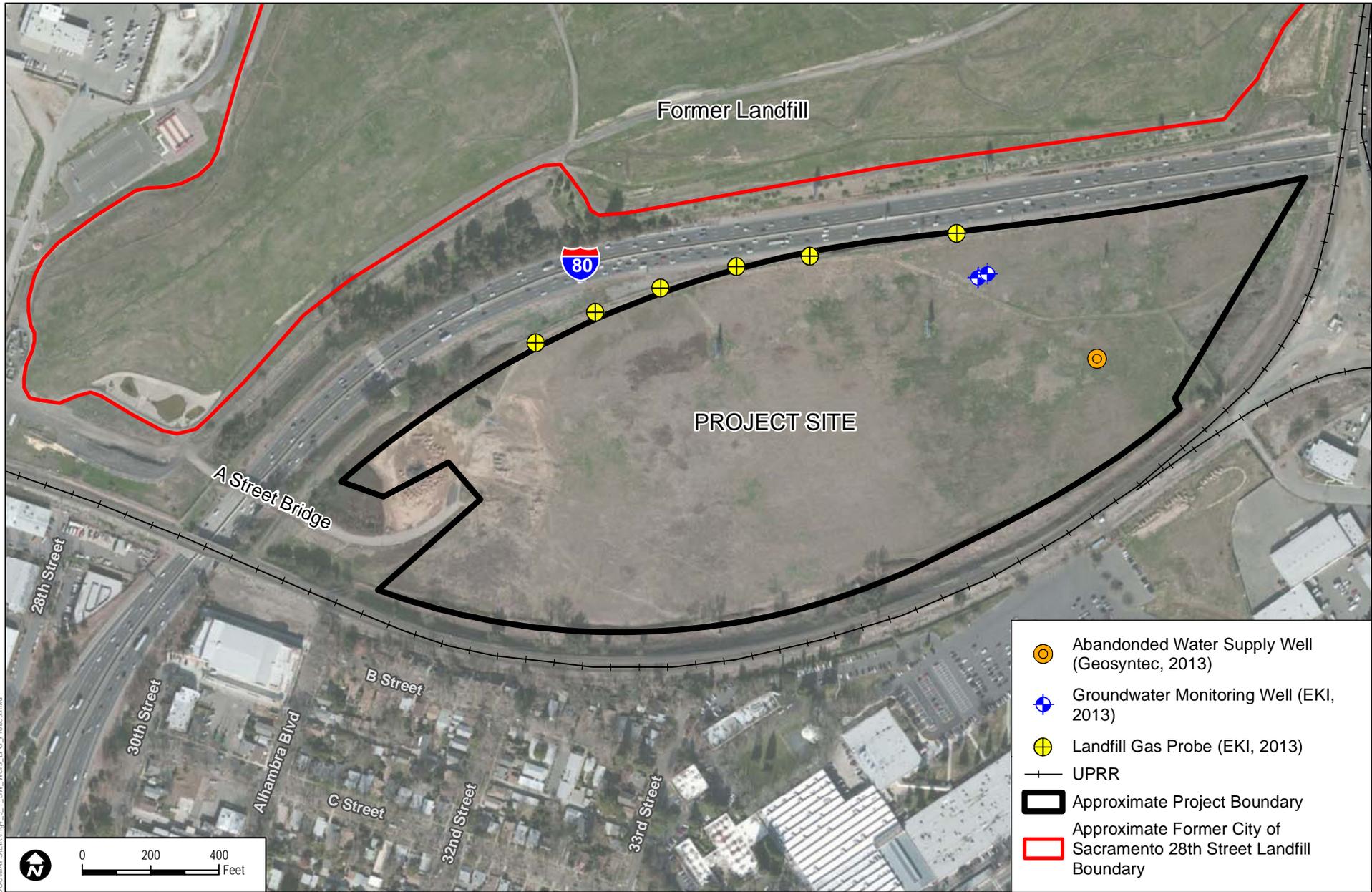
The project site consists of 48.75 acres of vacant land and is located south and east of Interstate 80 (Capital City Freeway) and north and west of the UPRR tracks in the City of Sacramento (City), as shown in Figure 2-2, Site Location, in Chapter 2, Project Description. Two groundwater monitoring wells and six soil gas probes are located along the northern portion of the project site and are used in conjunction with post-closure monitoring of the former 28th Street Landfill located to the north of the Capital City Freeway, as shown in Figure 4.4.1, Groundwater Wells and Landfill Gas Probes. In addition, there are four freestanding billboards and overhead utility lines and an abandoned groundwater well present on the site.

Surrounding land uses include the former 28th Street Landfill to the north across the Capital City Freeway (the former landfill site has been designated as a regional park – Sutter's Landing Regional Park), and residential uses to the south, west, and east. The Cannery Business Park and light industrial uses are also located south of the site. Surrounding land uses are shown on Figure 3-1 in Chapter 3, Land Use, Population, and Housing. Theodore Judah Elementary School is located approximately 0.3 mile south of the site, and the Sacramento Executive Airport is located approximately 4.5 miles southwest of the site.

The project site is located in an urban area and is not near forested areas that may pose a wildland fire threat.

The project site is physically separated from adjacent areas to the south, and east by an elevated portion of the UPRR tracks and on the west and north by the Capital City Freeway.

General topographic information for the site and surrounding area was obtained from a review of U.S. Geological Survey topographic map for Sacramento East, California in the Environmental Data Resources (EDR) report (included in Appendix L). The site is relatively flat terrain with elevations ranging between 14 and 27 feet above mean sea level (Wood Rodgers 2013a). The American River is located approximately 0.25 mile east and 0.4 mile north of the site.



-  Abandoned Water Supply Well (Geosyntec, 2013)
-  Groundwater Monitoring Well (EKI, 2013)
-  Landfill Gas Probe (EKI, 2013)
-  UPRR
-  Approximate Project Boundary
-  Approximate Former City of Sacramento 28th Street Landfill Boundary

SOURCE: EKI 2013, ESRI, Geosyntec 2013

FIGURE 4.4-1

Groundwater Wells and Landfill Gas Probes

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Based on a review of historical aerial photographs, a majority of the site was previously used for agricultural activities from at least 1937 through 2006. Four farm-related structures were located on the southeastern portion of the site from at least 1937 until at least 1952.

By 1961, the farm-related structures were no longer present on the site. The Capital City Freeway is visible north of the site, and three billboards were located along the northern portion of the site in a 1961 aerial photograph.

In a 2009 aerial photograph, agricultural land is no longer visible on the site. Since at least 2009, the site has consisted of vacant land with four billboards and overhead utility lines and poles.

The Pipeline and Hazardous Materials Safety Administration (PHMSA) National Pipeline Mapping System was accessed on July 22, 2013, to determine whether hazardous materials underground pipelines are present at the site. A hazardous liquid pipeline is located approximately 0.17 mile west and north of the site. A gas transmission pipeline is located approximately 0.91 mile south of the site. No hazardous liquid or gas transmission pipelines are known to be located on or adjacent to the project site (PHMSA 2013).

Adjacent Land Uses

Former 28th Street Landfill

The former 28th Street Landfill is located approximately 250 feet north of the site (immediately north of the Capital City Freeway). The 172-acre Class III landfill accepted nonhazardous residential, commercial, and industrial wastes and operated between 1963 until 1994 (CVRWQCB 2004). The landfill was capped and closed in 1997. Twenty-two acres of the 172-acre facility (Waste Management Unit [WMU] B, located immediately north of the freeway) is lined with a clay liner and a leachate collection system. The remainder of the landfill is unlined.

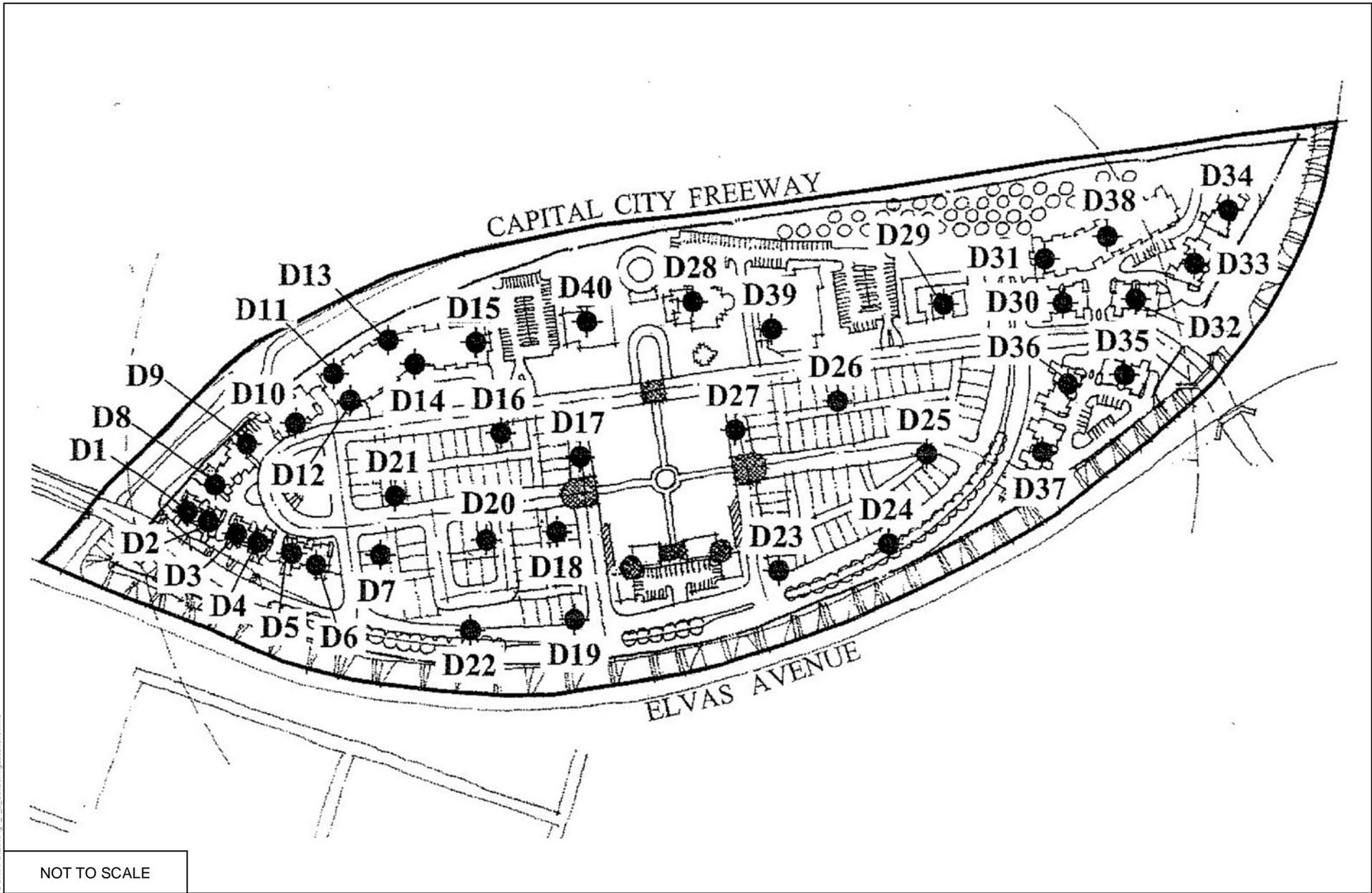
There is no evidence that the project site, including the proposed A Street connection, was used for municipal solid waste disposal purposes or that it was ever a part of the former 28th Street Landfill. A geotechnical report prepared for the site included a site reconnaissance and a subsurface investigation, including forty soil borings collected to depths of 12 to 21.5 feet below ground surface (WKA 2006), as shown in Figure 4.4-2, Soil Boring Location Map. The report describes the composition of the native soil exposed by the soil borings and does not mention the detection of any solid waste. The report also includes a review of the project site's history, including a review of historical photos from 1902 through 2006 and topological figures. The historical review identifies that the site was used for agricultural purposes including an orchard, and there is no mention of any incursion of the former 28th Street Landfill on the site. The geotechnical report did not find anything that indicated the 28th Street Landfill came onto the site. The project site has been physically separated from the former

28th Street Landfill site by the Elvas Freeway since the early 1950s (which subsequently became Business 80/Capital City Freeway) before the 28th Street Landfill came into operation. Based on a review of soil borings taken in 2006 throughout the project site by Wallace Kuhl, there is no evidence that the 28th Street Landfill extended south of the Capital City Freeway (see letter from Wallace Kuhl in Appendix L).

