3.6 CULTURAL AND PALEONTOLOGICAL RESOURCES

3.6.1 CULTURAL RESOURCES INTRODUCTION

This discussion provides an evaluation of K Line Northern Extension (KNE) as it relates to cultural resources, specifically historical resources, archaeological resources, and human remains. It includes descriptions of the federal, state, and local regulatory setting, existing conditions, and the impacts from construction and operation of the proposed alignments and stations, design option, and the maintenance and storage facility (MSF), as well as mitigation measures where applicable. For more detailed information, refer to the KNE Cultural and Paleontological Resources Technical Report (Appendix 3.6-A).

See Sections 3.6.8 through Section 3.6.14 for the analysis of paleontological resources.

3.6.2 REGULATORY FRAMEWORK

3.6.2.1 FEDERAL

The following federal laws and regulations are relevant to construction and operations of the project:

- National Historic Preservation Act (54 United States Code 300101 et seq.)
- National Register of Historic Places (NRHP) (36 Code of Federal Regulations [CFR] 60)

3.6.2.2 STATE

The following state laws and regulations are relevant to construction and operation of the project:

- California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Sections 21000 et seq.)
- California Register of Historical Resources (CRHR)
- California PRC:
  - Sections 5020–5029.5
  - Sections 5079–5079.65
  - Sections 5097.9–5097.991
  - Section 21083.2(g)
  - 21083.2(b) and 21083.2(c)
- Health and Safety Code Sections 7052 and 7050.5
- California Native American Historical, Cultural, and Sacred Sites Act

3.6.2.3 REGIONAL

No regional regulations are applicable to the project regarding cultural resources.

3.6.2.4 LOCAL

The following local regulations are relevant to construction and operation of the project:

- Los Angeles County Historic Preservation Ordinance
- Los Angeles County, Administrative Code, Division 22, Chapter 9, Article 1 (Ordinance No. 178402)
- City of Los Angeles, Municipal Code, Chapter I, Article 2, Section 12.20.3 (Ordinance No. 175891)
- City of Los Angeles, General Plan, Conservation Element

3.6.3 METHODOLOGY

3.6.3.1 CEQA METHODOLOGY

The purpose of this analysis is to evaluate the project against CEQA thresholds of significance as the basis for determining the level of impacts related to cultural resources. The methodology used to assess potential impacts on cultural resources, specifically historical resources, archaeological resources, and human remains, included delineation of the resource study area (RSA); consultation with various interested parties; and identification of cultural resources through archival research and a targeted field survey.

3.6.3.2 SIGNIFICANCE THRESHOLDS

In accordance with Appendix G of the 2022 CEQA Guidelines, the project would have a significant impact related to cultural resources if it would:

- Impact CUL-1: Cause a substantial adverse change in the significance of a historical resource pursuant to California Code of Regulations (CCR) Section 15064.5.
- Impact CUL-2: Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CCR Section 15064.
- Impact CUL-3: Disturb any human remains, including those interred outside of dedicated cemeteries.

3.6.4 RESOURCE STUDY AREA

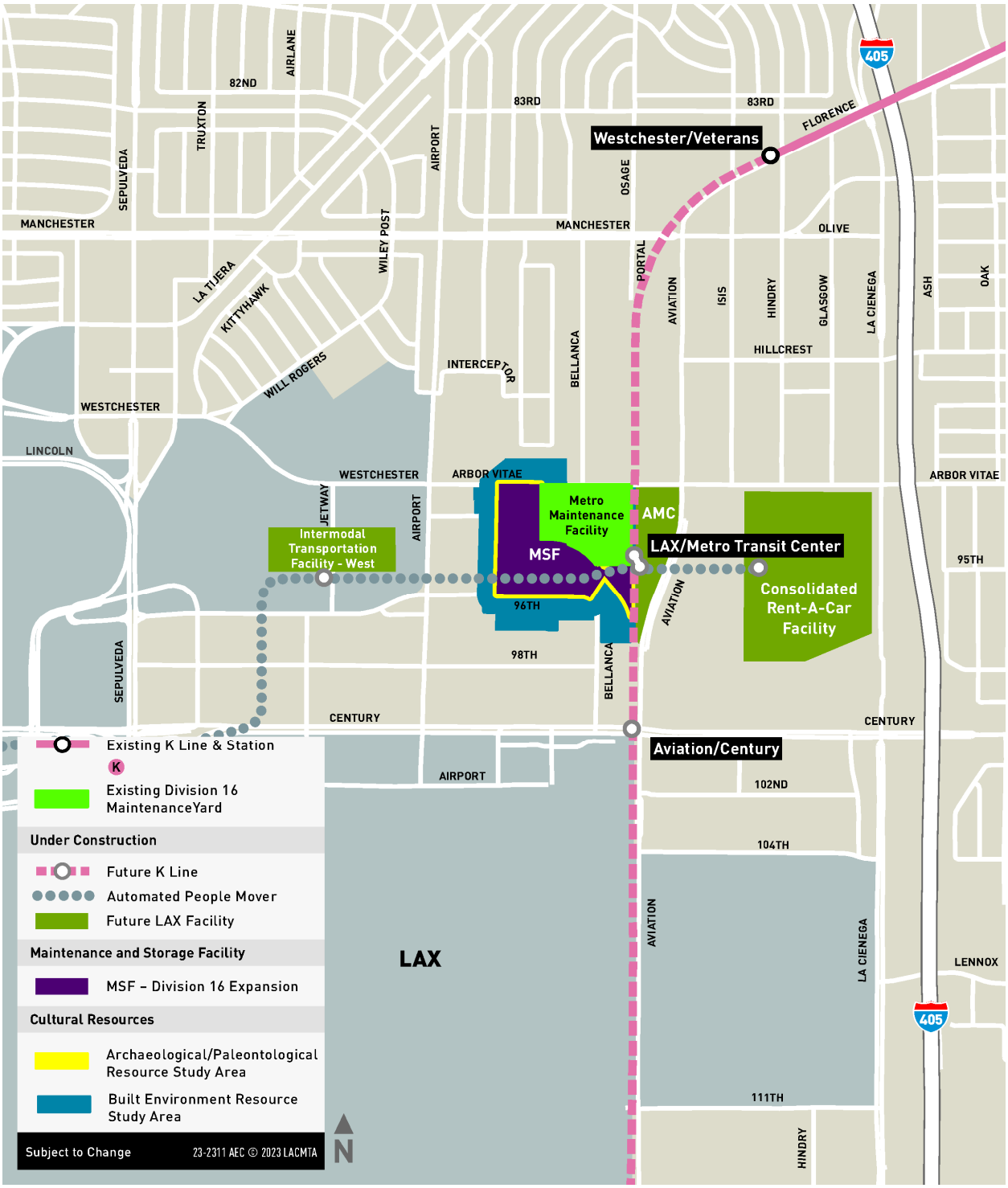
The built environment RSA for cultural resources is defined as the area necessary to construct, operate, and maintain the alignments and stations, the design option, and the MSF. The RSA includes all right-of-way (ROW) required for the project, including public parcels and private properties planned for permanent site improvements, such as stations and maintenance yards, as well as construction areas and tunnel boring machine (TBM) launch sites. Where new infrastructure is constructed or would require aboveground elements, the built environment RSA includes the entirety of any parcel that the alignment would completely or partially cross or buildings adjacent to the alignment footprint within a reasonable viewshed of the new construction (i.e., the introduction of new infrastructure would have the potential to cause new visual, audible, or atmospheric intrusions on the setting of adjacent cultural resources). For built environment resources, property acquisitions and adjacent areas where the project has the potential to indirectly impact historic resources are also included. Due to the underground nature of most of the project (with the exception of the MSF), the built environment RSA within the underground alignments was exempted for built environment resources because no construction impacts or permanent visual impacts to these resources would occur. Typically, the built environment RSA extends out from the alignment approximately 50 feet, or from one to three parcels, depending on parcel sizes, intervening landscape elements, and buildings, and whether the historic land use is sensitive to the proposed change in setting.

The archaeological RSA encompasses areas where temporary or permanent ground disturbance may occur and includes all proposed ROW, acquisition, and construction areas. An overview of both the archaeological and built environment RSAs is provided on Figure 3.6-1. Figure 3.6-2 shows the MSF RSA.

FIGURE 3.6-1. KNE ALIGNMENTS, STATIONS, AND HOLLYWOOD BOWL DESIGN OPTION RESOURCE STUDY AREAS

Source: Connect Los Angeles Partners 2024

FIGURE 3.6-2. MSF RESOURCE STUDY AREA



Source: Connect Los Angeles Partners 2024

3.6.5 EXISTING SETTING

This existing setting discussion summarizes current conditions related to cultural resources within and near the KNE RSA.