The Phase I ESA (Geosyntec 2013, see Appendix H) also reviewed the site's history through an analysis of photographic and other documentary evidence (e.g., Sanborn Fire Insurance maps, municipal and agency permits). Like the geotechnical report, the Phase I ESA did not identify that the site was used for the disposal of solid waste. Therefore, there is no indication from the photographs or any other documentation that the project site was ever used for solid waste disposal purposes.

Distressed vegetation was noted along the northern boundary of the landfill near the American River in 1987 due to migration of landfill gas (CVRWQCB 2004). To mitigate the potential migration of landfill gas from the Landfill, a passive landfill gas collection trench and an active landfill gas collection system (100 interior extraction wells and 66 perimeter extraction wells) were installed at the Landfill. To ensure proper operation of the landfill gas mitigation system 48 landfill gas monitoring probes were located on the former 28th Street Landfill. Six additional probes (the "Lennane" soil gas probes) are also located along the perimeter of the project site (see Figure 4.4-1). Methane is monitored in the field by the City on a monthly basis with a hand-held landfill gas meter. The wells and probes are included as part of the landfill's monitoring network and are monitored by the City as part of its post-closure requirements. Based on the most recent data, the perimeter probes on the landfill site contained less than 5% methane.

The Landfill was capped and was certified closed in 1997. As part of the post-closure plan, the City of Sacramento is required to monitor the landfill for a minimum of 30 years following closure or until there is no more potential for off-site migration (City of Sacramento 1991). In accordance with the Central Valley Regional Water Quality Control Board (CVRWQCB) Order No. R5-2004-0039 (and previously Order No. 96-268), the City of Sacramento has been monitoring the landfill gas, leachate, groundwater, and surface water since 1997. Per the approved Final Closure and Post Closure Plan, the City is required to maintain the landfill facilities, including the landfill gas collection system and the gas and groundwater monitoring system. Additionally, per the CVRWQCB Order No. R5-2004-0039, the City is required to maintain the landfill control and monitoring systems in good working order.



NOT TO SCALE

SOURCE: Wallace-Kuhl & Associates 2006

FIGURE 4.4-2

Soil Boring Location Map

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Landfill post-closure monitoring and maintenance includes groundwater monitoring via 19 wells, landfill gas extraction via 100 interior extraction wells and 66 perimeter extraction wells, and landfill gas monitoring via the 48 landfill gas monitoring probes. None of the extraction wells are located on the project site. The leachate collection and recovery system under WMU B collects leachate and directs it to a leachate sump. As of July 2012, very little liquid has been collected in the sump, and there has been no need to pump or discharge the small amount of liquid collected in the sump (City of Sacramento 2012).

The two landfill groundwater monitoring wells (C11S and C11D) located in the north central portion of the project site are monitored on a semi-annual basis for organic and inorganic compounds. Volatile organic compounds (VOCs) have been detected at concentrations below their respective maximum contaminant level (MCL) in groundwater samples since 2007 (EKI 2013a). Vinyl chloride was detected greater than its maximum contaminant level of 0.5 micrograms per liter ($\mu\text{g/L}$) in well C11S in groundwater samples at concentrations ranging between 0.52 $\mu\text{g/L}$ and 0.94 $\mu\text{g/L}$ between 1998 and 2005. However, vinyl chloride has not been detected at levels greater than the reporting limit of 0.5 $\mu\text{g/L}$ since 2006. As shown in Table 4.4-1, the inorganic compound concentrations (such as total dissolved solids (TDS), chloride, and sulfate) in the wells appear stable (EKI 2013a). Recent TDS concentrations were 400 milligrams per liter (mg/L) to 450 mg/L, which is less than the secondary maximum contaminant level for drinking water of 500 mg/L (EKI, 2013a). Figure 4.4-1 shows the location of the groundwater monitoring wells.

Table 4.4-1
VOC in Groundwater Monitoring Well C11S 2007 - 2012

Well	Date	Compound	Detection	MCL/NL	VI ESL
C11S	5/22/07	MTBE	0.33 ug/L	13 ug/L	9.900 ug/L
	5/22/07	TBA	7.2 ug/L	12 ug/L	NV
	6/14/12	Cis-1,2-DCE	0.18J ug/L	6 ug/L	NV

Source: EKI 2013 (see Appendix K)

The six landfill gas probes (Lennane-1 through -4, -7, and -8) located along the northern portion of the project site are also monitored for methane on a monthly basis (see Figure 4.4-1). Methane concentrations detected in the on-site probes have ranged between 0.0% and 0.4% since 2007 (EKI 2013a). Functionally, landfill probe data and Lennane probe data in which the methane concentrations are reported to be 0.4% or less, are equivalent to “non-detects” at the level reported (EKI 2013a). Methane concentrations at the boundary of the 28th Street Landfill and on the project site are substantially less than 5% by volume in air (SCS Engineers 2013). Therefore, the concentrations are substantially less than the lower explosive limit (LEL) of methane of 50,000 parts per million by volume (ppmv) or 5%.

The former landfill was inspected on July 11, 2013, by the County of Sacramento, which is the Local Enforcement Agency (LEA) certified by the California Department of Resources Recycling and Recovery (CalRecycle) (CalRecycle 2013a). No violations were noted as part of the inspection and no areas of concern were noted with respect to the project site.

Areas of concern identified by the LEA that were located on the former 28th Street Landfill, which is not within the project site boundary, included several open landfill gas probes with unsecured housing lids and exposed tubing with damaged valves, security fence breaches, and the presence of trash and debris. In Note 5 of the inspection report comments, the LEA expresses concern regarding the proposed improvements to A Street connecting the project site to 28th Street. The improvements would pass through the western portion of the former 28th Street Landfill. Although the LEA inspection report acknowledges that the existing road connecting the A Street bridge and 28th Street does not extend over landfill waste, based upon statements made to the LEA inspector by City of Sacramento landfill staff, the inspection note also states that pockets of waste may exist on either side of the road. The inspection report also emphasizes the need to maintain landfill security, traffic flow and for landfill staff to maintain unimpeded access to landfill monitoring equipment on the project site. As part of the project off-site improvements, environmental and geotechnical sampling will be conducted, and any required action, as described in the project description, will be undertaken under the jurisdiction of the LEA and perhaps the CVRWQCB.

The LEA conducted a focused inspection of the former 28th Street Landfill including sampling a soil gas probe at the project site on July 26, 2013 (CalRecycle 2013b). The LEA observed City landfill staff monitor gas concentrations in Probe Lennane-7, located on the project site. The LEA also used its own gas monitoring device to check the methane concentration in Probe Lennane-7. Both the City and the LEA recorded a methane concentration of 0.0% for Probe Lennane-7.

Aerially Deposited Lead from Interstate 80/State Route 51

One hundred-and-eighty-three soil samples were collected at forty discrete locations from the median along State Route 51 (Interstate 80/Capital City Freeway) at post mile 1.07 to 3.68, which includes the segment of the Capital City Freeway adjacent to the project site (Geocon 2007). Statistical analysis performed on the ten surface samples collected at unpaved median strip locations reveals a total lead mean concentration of 570 mg/kg and a median concentration of 369 mg/kg (Calculation performed on specified samples within Table 1, Geocon 2007). These concentrations are in excess of the residential California Human Health Screening Levels (CHHSLs) of 80 mg/kg, established by the California Department of Toxics Substances Control. At depth of 0.5 feet below ground surface statistical analysis reveals a total lead mean concentration of 29.6 mg/kg and a median concentration of 13.7 mg/kg, which are below

residential CHHSLs. (Calculation performed on specified samples within Table 1, Geocon 2007). As described below, a project site soils investigation undertaken by the project proponent's environmental consultant revealed no concentration of lead in excess of the residential CHHSL (LFR 2007). As discussed more fully below, the Phase I ESA concluded that there was no indication of lead impacts from the adjacent freeway.

Union Pacific Railroad

Based on review of historical topographic maps, the UPRR has been present south and east of the site since at least 1891. The UPRR tracks adjacent to the southern boundary of the project site are located on an elevated berm that ranges in height from between 18 feet to 30 feet above the existing site elevation. Daily train operations adjacent to the southern boundary of the site observed over a 6 day period in August 2013, consists of approximately 8 passenger trains and 15 freight trains for a total of 23 operations that run on a 24-hour basis (Bollard Acoustical Consultants 2013). During the busiest day there were 22 freight trains and 8 passenger trains, for a total of 30 operations. The average speed of the trains crossing at 28th Street is between 5 and 35 miles per hour (FRA 2013). However, the trains slow when passing by the site to between 20 to 25 miles per hour due to the curves. Based on review of the EDR report (included in Appendix L), no releases of hazardous materials have been reported on the UPRR tracks adjacent to the site.

Previous Site Investigations

The Phase I ESA (Appendix H) and soil and groundwater monitoring reports (Appendix K) as well as the results of the hazardous materials database research, soils report, aerial lead deposit report, and letters from the City with the results of the gas probes (Appendix L) are included in the appendices to the EIR.

2013 Phase I Environmental Site Assessment

A Phase I ESA (see Appendix H) was prepared in accordance with American Society for Testing and Materials (ASTM) Standard E-1527-05 in 2013 by Geosyntec. The Phase I ESA indicates that the project site was used for agricultural purposes from 1937 until 2006. Four farmhouse out buildings were located in the southeastern portion of the project site between 1937 and 1961. The Phase I ESA indicated the potential for asbestos to be present in shallow soils due to the former presence of buildings on the site. However, as no construction debris was identified, it is unlikely that asbestos would be present in site soils. No evidence of the presence of underground storage tanks (USTs) was identified in the Phase I ESA. Two groundwater wells, six soil gas probes, and one abandoned water supply well (intact but inactive) were observed on the site, as discussed earlier.

The adjoining properties include the former 28th Street Landfill, located north of the site and north of the freeway. Impacted groundwater and soil gas on the project site associated with the 28th Street Landfill was listed as a recognized environmental condition (REC). Geosyntec indicated that VOCs have been detected in groundwater on the project site at concentrations less than their respected environmental screening levels and CHHSLs. In addition, Geosyntec noted that methane concentrations in on-site gas probes have been recently measured at non-detect levels at 32 times lower than the lower explosive limit (LEL) for methane (5%).

Although VOCs in groundwater and methane in soil gas have been detected on the site and along the southern boundary of the landfill, Geosyntec, concurred with the findings of the EKI 2013 Reports referenced above, which found that these conditions do not “represent a limitation to residential development” as long as the landfill is maintained by the City in accordance with local, state, and federal requirements to control and monitor groundwater and methane (see Appendix K).

Based on review of Sanborn Fire Insurance maps and City Directory listings, historical adjoining properties (south of the site and south of the UPRR) included a dairy as early as 1915, the American Canning Company by 1951, the Aerojet Division of General Tires and Rubber Company (vacant building) as of 1964, commercial offices, and the American Chemical Company in 1991.

The Phase I ESA included a summary of the following prior investigations: a 2006 Phase I ESA, a 2007 Phase I ESA, a 2007 Phase II ESA, a 2007 Tier 1 Human Health Risk Assessment (HHRA), letters dated 2007 and 2013 from the City of Sacramento, a 2013 soil stockpile sampling report, a 2013 soil sampling report, a 2013 soil gas sampling report, and a 2013 report of groundwater and landfill gas monitoring data. The summary of these documents in the Phase I ESA indicated the following:

- 2006 Phase I ESA: Contaminated groundwater associated with the 28th Street Landfill was listed as a REC for the project site.
- 2007 Phase I ESA: This Phase I ESA noted the presence of an asbestos pipe section on the property, which was subsequently removed from the site. This Phase I ESA also indicated that four aboveground storage tanks (ASTs) were visible in the topographic maps; however, as noted in the 2013 Phase I ESA, these were actually small outbuildings associated with the farmland that have since been removed.

The Phase I ESA presented the results of shallow soil sampling throughout the project site for organochlorine pesticides (15 composite samples), as well as the collection of 4 soil samples for metals analysis to assess the potential impact of the former agricultural use on the site, including one sample on the project site proximate to Interstate 80, as

shown in Figure 4.4-3, Lead Concentrations. The concentrations of organochlorine pesticides (OCPs) were below laboratory reporting limits, and the concentrations of metals were below CHHSLs or background concentrations. The Phase I ESA concluded that there was no indication of lead impacts from the adjacent freeway. However, only four metals samples were collected over the approximately 48.75-acre site.

The Phase I ESA noted the following RECs: ASTs (not present [see Appendix H]) and groundwater, landfill gas, and other issues related to the adjoining landfill.

- 2007 Phase II ESA: Twenty-three soil gas samples were collected by EKI, the project proponent's consultant, from 5 to 7 feet below ground surface (bgs) at the project site. The concentrations of VOCs detected were less than the residential CHHSLs for VOCs with CHHSLs.. Methane was detected in only one sample which was at 6,400 ppmv. This sample was collected at location E-3, shown on Figure 4.4-4, Soil Gas Sampling Locations.
- 2007 HHRA: The HHRA evaluated the 2007 soil data from the 2007 Phase I ESA, the 2007 soil gas data from the 2007 Phase II ESA, and groundwater quality data from the City of Sacramento's 2006 landfill compliance groundwater monitoring. The conclusions of the HHRA were that residual concentrations at the site do not pose a health risk under a future residential scenario. The HHRA also concluded that "[t]he one detection [of methane of 6,400 ppmv] was below the methane lower explosive limit (53,000 ppmv) and, therefore, is unlikely to represent an explosive or health hazard."
- 2007 and 2013 City of Sacramento letters:

The October 29, 2007, letter from the City of Sacramento states:

The City has conducted an internal analysis of the data showing the trend analysis for the six gas probes on the McKinley Village property and the two groundwater wells, which we are attaching for your review. The analysis shows that all six methane gas probes consistently read less than 5% methane and are in compliance with regulatory requirements. They show the methane gas collection system is operating efficiently as designed. The bi-annual ground water monitoring shows the constituents found in the ground water wells are stable or dropping, not increasing. These two findings confirm our position that the landfill post closure mitigation measures are operating within regulatory requirements and the 28th Street Landfill is in compliance with state requirements.

Based on these findings we find no concern with respect to either: (1) the McKinley Village property and its planned development related to the current status and expected future operation and maintenance of the 28th

Street Landfill; or (2) the proposed McKinley Village development as it relates to the City's ability to operate and maintain the Landfill in compliance with State requirements.

The 2013 letter states that, "...the City's position outlined in our letter of October 29, 2007, has not changed." The City also stated that it would support the relocation of the landfill monitoring probes and wells to different locations on the site, which locations are to be approved by the City and the LEA (see Appendix L).

- 2013 Soil Stockpile Sampling: Approximately 20,000 cubic yards of fill soil were piled in the western portion of the project site. The stockpiled soil was sampled and the OCP dieldrin was detected at a maximum concentration of 210 micrograms per kilogram ($\mu\text{g}/\text{kg}$). The stockpiled soil was recommended for removal from the site and was subsequently removed.
- 2013 Soil Sampling: The approximately 20,000 cubic yards of stockpiled soil were removed from the site in early 2013. Following removal of the soil stockpiles, the soil beneath the former stockpiles was sampled. Dieldrin was detected in one sample at 570 $\mu\text{g}/\text{kg}$. An additional approximately 1,120 cubic yards of soil was removed from the site at that location. Subsequent confirmation soil samples did not contain concentrations of OCPs greater than the laboratory reporting limits.
- 2013 Soil Gas Sampling: The project proponent's environmental consultant (EKI) collected twelve soil gas samples, two of which were discarded based on the detection of leaks in the soil gas collection process. The purpose of the methane soil gas investigation was to evaluate the potential presence of methane proximate to the location of the sole methane gas detection (location E-3 on Figure 4.4-4) identified as part of the 2007 soil gas survey mentioned above. The investigation also evaluated samples at the project site's perimeter at locations near several of the Lennane soil gas probes. Of the ten soil gas samples retained during the 2013 investigation, only one sample (near E-3) contained a concentration of methane greater than the laboratory reporting limit. The sample (sample location SG-21) contained 1,560 ppmv methane. Soil gas pressure was measured at 0.00 inches of water. The report stated that high methane pressures can induce flow of methane into buildings. This is because higher methane pressures are an indicator that soil gas may tend to accumulate under and intrude into closed structure, such as houses. In this instance, the sampling analysis found the absence of pressure and very low concentrations. The report stated that the concentrations of methane detected in the western portion of the site in 2007 and 2013, under bare ground site conditions were an order of magnitude less than the methane LEL of 50,000 ppmv and, in fact, the concentration detected in the one sample noted in 2013 was approximately thirty-two times less than the LEL. The report concludes that, based on current known conditions, including methane concentrations and pressure,

methane in soil does not represent a limitation to residential development so long as the City continues to meet its legal obligations to control and monitor methane (EKI 2013b). Table 4.4-2 provides a summary of soil gas results on the project site.

Table 4.4-2
Summary of Soil Gas Results for Methane on the Project Site

Sample Location	Sample Date	Analytical Results* (PPMV) Methane
SG-1	2/14/13	<20
SG-3	2/14/13	<20
SG-4	2/14/13	<20
SG-7	2/14/13	<20
SG-8	2/14/13	<20
SG-11	2/14/13	<20
SG-13	2/14/13	<20
SG-16	2/14/13	<20
SG-17	2/14/13	<20
SG-18	2/14/13	<20
SG-20	2/14/13	<20
SG-21	2/14/13	1,570
Lower Explosive Limit (LEL)		50,000

Source: Erler & Kalinowski, Inc. 2013

Notes: <20 = compound not detected at or above indicated laboratory reporting limit.

PPMV = Parts per million by volume

*analysis performed by K Prime, Inc. using EPA Method 18

- 2013 Groundwater and Landfill Gas Monitoring Data (EKI 2013a): This report is discussed in the following section.

Review of Groundwater and Landfill Gas Monitoring Data

As discussed above, the former 28th Street Landfill operated north of the site and north of Capital City Freeway. As part of the post-closure actions, one shallow groundwater monitoring well (C11S), one deep groundwater monitoring well (C11D), and six landfill gas probes (Lennane-1 through -4, -7, and -8) were installed along the northern portion of the project site. VOCs have been detected in groundwater at concentrations below their respective MCL in wells C11S and C11D in samples since 2007 (EKI 2013a). Since 2006, groundwater samples collected from the on-site wells have not contained concentrations of vinyl chloride above the laboratory reporting limit of 0.5 µg/L (EKI 2013a). As noted in the EKI report, the recent vinyl chloride concentrations (less than 0.5 µg/L) are less than both the U.S. Environmental Protection Agency (U.S. EPA) maximum contaminant level for drinking water of 0.5 µg/L and

less than the RWQCB vapor intrusion environmental screening level for the residential scenario of 1.8 µg/L.

Inorganic compounds (i.e., total suspended solids, sulfate, chloride, etc.) detected in on-site wells have remained relatively stable since 2007 (EKI 2013a). Recent TDS concentrations were 400 mg/L to 450 mg/L, which is less than the secondary maximum contaminant level for drinking water of 500 mg/L (EKI 2013a).

As described above, the six landfill gas probes on the project site are monitored for methane on a monthly basis along with the remaining landfill gas probe network. Methane concentrations detected in the project site probes have ranged between 0.0% and 0.4% since 2007 (EKI 2013a). Functionally, the Lennane probe data in which the methane concentrations are reported to be 0.4% or less, are equivalent to “non-detects” at the level reported (EKI 2013a). In accordance with 27 CCR Section 20921, the post-closure landfill is in compliance with regulatory requirements since methane concentrations are less than 5% by volume at the facility property boundary.

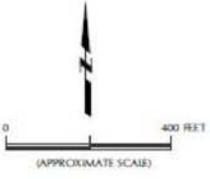
Since 2007, one large-scale increase in methane concentrations on the landfill property occurred in September, 2008. This excursion was caused by a fire at the former 28th Street Landfill. The City of Sacramento reported that the fire started on the north side of the American River, jumped the river onto the landfill, and destroyed approximately 16,000 feet of landfill methane gas extraction piping. During this single event, eleven contiguous landfill gas probes located on the landfill site, across the freeway from the project site, registered methane concentration from 5.7% to 44.5%. The condition was resolved before the following sampling event (October 2008), which showed all methane concentrations as non-detect at the eleven land fill probes. None of the Lennane gas probes revealed elevated readings during this excursion. (EKI 2013a).

EKI notes that the lack of detections on the project site could be due to a lack of gas migration in the subsurface from the landfill to the project site or due to gas probe completion to a depth of 2 feet. Soil gas samples collected at less than 5 feet bgs are prone to breakthrough of ambient air into the sample, potentially diluting the sample concentration (DTSC 2012). However, sampling data collected and analyzed by independent parties (i.e., LEA, City, and EKI) are consistent and corroborate each other's findings. Most recently, in July 2013, the LEA and the City, each using its respective handheld methane meter, detected 0.0% methane at Lennane 7. In February of 2013, EKI found non-detect readings proximate to that same Lennane 7 location and other locations near other Lennane soil gas probes. See Figure 4.4-4 and Table 4.4-2, which identify the location and concentrations of methane observed during the 2013 soil gas assessment. The results also match the City's monthly measurements at the Lennane soil gas probes and EKI's 2007 soil gas assessment.



LEGEND

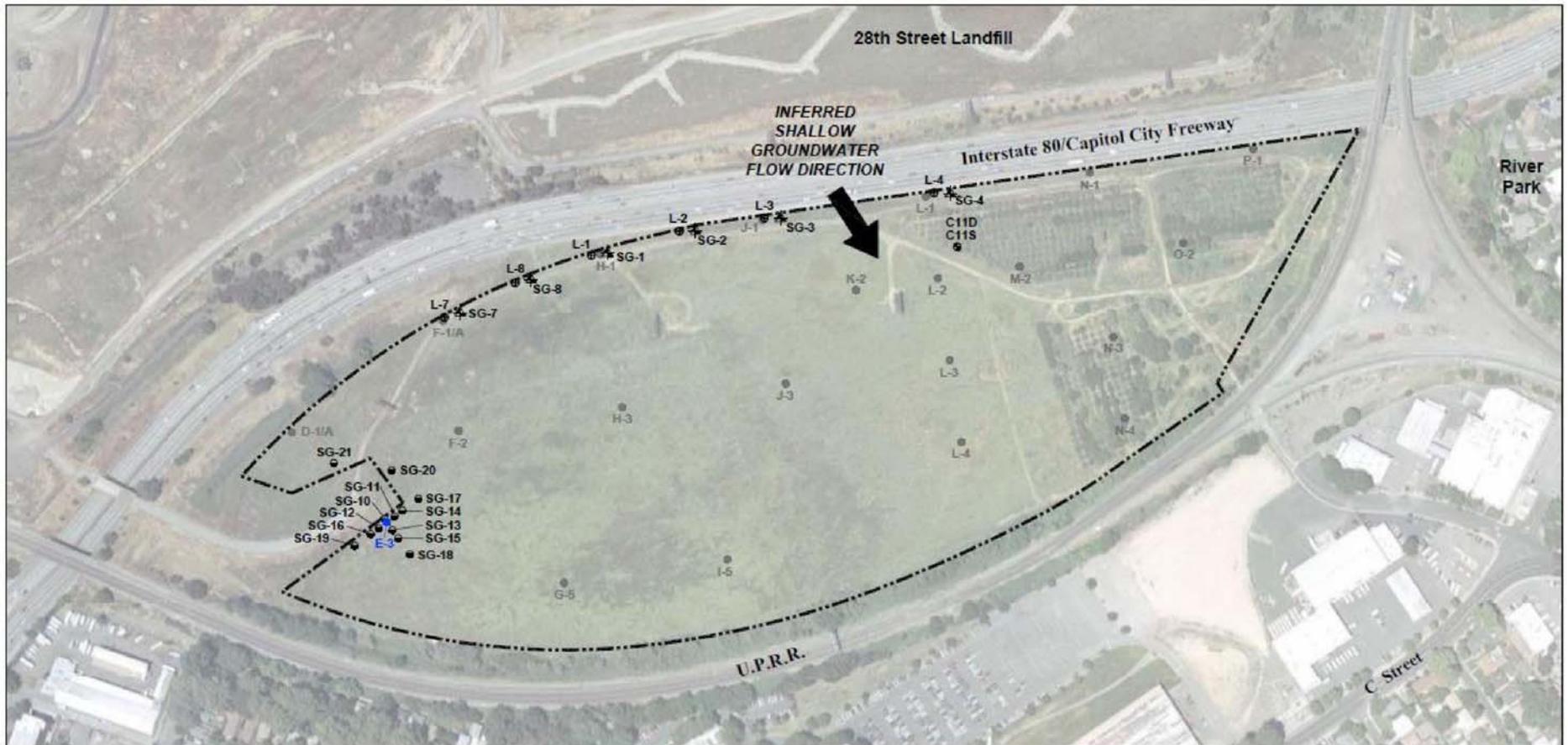
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| <ul style="list-style-type: none"> --- APPROXIMATE SITE BOUNDARY ● APPROXIMATE SOIL VAPOR WELL LOCATION ⊕ APPROXIMATE GROUNDWATER MONITORING WELL | <ul style="list-style-type: none"> ⊕ APPROXIMATE SURFACE SOIL SAMPLE LOCATION PT POLE-MOUNTED TRANSFORMER → OVERHEAD POWER LINES ⊕ PACIFIC BELL UNDERGROUND CABLE MARKER | <ul style="list-style-type: none"> T TRANSITE™ F CONCRETE FOUNDATION(S) HC HOMELESS CAMP B BEE HIVE NEST | <ul style="list-style-type: none"> BILLBOARD SIGN(S) WOOD BRUSH DEBRIS PILE APPROXIMATE OVERGROWN VEGETATION LOCATION |
|--|--|--|---|



SOURCE: LFR 2007

**FIGURE 4.4-3
Lead Concentrations**

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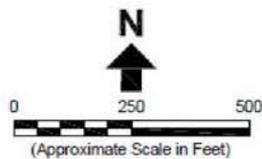


Legend:

- Approximate Subject Property Boundary
- ⊕ L-1 Location of Existing Landfill Gas Monitoring Probe (See Note 3)
- ⊕ C11D Approximate Monitoring Well Location (Existing by Others)
- ⊕ SG-7 Location of 2013 Soil Gas Sampling Locations
- ⊕ SG-10 2013 E-3 Step-Out Soil Gas Sampling Locations
- G-5 2007 Soil Gas Sample Location
- E-3 2007 Soil Gas Sample Location E-3 (6,400 ppmv Methane)

Notes:

1. All locations are approximate.
2. Basemap source: Google Earth Pro, Sanborn Image, 2007



SOURCE: EKI 2013 Results of Soils Gas Investigation

FIGURE 4.4-4
Soil Gas Sampling Locations

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Prior to 2007, analysis of samples from the six Lennane gas probes revealed only one methane excursion in excess of the 5% LEL. In 1994/1995 over a two month period, before the 28th Street Landfill was subject to corrective action (e.g., prior to installation of soil gas mitigation measures on the landfill site), and when the landfill was still active, methane was detected at 44%. The only other excursion (1.90% methane, well below the 5% LEL) occurred in January 2006. The City of Sacramento attributed this excursion to the intentional generation of methane for use in association with a commercial roasting operation, which used methane gas to fire its ovens. (EKI 2013a). This facility is no longer using methane generated at the landfill.

Following implementation of the landfill gas collection system on the landfill property, the gas probes on the project site have contained less than 5% methane.

The EKI report concluded that, based on current known conditions, methane in soil gas does not represent a limitation to residential development, so long as the City continues its legal obligations to control and monitor methane (EKI 2013a). This is essentially the same conclusion reached by the City in its 2007 and 2013 letters (see Appendix L).

Database Search

The regulatory database gives a listing of sites, within an approximately 1-mile radius of the project site, which are known to be chemical handlers, hazardous waste generators, or polluters. Information in these listings includes the location of the site relative to the subject property, sources of pollution, and the status of the site. The search performed for this assessment was conducted in May 2013 by EDR (see Appendix L).

The project site is not listed in any of the computerized regulatory databases searched by EDR and is not on the list of sites compiled pursuant to California Government Code Section 65962.5.

Forty sites were listed only in databases other than those that indicate a release has occurred at the site (AST, CA FID UST, Drycleaner, EnviroStor, FINDS, HAZNET, HIST UST, RCRA-SQG, RCRA-LQG, Sacramento Co. ML, SWEEPS UST, and U.S. Brownfields). As no release has been reported at these sites, it is unlikely that these sites have impacted the project site. These sites are discussed in the EDR Report (see Appendix L [Appendix M of the report]).

Table 4.4-3 lists sites where a release to soil and/or groundwater was reported. The releases to the soil and/or groundwater were investigated and the investigation was closed by the lead regulatory agency, often after site remediation. Because these site cases have been closed by the regulatory agency, it is unlikely that these sites have impacted the project site.

**Table 4.4-3
Sites With Closed Release Cases**

Site	Address	Distance from subject property	Database
Bosko - Ljubisavljevic	400 29th Street	1/8–1/4 mile WSW	LUST, HIST CORTESE, Sac. Co. ML, Sac. Co. CS, US Hist Auto Stations
Glen Cox Chevron/ Standard Stations/ Chevron Service Station No. 9-5632	430 29th Street/ 2821 E Street	1/8–1/4 mile WSW	LUST, HIST UST, Sac. Co. ML, EDR Hist Auto Stations, UST, SWEEPS UST, Sacramento Co. CS
Former Gasco Station No. 758	505 30th Street	1/4–1/2 mile SW	LUST, Sacramento Co. CS, HIST UST, Sacramento Co. ML
Blair Leasing Company	206 24th Street	1/4–1/2 mile W	LUST, Sacramento Co. CS, Sacramento Co. ML
McKinley Garden Apartments	300 Meister Way	1/4–1/2 Mile ESE	Sacramento Co. CS, LUST
Future Sacred Heart School	39th Street & H Street	1/2–1 mile S	EnviroStor, VCP
Merlino's	3200 Folsom Boulevard	1/2–1 mile SSW	EnviroStor, LUST, Sacramento Co. CS

Source: EDR Report (see Appendix L)

Table 4.4-4 lists those sites where a release to soil and/or groundwater is still under investigation. A review of these sites determined that it does not appear that the release sites have impacted the environmental conditions at the project site (see the Comments column in Table 4.4-2).

**Table 4.4-4
Sites with Open Release Cases**

Site	Address	Distance from subject property	Database	Comments
Mary Anne's Baking Company	324 Alhambra Boulevard	1/8 – 1/4 mile WSW	LUST, Sacramento Co. CS, CA FID UST, HIST UST, HIST CORTESE, Sac. Co. ML, SWEEPS UST, UST	Two USTs were removed from the site in 1998 and one was left in place. The hydraulic gradient at this site is to the southwest and away from the project site.

**Table 4.4-4
Sites with Open Release Cases**

Site	Address	Distance from subject property	Database	Comments
Harbor Sand & Gravel	200 28th Street	1/8 – 1/4 mile W	SLIC, Sacramento Co. CS, Sac. Co. ML, AST	A diesel release to soil only was reported in 1993. Due to the diesel release being to soil only, this site is unlikely to have affected the environmental conditions at the project site.
Shell Service Station	730 29th Street	1/4 – 1/2 mile SW	LUST, Sacramento Co. CS, HIST CORTESE, Sacramento Co. ML, SWEEPS UST	A gasoline release to groundwater was detected in August 1998. The groundwater gradient is to the southwest and away from the subject site. Due to the distance from the project site, it is unlikely to have adversely affected the site.
Alhambra Dry Cleaners	1000 Alhambra Boulevard	1/2 – 1 mile SW	EnviroStor, RCRA-SQG, FINDS, SLIC, DRYCLEANERS, Sacramento Co. ML	Drycleaner closed in 2008. This site is the presumed source for detections of tetrachloroethylene (PCE) in groundwater at adjacent sites on Alhambra Boulevard (still greater than 1/2 mile from the project site). Due to the distance from the project site, it is unlikely that this site has impacted the environmental conditions at the project site.

**Table 4.4-4
Sites with Open Release Cases**

Site	Address	Distance from subject property	Database	Comments
Former Red Feather Dry Cleaners	2500 J Street	1/2 – 1 mile WSW	EnviroStor, SLIC	A release of PCE, Stoddard solvent, mineral spirits, and distillates was reported. This site has been inactive since 2004. No further information is available. Due to the distance to the project site, it is unlikely this site has affected environmental conditions at the site.

Source: EDR Report (see Appendix L).

Several landfill sites associated with the former 28th Street Landfill or located adjacent to the former 28th Street Landfill were identified in the EDR report in the CERC-NFRAP, Financial Assurance, LDS, SWF/LF, WDS, WMUDS/SWAT, and Notify 65 databases. The landfill site has impacted the groundwater and soil vapor at the project site with low concentrations of VOCs and methane, as discussed previously.

Other Potential Physical Public Safety Hazards

A Street Bridge

Access to the project site would be provided from A Street and 28th Street to the west, across an existing freeway overpass/bridge—the A Street Bridge. The bridge is constructed as a reinforced concrete (RC) continuous girder span with RC 2-column frame and RC closed end backfilled cantilever abutments, all on concrete piles. The A Street Bridge currently carries light vehicular traffic associated with site maintenance, the billboards, UPRR maintenance, and personnel monitoring the wells and probes. The proposed project would upgrade the A Street Bridge in order to provide vehicular, bicycle, and pedestrian access to the site. Improvements include adding a sidewalk on the north side and upgrading the guardrails.

Based on the Caltrans Bridge Inspection Report, the bridge is structurally sound and has a weight limit of 90 tons (Caltrans 2011).

Vector Control

The proposed project includes two stormwater detention basins in the western portion of the site, on the north and south side of A Street, as shown in Figure 2-3 in Chapter 2, Project Description. The detention basins would be located on existing City land (off site) and on the project site. The detention basins would collect stormwater runoff from the project site. The basins would only be used during the rainy season (winter months) to detain water for short periods of time. During the remainder of the year, the basins would be dry. Therefore, it is not anticipated that the need for mosquito and vector control to protect the public health from vector-borne illnesses would be a concern for this project.

UPRR Train Derailment/ Freeway Hazards

The proximity of the project site to the UPRR tracks and the Capital City Freeway could result in a safety hazard to the proposed residential uses of the site. There is the potential for a release of hazardous materials to occur from a potential train derailment along the UPRR tracks to the south of the site or spill from hazardous cargo transported along Capital City Freeway to the north of the site. These concerns are addressed further in the impact analysis, below.

At the request of the California Public Utilities Commission, the installation of vandal-resistant signs and fencing would be required along the southern boundary of the site, adjacent to the UPRR right-of-way (ROW) to deter trespassing and to provide public safety.

4.4.3 Regulatory Background

Federal Regulations

Hazardous Waste Management

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the EPA for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the “cradle to grave” system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

Hazardous Substances, Materials, and Waste

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established requirements

concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the EPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Under 40 Code of Federal Regulations (CFR) Part 112, specific facilities must prepare, amend and implement Spill Prevention Control and Countermeasure (SPCC) plans. The SPCC rule is part of the Oil Pollution Prevention regulation, the purpose of which is to prevent oil discharges to navigable waters and adjoining shorelines. The SPCC rule applies to facilities that are engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using or consuming of oil and store oil above or below ground in volumes greater than 1,320 U.S. gallons and 42,000 U.S. gallons respectively. The California Environmental Protection Agency (Cal/EPA) has published a fact sheet, dated December 2007, outlining the requirements for preparing and implementing SPCC plans in the state of California.

U.S Department of Transportation

Transportation of hazardous materials is regulated by the U.S. Department of Transportation's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations, training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Transportation by rail is regulated per 49 CFR Part 174. Subpart C covers the requirements for marking and placarding of rail cars and the segregation of hazardous materials. Subpart D covers the requirements for handling of placarded rail cars, including position in the train and maximum allowable speed (50 miles per hour for most hazards substances). Subparts E, F, G, J, and K include requirements for transportation of explosives, gases, flammable liquids, poisonous materials, and radioactive materials, respectively. Safety requirements include inspections at every stop, specific training, and train crew knowledge of the rail car contents and location.

State Regulations

California Hazardous Waste Control Law

The California Hazardous Waste Control Law (HWCL) is administered by Cal/EPA to regulate hazardous wastes. While the HWCL is generally more stringent than RCRA, until the U.S. EPA approves the California program, both the state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal and transportation; and identifies some wastes that cannot be disposed of in landfills.

The California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, defines hazardous waste as:

a waste that exhibits the characteristics that may: (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed or otherwise managed.

According to 22 CCR, substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous waste. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated, or that is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because

of their flammable properties. Gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes. Explosives, pressurized canisters, and pure sodium metal (which react violently with water) are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as “mixed wastes.” Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal/OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the work place. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident prevention programs, and hazardous substance exposure warnings.

Cal/OSHA is the agency responsible for enforcement of the construction safety orders of 8 CCR 1529 related to asbestos removal and cleanup. Section 1529 regulates construction-related asbestos exposure involving demolition of structures, removal of asbestos-containing materials, asbestos clean-up, or excavation activities which may involve exposure to asbestos.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) protects water quality in California by setting statewide policy. The SWRCB supports the nine Regional Water Quality Control Boards, (RWQCBs), which, within their areas of jurisdiction, protect surface and groundwater from pollutants discharged or threatened to be discharged to the waters of the state. For the Sacramento area, the Central Valley RWQCB (CVRWQCB) maintains jurisdiction within the subject basin. This protection is carried out by the RWQCB through the issuance and enforcement of National Pollutant Discharge Elimination System (NPDES) permits, called Waste Discharge Requirements (WDRs), regulation of leaking underground storage tanks and contaminated properties through the Leaking Underground Storage Tank (LUST) and Spills, Leaks, Investigation, and Cleanup (SLIC) programs respectively. USTs are regulated under

Chapter 6.7 of the California Health and Safety Code and 23 CCR Chapter 16. The RWQCBs issue WDRs for operating and closed landfills under 27 CCR Chapters 3, Section 20950, et seq.

California Health and Safety Code

The handling and storage of hazardous materials is regulated on the federal level by the U.S. EPA under CERCLA as amended by SARA. Under SARA Title III, a nationwide emergency planning and response program was established that imposed reporting requirements for businesses which store, handle, or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. SARA Title III required each state to implement a comprehensive system to inform federal authorities, local agencies, and the public when a significant quantity of hazardous, acutely toxic substances are stored or handled at a facility.

Ammonia is an example of an acutely hazardous material (AHM) that is regulated by the California Office of Emergency Services under the California Accidental Release Program (CalARP), the U.S. EPA under the Risk Management Program (40 CFR 68), and the OSHA under the Process Safety Management Program (OSHA 1910.119). The California Accidental Release Program and Risk Management Program require that all facilities that store, handle, or use AHMs above a minimum quantity, known as the threshold planning quantity, are required to develop a plan and prepare supporting documentation that summarizes the facility's potential risk to the local community and identifies safety measures to reduce potential risks to the public.

In California, the handling and storage of hazardous materials is regulated by Chapter 6.95 of the California Health and Safety Code. Under Sections 25500–25543.3, facilities handling hazardous materials are required to prepare a Hazardous Materials Business Plan. The plan provides information to the local emergency response agency regarding the types and quantities of hazardous materials stored at a facility and provides detailed emergency planning and response procedures in the event of a hazardous materials release. In the event that a facility stores quantities of specific acutely hazardous materials above the thresholds set forth by the California code, facilities are also required to prepare a Risk Management Plan and California Accidental Release Plan, which provides information on the potential impact zone of a worst-case release, and requires plans and programs designed to minimize the probability of a release and mitigate potential impacts.

California Health and Safety Code

In California, transportation of hazardous waste is regulated under Chapter 6.5 of the California Health and Safety Code. Under Section 21560, hazardous waste generators must complete a manifest for the waste before it is transported or offered for transportation. A manifest is a shipping document that is signed by the hazardous waste generator and contains the necessary information to be in compliance with all state and federal regulations. The purpose of the

manifest is to allow for the waste to be tracked from point of origin through point of disposal and for the generator or regulatory agency to verify that the waste is properly delivered without incurring any loss along the way. The enforcement agencies for the transportation of hazardous materials regulations are the California Highway Patrol and Caltrans.

California Code of Regulations - Waste Disposal

Waste management units, facilities, and disposal sites in the state of California are regulated under 27 CCR Chapter 3. This chapter establishes criteria by which that all waste management units, facilities, and disposal must abide at the landfill. These criteria cover siting and design, surface and groundwater monitoring, specific criteria for landfills, and closure and post-closure maintenance. Landfill closure and post-closure requirements are covered under Sections 20950–21200 and Sections 21769–21900. These requirements include the development and implementation of a post-closure maintenance plan. Leachate, landfill gas, and groundwater monitoring programs, as well as site security and drainage and erosion control systems, are discussed as part of the post-closure plan.

27 CCR Chapter 3, Section 21190(g) describes post-closure land use regulations for waste disposal sites at landfills. In order to prevent gas migration into buildings, any construction on the landfill property and located within the landfill parcel and within 1,000 feet of the waste boundary must be constructed with specifically enumerated mitigation measures. These obligations do not apply to locations off landfill sites. As CalRecycle has stated, the definition of "disposal site" or "site," "includes the place, location, tract of land, area, or premises in use, intended to be used, or which has been used for the landfill disposal of solid wastes... In practice, this definition means that any property located outside the parcel containing the solid waste is not subject to the postclosure land use requirements of 27 CCR 21190, even if the outside property is within 1,000 feet of the waste footprint..." CalRecycle, LEA Advisory #51, Disposal Site Postclosure Land Use (July 22, 1998).

In addition to these structural measures, Section 21190 mandates that periodic methane gas monitoring be conducted inside all buildings that are within the landfill parcel and within 1,000 feet of the waste boundary and underground utilities in accordance with the Gas Monitoring and Control Requirements established in 27 CCR Chapter 3, Section 20920 et seq. The concentration of methane gas must not exceed 1.25 % by volume (12,500 ppmv) in air within any portion of any on-site structures within 1,000 feet of the waste boundary. 27 CCR Chapter 3, Section 20921(a)(1). As mentioned above, these provisions do not apply to the project site because it is not within the parcel that contains the solid waste, i.e., the landfill.

27 CCR Chapter 3, Section 20530 and 21135 also requires that the landfill operator ensure the adequacy of site security and the protection of public health and safety. These provisions

also require that monitoring, control or recovery systems at the landfill be protected from public access. These requirements are enforceable through the California Department of Resources Recycling and Recovery (CalRecycle, acting through the Local Enforcement Agency (LEA), which is the County of Sacramento, Environmental Management Department). The LEA also ensures the adequacy of the monitoring regime for soil gas, under 23 CCR Chapter 3, Section 20905, et seq.

27 CCR Chapter 3, Section 20380, et seq., provides that the RWQCB for the applicable region, the Central Valley Regional Water Quality Control Board (CVRWQCB), shall establish the monitoring program required for operating or closed landfills. These requirements are to be included in the waste discharge requirements issued for the landfill.

Local Regulations

Sacramento County Environmental Management Department

The Sacramento County Environmental Management Department (SCEMD) is the Certified Unified Program Agency for local implementation of CalARP and several other hazardous materials and hazardous waste programs. SCEMD is responsible for regulating hazardous materials business plans and chemical inventory, hazardous materials storage, hazardous materials management plans, and risk management plans. The hazardous materials business plan program requires businesses in Sacramento County to prepare business emergency response plans if hazardous materials storage equals or exceeds 55 gallons of liquid, 500 pounds of solid, or 200 cubic feet of gas. The goal of SCEMD is to protect human health and the environment by ensuring that hazardous materials and hazardous waste are properly managed.

The SCEMD distributes the information in the hazardous materials business plans and business emergency response plans to emergency response agencies, such as the Fire Department/Hazardous Materials Response Teams. In accordance with Health and Safety Code Chapter 6.95, Section 25500, the SCEMD prepared the Area Plan for Emergency Response to Hazardous Materials Incidents in Sacramento County (2012). The plan describes the responsibilities of local, state, and federal agencies during hazardous materials incidents.

The SCEMD is certified by CalRecycle as the LEA for Sacramento County. The LEA permits and inspects solid waste facilities and enforces state laws pertaining to the storage, processing, and disposal of solid waste. The SCEMD also issues permits for the development and abandonment of groundwater wells, and with respect to the former 28th Street Landfill, the removal and relocation of the soil gas probes and groundwater monitoring wells.

Sacramento County Multi-Hazard Emergency Plan (2004)

The Sacramento County Multi-Hazard Emergency Plan (2004) plan is designed to be a comprehensive disaster preparedness program. The plan identifies goals, objectives, and measures for hazard mitigation and risk reduction for disasters such as earthquakes, flooding, dam or levee failure, hazardous material spills, epidemics, fires, extreme weather, major transportation accidents, and terrorism.

City of Sacramento 2030 General Plan

Applicable goals and policies of the City of Sacramento 2030 General Plan pertaining to Public Health and Safety (PHS) are presented below.

Goal PHS 2.1 Fire Protection and Emergency Medical Services. Provide coordinated fire protection and emergency medical services that support the needs of Sacramento residents and businesses and maintains a safe and healthy community.

Goal PHS 2.2 Fire Prevention Programs and Suppression. The City shall deliver fire prevention programs that protect the public through education, adequate inspection of existing development, and incorporation of fire safety features in new development.

Goal PHS 3.1 Reduce Exposure to Hazardous Materials and Waste. Protect and maintain the safety of residents, businesses, and visitors by reducing, and where possible, eliminating exposure to hazardous materials and waste.

Policy PHS 3.1.1 Investigate Sites for Contamination. The City shall ensure buildings and sites are investigated for the presence of hazardous materials and/or waste contamination before development for which City discretionary approval is required. The City shall ensure appropriate measures are taken to protect the health and safety of all possible users and adjacent properties.

Policy PHS 3.1.2 Hazardous Material Contamination Management Plan. The City shall require that property owners of known contaminated sites work with Sacramento County, the State, and/or Federal agencies to develop and implement a plan to investigate and manage sites that contain or have the potential to contain hazardous materials contamination that may present an adverse human health or environmental risk.

Policy PHS 3.1.3 Household Hazardous Waste Collection Programs. The City shall continue to provide household hazardous waste collection programs to encourage proper disposal of products containing hazardous materials or hazardous wastes.

Policy PHS 3.1.4 Transportation Routes. The City shall restrict transportation of hazardous materials within Sacramento to designated routes.

Policy PHS 3.1.6 Compatibility with Hazardous Materials Facilities. The City shall ensure that future development of treatment, storage, or disposal facilities is consistent with the County's Hazardous Waste Management Plan, and that land users near these facilities, or proposed sites for the storage or use of hazardous materials, are compatible with their operation.

Policy PHS 3.1.7 Education. The City shall continue to educate residents and businesses on how to reduce or eliminate the use of hazardous materials and products, and shall encourage the use of safer, nontoxic, environmentally friendly equivalents.

Goal PHS 4.1 Natural and Human-made Disasters. Promote public safety through planning, preparedness, and emergency response to natural and human-made disasters.

City of Sacramento Emergency Operations Plan

The purpose of The City of Sacramento Emergency Operations Plan (EOP), published in April 2005, is to provide safeguards to minimize loss of life and property damage during natural disasters and emergencies of national defense. The City of Sacramento EOP establishes an Emergency Management Organization and assigns functions and tasks in accordance with California's Standardized Emergency Management System. The EOP provides guidance as to disaster response from the initial onset through the cost recovery process. It includes policies, responsibilities, and procedures necessary to protect human health and safety, public and private property, and the environment from the effects of natural and anthropogenic disasters and emergencies. The EOP outlines the specific emergency-related responsibilities of City agencies. For example, the City of Sacramento Police Department is responsible for implementing emergency evacuations, including traffic control plans, while the City of Sacramento Fire Department is the first responder for hazardous materials incidents (City of Sacramento 2005a).

City of Sacramento Evacuation Plan

The purpose of the City of Sacramento Evacuation Plan (2008) is to provide evacuation-specific strategy and information to support and guide the City's Emergency Managers, Emergency Operations Center staff, and other governmental and non-governmental agencies that would be involved with an evacuation event in the City of Sacramento. Therefore, the Evacuation Plan serves as an amendment to the EOP. Flooding is considered the primary threat that would invoke an evacuation in Sacramento. Therefore, much of the Evacuation Plan is dedicated to procedures to be followed in event of a flood emergency. However, the associated strategy and plan details apply to other hazards as well. The City of Sacramento Police Department has

divided the City into six districts with each district further divided into three or four police patrol beat areas. The Evacuation Plan provides evacuation routes and locations of sirens and shelters within each police patrol beat area. The City of Sacramento Fire Department maintains updated records of the emergency response and evacuation routes for the City (City of Sacramento 2008).

City of Sacramento Department of Utilities

The City of Sacramento regulates the discharge of groundwater dewatering effluent to the City's sewer system. The City's Department of Utilities (DOU) Engineering Services Policy No. 0001 (Resolution No. 92-439) requires approval of a Memorandum of Understanding (MOU) for long-term (greater than one week) groundwater dewatering discharges to the sewer. The MOU must cover proposed dewatering details such as flow rate, system design, and contaminant monitoring plan. Discharges to the sewer must meet the Sacramento Regional County Sanitation District (SRCSD)- and RWQCB-approved levels. Dischargers to the sewer must obtain a SRCSD discharge permit.

Hazardous Materials Response

The City's Hazardous Materials Program (HazMat) provides capability for response to hazardous material emergencies (City of Sacramento 2005b). HazMat contains a minimum of 108 firefighters and trained to the Hazardous Materials Response level and includes three Hazardous Materials Response Teams (HMRTs) and one Decontamination Team. Under contractual agreement, HazMat provides 24-hour first response to hazardous materials incidents within the City of Sacramento.

4.4.4 Impacts and Mitigation Measures

Methods of Analysis

The analysis of the potential public safety and hazardous materials impacts is based on information from the 2013 Phase I ESA, the 2013 Review of Groundwater and Landfill Gas Monitoring Data, the 2013 Results of Soil Gas Investigation, 2013 and 2007 Letters from the City of Sacramento, 2007 Aerially Deposited Lead Site Investigation Report, 2006 WKA Soils Report, consultation with City staff, and other existing documentation used to establish existing conditions and to identify potential environmental effects based on the standards of significance presented in this section. In determining the level of significance, the analysis assumes that the proposed project would comply with all applicable state and local ordinances and regulations (summarized above).

Impacts of the environment on a project or plan (as opposed to impacts of a project or plan on the environment) are beyond the scope of required CEQA review. “[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project.” (*Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473.) The impacts discussed in this section related to potential release of hazardous materials from a potential train derailment along UPRR tracks or from hazardous cargo transported along Capital City Freeway, and potential hazards associated with the former 28th Street Landfill, are effects on users of the project and structures in the project of preexisting environmental hazards, as explicitly found by the court in the *Ballona* decision, and therefore “do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in an EIR.” (*Id.* at p. 475.) Nonetheless, an analysis of these impacts is provided for informational purposes.

As noted earlier, potential hazards and associated impacts related to TAC emissions, including emissions from proximity to the Capital City Freeway and trains adjacent to the project site, are discussed in Section 4.1, Air Quality and Climate Change, and in the Health Risk Assessment included as Appendix C. Potential hazards associated with an increase in traffic volumes in and around the project site are addressed in Section 4.9, Transportation and Circulation. Potential hazards associated with flooding and emergency procedures in the event of a flood are discussed in Section 4.5, Hydrology, Water Quality and Drainage. Lastly, the project site is located in an urban area and is not near forested areas that may pose a wildland fire threat. Therefore, potential risks associated with wildland fires are not further evaluated.

Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, thresholds of significance adopted by the City in applicable general plans and previous environmental documents, and professional judgment, a significant impact would occur if the proposed project would:

- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities;
- expose people (e.g., residents, pedestrians, construction workers) to asbestos-containing materials or other hazardous materials or situations;
- expose people (e.g., residents, pedestrians, construction workers) to existing contaminated groundwater during dewatering activities;
- substantially increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site; or
- interfere with an adopted emergency response plan or emergency evacuation plan.

Project-Specific Impacts and Mitigation Measures

4.4-1: The proposed project could expose people (e.g., residents, pedestrians, construction workers) to existing contaminated soil during construction activities. Based on the analysis below the impact is *less than significant*.

The project site appears to have been used primarily for agriculture (row crops and orchards) between 1931 and 2006, and invasive geotechnical borings, combined with historical photographic and other information reveal no evidence that the project site was impacted by solid waste from the landfill. However, it is possible that soils impacted with pesticides and metals may potentially exist in locations where agricultural activities were carried out. As required per General Plan Goals PHS 3.11 and 3.12, the site soils have been investigated for contamination related to the former agricultural use. Results from previous soil investigations, which include analysis of 15 soil samples collected from the project site, indicate that it is not impacted by pesticides (see Appendix L). The collection of four soil samples for metals analysis was conducted to assess the potential impact of the former agricultural use on the site. The data indicate that the agricultural areas are not impacted with metals. The Phase I ESA also concluded that the site has not been impacted by potential aerially deposited lead from the adjacent freeway. The 2007 Aerially Deposited Lead Site Investigation of State Route 51 (Capital City Freeway/Interstate 80) reveals that surface-level soil samples collected from the unpaved median have elevated total lead concentrations, but that total lead concentrations from soil samples collected at 0.5 feet bgs have concentrations significantly below residential screening levels (see Appendix L). Given airborne dispersion associated with gasoline combustion engine exhaust and the concentrations represented by the four soil samples collected on the project site, combined with the typical soil management practices associated with prior agricultural use on the site, the potential impact from lead present on the project site is considered **less than significant**.

Mitigation Measures

Although this impact is considered less than significant without mitigation, the project applicant has agreed, as an additional voluntary measure, to implement Mitigation Measure 4.4-1(a) which would require implementing procedures to identify and mitigate potential contamination that could potentially be identified during project construction. This measure would further reduce the impact and the impact would remain **less than significant**.

4.4-1(a) In the event that grading or construction of the proposed project reveals evidence of soil contamination, underground storage tanks (USTs), or other environmental concerns, a Construction Management Plan shall be prepared. The plan shall be prepared by a qualified environmental professional registered in California. The plan shall identify specific measures to take to protect worker and public health

and safety and specify measures to identify, manage, and remediate wastes. The plan shall include the following:

- Accident prevention measures:
 - Summary of known site history and site concentrations.
 - Appropriate work practices necessary to effectively comply with the applicable environmental laws and regulations, including, without limitation, hazardous substance management, handling, storage, disposal, and emergency response. These work practices include the following: an on-site hazardous material spill kit shall be provided for small spills; totally enclosed containment shall be provided for all trash; and all construction waste, including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials, shall be removed to an appropriate waste facility permitted or otherwise authorized to treat, store, or dispose of such materials.
 - Instructions for marking/protecting the groundwater wellheads and gas probes so that they are protected from destruction during construction activities.
- Contamination evaluation and management procedures:
 - Identification of air monitoring procedures and parameters and/or physical observations (soil staining, odors, or buried material) to be used to identify potential contamination.
 - Procedures for temporary cessation of construction activity and evaluation of the level of environmental concern if potential contamination is encountered.
 - Procedures for limiting access to the contaminated area to properly trained personnel.
 - Procedures for notification and reporting, including internal management and local agencies (fire department, SCEMD, etc.), as needed.
 - A worker health and safety plan for excavation of contaminated soil.
 - Procedures for characterizing and managing excavated soils in accordance with CCR Title 14 and Title 22.
 - Procedures for certification of completion of remediation.

4.4-2: The proposed project could expose people (e.g., residents, construction workers) to asbestos-containing materials or other hazardous materials or situations. Based on the analysis below and with implementation of mitigation, the impact is less than significant.

Asbestos

The Phase I ESA indicated the potential for asbestos to be present in shallow soils due to the former presence of buildings on the site. However, no construction debris was identified and it is unlikely that asbestos would be present in site soils (see Appendix L). The potential presence of any belowground asbestos pipes on the project site was listed in the Phase I ESA as a non-ASTM environmental issue.

No buildings currently exist on the project site; however, buildings were present on the site between approximately the 1930s through the 1960s. In accordance with the Asbestos Hazard Emergency Response Act, the surface materials of these buildings must be designated as “presumed asbestos-containing material” (PACM) unless proven otherwise. PACM debris was not observed during the Phase I ESA performed at the site in 2013 (see Appendix H); however, the Phase I ESA noted the possibility of asbestos in the soil due to the former buildings. As no building debris was identified in the Phase I ESA, it is unlikely that PACM would be located on the project site. However, this is considered a **potentially significant impact**.

Construction Activities

During the construction phase of the proposed project, gasoline, diesel fuel, lubricating oil, grease, solvents, caulking, paint, and welding gases would be used at the site. In general, small amounts of these materials would be on site at any one time. No acutely hazardous materials would be used during construction of the project. In addition, materials handled would not pose a significant risk to off-site residents or construction workers because they would be used and stored in accordance with existing laws and regulations. However, spills of hazardous materials during construction activities could potentially cause soil or groundwater contamination. This is considered a **potentially significant impact**.

Although not anticipated, if quantities of fuel or oil greater than or equal to 1,320 gallons are stored on the project site during construction, then a Spill Prevention Control and Countermeasure (SPCC) Plan must be prepared in accordance with 40 CFR 112.

Former Landfill

The former 28th Street Landfill is located approximately 250 feet to the north of the project site. This Class III landfill accepted non-hazardous wastes between 1963 and 1994 (CVRWQCB

2004) and received certified closure in 1997. In accordance with the closure plan, the City of Sacramento is required to monitor the landfill for at least 30 years following closure or until the potential for off-site migration no longer exists (EKI 2013a; City of Sacramento 1991). Presently, the City maintains a network of 48 landfill soil gas probes on the former landfill site, as shown in Figure 4.4-4. Groundwater and landfill gas are also monitored on the project site in two groundwater monitoring wells and six gas probes as part of these post-closure activities. Since 2007, four VOC detections have occurred in the two on-site groundwater monitoring wells, all at concentrations below the respective MCLs (EKI 2013a). Methane concentrations detected in the six on-site Lennane gas probes have ranged from 0.0% to 0.4% since 2007 (EKI 2013a). Functionally, the Lennane probe data in which the methane concentrations are reported to be 0.4% or less, are equivalent to “non-detects” at the level reported (EKI 2013a). Since the former 28th Street Landfill’s methane mitigation program was installed, only one detection of methane in excess of this non-detect level has been identified by the Lennane probes. This sole detection of 1.9% in 2006, was the result of an intentional increase in methane for commercial purposes, according to the City. Therefore, no unintentional release of methane has been detected at the Lennane probes since the installation of the landfill gas mitigation system in 1998.

The post-closure activities of the former 28th Street Landfill are regulated under CCR Title 27, Chapter 3. Under CCR Title 27, methane gas concentrations at the landfill perimeter must be less than 5%.

The two groundwater monitoring wells and six soil gas probes located along the northern portion of the project site used for post-closure monitoring of the 28th Street Landfill would be relocated and reconstructed as part of the project within the western and northern perimeter of the project site on land owned by the homeowners association (HOA) or a public agency or under easement to the HOA and/or a public agency. Access to the groundwater wells and the soil gas probes would be provided in order to enable the long-term monitoring by the appropriate City and state agencies.

In accordance with Sacramento County Code Chapter 6.28, the existing wells (including the existing abandoned groundwater supply and two groundwater monitoring wells) and gas probes on the project site shall be properly destroyed, as part of the project. The CVRWQCB and the County, in its capacity as the LEA, shall also approve the relocation of the subject groundwater wells and soil gas probes, as part of the project.

The new wells and probes shall be constructed in accordance with Sacramento County Code Chapter 6.28 and DTSC Advisory on Active Soil Gas Investigations, also as part of the project. As such, the probes shall be constructed at a depth (example at least 5 feet bgs) such that breakthrough of ambient air through the soil column is limited. The project includes review and

approval of the proposed construction details and probe locations by the County of Sacramento in its capacity as the LEA and the CVRWQCB.

As indicated in the 2013 Soil Gas Sampling Report prepared by EKI, following installation of the landfill gas collection system on the landfill property, methane gas was detected on the project site in 2007 in one sample at a concentration of 0.64% (approximately eight times less than the LEL of 5%). A follow-up 2013 methane soil gas study was conducted in the vicinity of the sole 2007 detection and along the perimeter of the project site, near several of the Lennane gas probes. The study revealed a single detection of methane proximate to the 2007 detection location at a concentration of 1,560 ppmv (i.e., approximately thirty-two times less than the LEL) out of a suite of ten samples collected, analyzed and retained through the quality assurance protocol. Soil gas pressure was measured at 0.00 inches of water. The report stated that high methane pressures can induce flow of methane into buildings.

According to reports prepared following the 2013 sampling event and review of monitored methane at the six Lennane probes, located on the project site (EKI 2013a and EKI 2013b), it was concluded that methane detected in soil gas does not represent a limitation to residential development, as long as the City maintains its landfill gas collection and monitoring systems. The City is required to maintain the systems per RWQCB Order No. R5-2004-0039 and consistent with other legal obligations. Therefore, the impact of methane gas on future residents is **less than significant**.

In addition as noted in the Environmental Setting, the historical review identifies that the site was used for agricultural purposes including an orchard, and there is no mention of any incursion of the former 28th Street Landfill on the site. The geotechnical report did not find anything that indicated the 28th Street Landfill came onto the site as well. The project site has been physically separated from the former 28th Street Landfill site by the Elvas Freeway since the early 1950s (which subsequently became Business 80/Capital City Freeway) before the 28th Street Landfill came into operation. Based on a review of soil borings taken in 2006 throughout the project site by Wallace Kuhl, there is no evidence that the 28th Street Landfill extended south of the Capital City Freeway (see letter from Wallace Kuhl in Appendix L).

Under California State regulation (CCR Title 14 Chapter 3) the former landfill is required to minimize potential for odors and other nuisances such as dust and noise. However, these regulations do not require the former landfill to reduce these nuisances to zero. There is no evidence of any odor, dust or noise nuisances from the landfill to the site. This is considered a **less than significant impact**.

A Street Access Road

A roadway extending east from the intersection of 28th Street and A Street through the Landfill site and over the Capital City Freeway is currently contemplated in the City's 2030 General Plan as part of the Sutter's Landing Parkway Interchange, and in the Sutter's Landing Park Master Plan. The existing road that connects the A Street Bridge to 28th Street crosses the western edge of the former 28th Street Landfill. The proposed project would upgrade this off-site roadway to a paved road to provide access to the project site. According to the City's Integrated Waste General Manager, the A Street ROW has provided access to the project site since the A Street Bridge was constructed in the 1950s and this ROW was never excavated as part of the landfill. It is unlikely that this road would be constructed on a capped portion of the landfill. In its July 2013 inspection of the 28th Street Landfill, the LEA stated, based on comments by City landfill staff, that although the existing road connecting A Street and 28th Street does not extend over landfill waste, pockets of waste may exist on either side of the ROW. As part of the project improvements to A Street, geotechnical and environmental sampling will be conducted under the jurisdiction of the City and the LEA. To the extent required, the improvements shall be undertaken under the jurisdiction of the CVRWQCB and SCEMD. The road improvements shall be undertaken, as part of the project, to achieve compliance with municipal engineering standards and requirements, ensure the integrity of the landfill and public safety, and protect public health, water and other environmental resources. Such actions to achieve these standards may include excavation, import of engineered fill or soil, compaction, and or installation of an engineered cover meeting the requirements of the LEA and CVRWQCB, as appropriate.

The LEA and CVRWQCB may additionally determine that the landfill operator must make landfill design modifications as part of the project improvements to A Street from the A Street Bridge to 28th Street (e.g., related to landfill security, integrity of the landfill, and access to landfill monitoring equipment), which modifications may be required to be included in the Postclosure Land Use Plan. Further, should solid waste be determined to be located beneath the road alignment that connects the A Street Bridge to 28th Street, both the LEA and the CVRWQCB may be required to make modifications to the Postclosure Land Use Plan, the Closure/Postclosure Maintenance Plan and the Postclosure Maintenance and Corrective Action Order, respectively.

Based on compliance with these project measures, the impact is considered **less than significant**.

Mitigation Measures

In accordance with Mitigation Measure 4.4-1(a), buried debris, if encountered, would be evaluated per the Construction Management Plan. If PACM material is encountered in the buried debris, if any, it will be handled in accordance with 8 CCR 1529; with implementation of Mitigation Measures 4.4-2(a) and compliance with 8 CCR 1529 and applicable requirements for disposal of asbestos containing material, impacts from, potential exposure to asbestos would be less-than-significant. Accidental spills associated with construction activities that could potentially cause soil or groundwater contamination would also be mitigated through compliance with Mitigation Measure 4.4-1(a) to less than significant. Although impacts associated with the former 28th Street Landfill would be less than significant without mitigation, the applicant has agreed, as an additional voluntary measure, to implement Mitigation Measure 4.4-2(b) which would require future residents to be notified of the proximity of the landfill and the need for ongoing groundwater and methane gas monitoring on the project site. This measure would further reduce the impact and the impact would remain less than significant. This impact is considered **less than significant**.

Asbestos/Construction Activities

4.4-2(a) Implement Mitigation Measure 4.4-1(a).

Former Landfill

4.4-2(b) New residents shall be notified in writing of the proximity to the former 28th Street Landfill, the existence of landfill gas, the presence of a landfill gas collection system on the former 28th Street Landfill property, monthly landfill gas monitoring within and around the project site, details for how to obtain the landfill gas monitoring reports, and the potential for odors and other nuisances originated from activities on the former Landfill.

4.4-3: The proposed project could expose people (e.g., construction workers) to existing contaminated groundwater during dewatering activities. Based on the analysis below the impact is *less than significant*.

Since 1997, groundwater at the project site has been periodically monitored in two groundwater monitoring wells, C11S and C11D, as part of the City of Sacramento's post-closure monitoring of the adjacent closed 28th Street Landfill. Well C11D is screened from approximately 70 to 80 feet bgs, and well C11S is screened from approximately 10 to 35 feet bgs. The reported depth to water in well C11S is 20 feet bgs (see Appendix K). Since 2007, four VOC detections have occurred in the two on-site groundwater monitoring wells, all at concentrations below their respective MCLs (EKI 2013a). Between 1997 and 2007, low levels

of VOCs were detected sporadically in these wells. Vinyl chloride was detected above its MCL of 0.5 ug/l on nine occasions between 1998 and 2005. No other VOCs were detected above their respective MCL between 1997 and 2007, and vinyl chloride has not been detected at the project site since 2005. The City will continue to monitor groundwater at the project site for 30 years following closure (until 2027/2028) or until there is no more potential for off-site migration (EKI 2013a and City of Sacramento 1991).

Historical groundwater data from on-site wells and subsurface investigations indicate that depths to groundwater in the vicinity of the site have ranged between approximately 8 feet bgs and 20 feet bgs (WKA 2006). It is possible that pre-project grading groundwater elevations may approach the site surface elevation at the end of the rainy season and prior to prolonged periods of drying (WKA 2006).

Grading for the project would typically be 5 feet below the proposed finish grade for the project, utility trenching could be as deep as 9 feet bgs, and the sewer/sewer lift station could be as deep as 16 to 26 feet bgs. Due to the potential for high seasonal groundwater elevations and proposed construction depths, dewatering with deep dewatering wells would likely be required for construction of this project, particularly if work is performed in the spring.

Additionally, due to the potential presence of groundwater at or near the surface during and following the rainy season, near-surface soils may be in a near saturated condition until an extended period of drying has occurred, potentially hampering grading operations. This would be particularly true of soils at the bottom of the excavation.

Potential construction-related dewatering effluent would either be discharged to the City's combined sewer system (CSS) or to nearby surface waters. Discharge of construction-related dewatering effluent to the CSS would be in accordance with the City of Sacramento's DOU Engineering Services Policy No. 0001 (Resolution No. 92-439). A dewatering plan, approved by DOU, covering the proposed dewatering details such as flow rate, system design, and contaminant monitoring plan would be prepared. Discharges to the sewer must meet the SRCSD- and RWQCB-approved levels. Dischargers to the sewer must also obtain a SRCSD discharge permit.

Normally, construction site dewatering discharges are an allowable type of non-stormwater discharge under the Construction General Permit, if short-term and uncontaminated. This is the currently anticipated regulatory pathway for the project. However, if the City determines that groundwater volumes and conditions warrant, the construction contractor could be required to obtain permit coverage under either statewide or region-specific general WDRs from the CVRWQCB, depending on whether dewatering discharges would be made to land or to the City's stormwater conveyance system. Under the anticipated regulatory pathway, prior to

undertaking dewatering activities, the project applicant would be required to obtain a permit from the City. The project applicant would be covered by a CVRWQCB NPDES general permit for construction dewatering activities to ensure compliance with Section 303 of the Clean Water Act, by submitting a Notice of Intent to the CVRWQCB.

Compliance with the CVRWQCB and/or City requirements would limit the potential impact of dewatering to **less than significant**.

Mitigation Measures

None required.

4.4-4: The proposed project could substantially increase the risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site. Based on the analysis below the impact is *less than significant*.

The proximity of the project site to the UPRR tracks and the Capital City Freeway could result in a safety hazard to the proposed residential uses of the site. There is the potential for a release of hazardous materials to occur from a potential train derailment along the UPRR tracks to the south of the site or spill from hazardous cargo transported along Capital City Freeway to the north of the site.

UPRR Tracks

Based on research conducted as part of the noise analysis (see Section 4.6, Noise) daily train operations adjacent to the southern boundary of the site consists of approximately 8 passenger trains and 15 freight trains and on the busiest days up to 22 freight trains that pass by the site for a total of 30 operations (Bollard Acoustical Consultants 2013).

The National Transportation Safety Board has indicated that derailed rail cars can travel as much as 100 feet from the tracks. The width of the UPRR ROW ranges from approximately 150 feet on the west end of the project site to 190 feet on the east end of the project site at the beginning of Elvas Wye (tracks diverge). The ROW at the Elvas Wye area varies from approximately 220 feet to 440 feet. The distance of the residences to the nearest railroad track would range from 90 feet on the west side up to 161 feet on the eastern side of the project site, thereby minimizing the potential for a derailment to reach residences. Furthermore, the tracks curve at the east end of the property site, requiring trains to slow in this area to between 20 to 25 miles per hour.

Based on accident rates from 1992 through 2001, an average of one freight train derailment occurs per 1 million freight train miles (Anderson and Barkan 2004). The length of track along the southern boundary of the project site is approximately 0.75 mile. Conservatively assuming a maximum of up to 30 freight pass bys per day, approximately 22.5 freight train miles occur per day along the project site. At this rate, it would take 122 years for trains passing by the site to reach 1 million freight miles. This equates to a potential accident rate of 1 in 122 years. Considering that hazardous materials are carried only in a small percentage of rail cars, maybe 10% to 15%, the potential for derailment of a train car carrying hazardous materials further decreases to approximately 1 accident in 1,000 years. Additionally, based on data collected in 2012, only 0.002% of all rail hazardous materials shipments are involved in train accidents (Association of American Railroads 2012). Based on this information, it is unlikely that a hazardous materials rail accident would occur along the project site.

During construction activities, workers could be within 100 feet of the tracks; however, the trains intermittently pass by the site and the construction workers would only be temporarily within 100 feet. It is unlikely the amount of time spent near the tracks would be considered hazardous to worker safety.

Capital City Freeway

A 30-foot wide landscape setback/sound buffer and sound wall is proposed between the northern boundary of the project site and the freeway ROW. The sound wall and berm combination would be approximately 13 to 18.5 feet tall (depending on location and final design) above the proposed building pads, and would consist of a soil berm topped with sound wall. The sound wall would be located between approximately 125 feet south of the freeway pavement along the western end to 43 feet along the eastern end of the site. The residences would be located approximately 58 feet from the freeway at its closest point separated by a landscaped buffer and sound wall. Together, the landscape setback, sound wall, and distance from the closest residences would provide an adequate barrier/buffer in the event of an accidental spill reducing the potential for hazardous materials from reaching the project site.

The project site is located within the City of Sacramento's EOP area. Under the EOP and the City of Sacramento Evacuation Plan, which provides evacuation-specific supporting information to the EOP, in the event of an emergency or an accidental release of hazardous materials from trains or the freeway, procedures would be immediately implemented to ensure effective response, recovery, and mitigation (City of Sacramento 2005a; City of Sacramento 2008). Per General Plan Goal PHS 2.1, the City is required to provide coordinated fire protection and emergency medical services. The Special Operations Division of the City of Sacramento Fire Department contains the HMRT (City of Sacramento 2005b). The HMRT provides first response in the unlikely event of a railroad- or freeway-related hazardous materials emergency. The City of Sacramento Fire Department also coordinates emergency evacuations (City of Sacramento

2005a). The landscape setback and sound wall between the project site and the freeway and UPRR tracks provides additional time for the implementation of this emergency response, thereby further limiting the potential for impacts to the project site to occur as a result of a release of hazardous materials from the freeway or the rail line.

Additionally, the City has required that the project include the following conditions:

- Prepare an evacuation route plan that establishes an exit route from the project site to a designated elevation via a continuous paved surface and provide the evacuation route plan to the residents at the time of purchase.
- Require the HOA to review the evacuation route plan at least every 3 years and include any updates or changes to residents with distribution of the annual budget.

Therefore, because adequate procedures are in place and the project has been designed to shield future residents from potential hazards due to proximity to the freeway and the UPRR tracks, and because the odds of an incident are so low, impacts associated with risk of exposure of site occupants to inadvertent or accidental releases of hazardous substances transported on adjacent roadways or rail lines near the site would be considered **less than significant**.

Mitigation Measures

None required.

4.4-5: The proposed project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Based on the analysis below the impact is *less than significant*.

The proposed project includes two vehicular access points: the A Street Bridge over Capital City Freeway in the western portion of the site and the proposed extension of 40th Street under the UPRR embankment in the eastern portion of the site. The project also includes improvements to the A Street Bridge by adding a sidewalk on the north side and upgrading the guardrails. An additional bicycle and pedestrian access point is the proposed underpass under the UPRR embankment (if approved by UPRR) that would connect the southwestern portion of the site with the northern terminus of Alhambra Boulevard. In addition, sidewalks and bicycle access would be included along 40th Street.

Under the City of Sacramento's 2008 EOP, evacuation parameters to deal with all hazards, including flood or hazardous materials spills, are determined by the established Police Beats within the city. The project site is located in Police Beat Area 3C. In this area, Alhambra Boulevard serves as the suggested north-south evacuation route. In the event of an emergency

evacuation, it is anticipated vehicles would exit the site via 40th Street in addition to A Street (see also Impact 4.5-4).

Concerns were raised in the NOP Comments associated with trains potentially blocking vehicles at the at-grade railroad crossing at 28th and B streets. A delay unrelated to an emergency (e.g., derailment, flooding) is not considered an environmental impact. Currently there are numerous at-grade railroad crossings throughout the Midtown and Downtown areas of the City that accommodate both light-rail trains as well as freight trains. When freight trains pass through the area, these intersections can be blocked for longer periods of time. As noted under Impact 4.4-4, the project would prepare an evacuation route plan that establishes an exit route from the project site and will provide the evacuation route plan to residents at the time of home purchase. To avoid any potential delays or backups at the 28th/B Street crossing in an emergency, it is anticipated the evacuation plan for the project would use the 40th Street access in addition to the A Street access. In addition, in the event trains are blocking 28th Street in the event of an emergency, City staff would coordinate with UPRR to clear the area. In event of the closure of the flood gate at 40th Street, egress from the project site via the A Street Bridge would remain available to residents providing access to Midtown and to Sutter's Landing Park. The UPRR tracks and Sutter's Landing Regional Park would be outside the hypothetical flood depths and are considered "refuge areas" during emergency operations. They would be available as a safe haven for residents to avoid drowning and loss of life until rescue operations can be carried out. See also discussion in Section 4.5, Hydrology, Water Quality and Drainage.

The HOA would also review the evacuation route plan referenced above at least every 3 years and provide any updates or changes to residents with distribution of the annual budget. As discussed in Chapter 2, Project Description, the project applicant is also required to prepare a Construction Management Plan, which will include a traffic control plan for construction vehicles and equipment that would be reviewed and approved by the City's Department of Transportation prior to beginning any construction activities. The City will ensure the Construction Management Plan does not interfere with any emergency evacuation routes in the event of an emergency in the surrounding neighborhoods during construction activities.

Therefore, the project would not impair or physically interfere with the City's Evacuation Plan, and compliance with City requirements would ensure the project impact would be **less than significant**.

Mitigation Measures

None required.

Cumulative Impacts

The cumulative context for the analysis of potential hazardous materials impacts (including hazardous materials usage during construction, exposure to potentially contaminated soils, and exposure to potentially contaminated groundwater during construction dewatering) is generally site-specific, rather than cumulative in nature. Compliance with all applicable federal, state, and local regulations related to hazards and hazardous materials on a project-by-project basis would be required for all projects within the City. Therefore, these issues are not addressed in the cumulative impact analysis.

Public safety impacts can have the potential to combine with other impacts, depending on the type of hazard they present. This analysis addresses potential cumulative impacts resulting from construction and/or implementation of the proposed project and similar development projects within the City of Sacramento based on buildout of the City's 2030 General Plan.

The proposed project, in conjunction with other future cumulative development within the City based on buildout of the City's 2030 General Plan, would include areas designated for residential uses. The quantities of hazardous materials that would be present during occupancy of future residential land uses are expected to be minimal and would consist of household and maintenance products (paints, solvents, cleaning supplies, pool chemicals, pesticides, and herbicides). Implementation of applicable hazardous materials management laws and regulations adopted at the federal, state, and local level would ensure cumulative impacts related to hazardous materials use remain less than significant.

Hazardous materials spills or accidents would typically be site-specific and would not combine with other uses to create a cumulative effect. Associated health and safety risks generally would be limited to those individuals using the materials or to persons in the immediate vicinity of the materials.

The future could see an increase in train traffic on the adjacent UPRR tracks associated with expansion of the Capitol Corridor (passenger trains) as well as freight train trips. The Capitol Corridor Joint Powers Authority has indicated potential plans to construct an additional track in the UPRR ROW adjacent to the southern boundary of the site, which would be a minimum of 45 feet from proposed residences. The timeline for this project anticipates completion sometime in the next 15 to 30 years, subject to approval of a plan and the availability of funding. This would enable Amtrak to increase train trips between Sacramento and Roseville up to to 10 round trips per day. UPRR is unable to estimate the increase in number and frequency of future freight train trips adjacent to the project site due to homeland security concerns. However, conservatively assuming a 25% to 33% future increase in train traffic, there would be a theoretical rate of approximately 1 hazardous materials accident or derailment in 900 to 1,000 years. While the theoretical accident rate increases with increased train traffic, the rate is still approximately a

1,000-year event. Therefore, the potential increase in train frequency at project buildout and beyond is not anticipated to significantly increase the risks associated with accidents or train derailments to project residents.

4.4-6: The proposed project could contribute to cumulative increases in the potential exposure of people to sites where soil and/or groundwater contamination could be present from past or current uses. Based on the analysis below the impact is less than significant.

For any projects in the City of Sacramento that would entail development of a site where past uses could have resulted in soil or groundwater contamination, the potential exists for release of hazardous substances during construction at those sites. For individuals not involved in construction activities, the greatest potential source of exposure to contaminants would be airborne emissions, primarily through dust either from soil remediation activities or from soil-disturbing activities during construction where previously unidentified contamination may exist. (Other potential pathways, such as direct contact with contaminated soils or groundwater would not pose as great a risk to the public because such exposure scenarios are site-specific and would typically be confined to the construction zones).

To the extent that construction of the proposed project could result in an incremental increase in risk from contaminant-related air emissions, the project, in combination with other development projects in the City, would not result in any cumulative significant effects. This assumption is based on implementation of site-specific risk management controls and compliance with applicable laws and regulations pertaining to hazardous materials management at the other locations. Moreover, it is extremely unlikely that any one individual outside of any particular project site construction zone would be exposed to maximum levels of construction-generated contaminated air emissions (if any) for the entire development period, even if controls were not in place. Due to atmospheric dispersion, chemical concentrations decrease as the distance from the source increases. Thus, the incremental contribution of each additional source that could increase emissions at a specific location would differ relative to the location of a given person; an individual who is directly outside the construction zone of one source would be unlikely to be exposed to maximum levels from another source. Additional risks that could be posed by other projects where contaminants could be disturbed would not significantly increase the risks to individuals. Consequently, the actual risks that might be realized by any one individual exposed to potential impacts from construction of the project site, in combination with other construction or remediation projects in which contaminated soils are present, would be minimal. Also, construction similar in scale to the proposed project is unlikely to occur adjacent to the project site.

As discussed earlier, the cumulative increase to soil or groundwater contamination is not considered significant. Therefore, project construction-related effects due to soil or

groundwater contamination would not be considerable and the project's contribution would be **less than significant**.

Mitigation Measures

None required.

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