3.6.5.1 REGIONAL SETTING

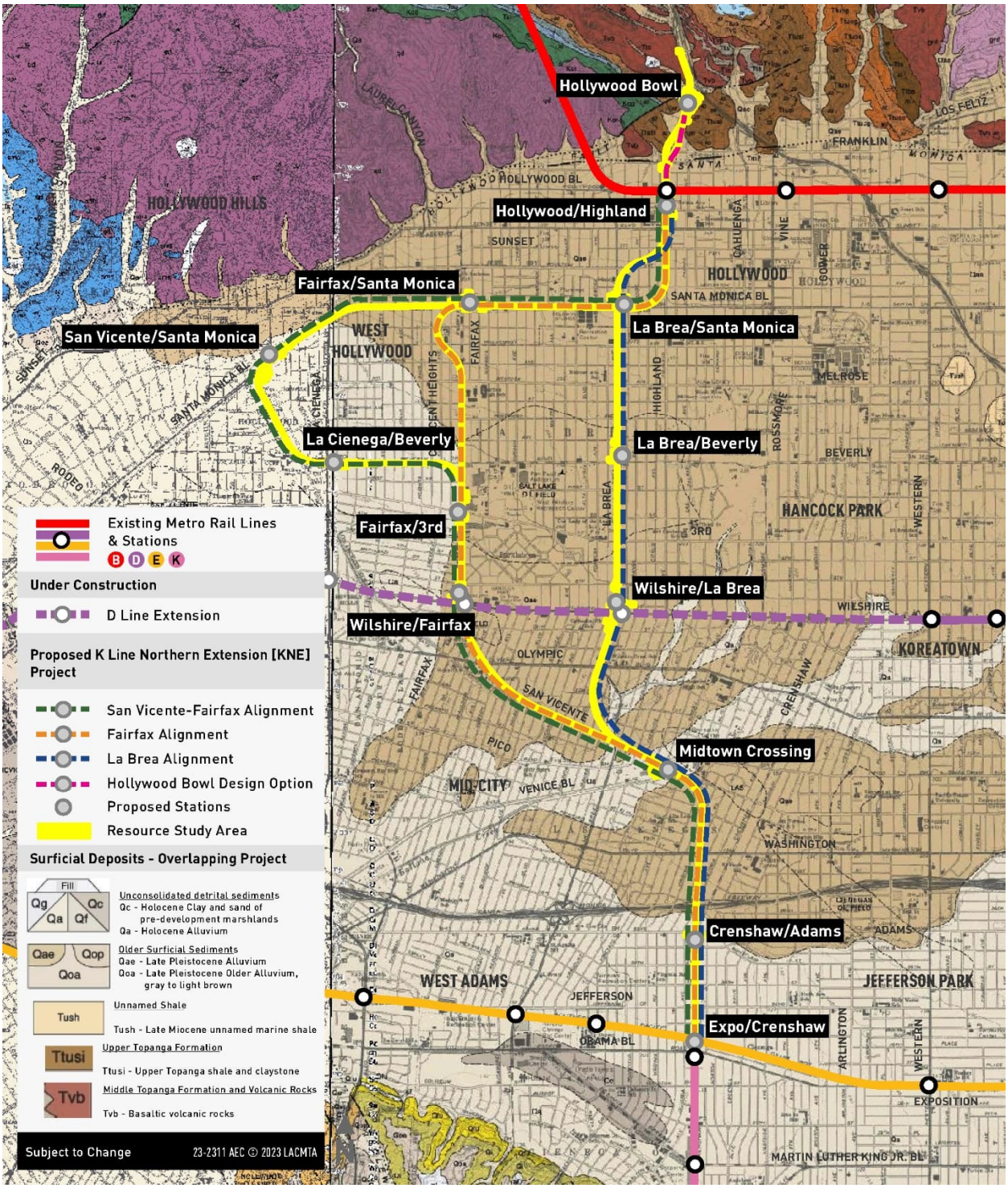
KNE is located in a relatively flat area of the Los Angeles Basin. The basin is bounded by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains. Today, the vicinity of KNE is a densely populated and heavily developed city landscape.

3.6.5.1.1.1 GEOLOGIC SETTING

Geologic mapping indicates that most of the surface in the vicinity of KNE is covered with Pleistocene-aged (11,700 before present [BP] to 2.58 million years [Ma]) alluvium, alluvial fan, and valley deposits (mapped as Qae in Figure 3.6-3 and Figure 3.6-4). A smaller portion of the project is covered by Holocene-aged (less than 11,700 BP) alluvium mapped as Qa. Outcrops of the Topanga Formation cross the northern tip of the RSA.

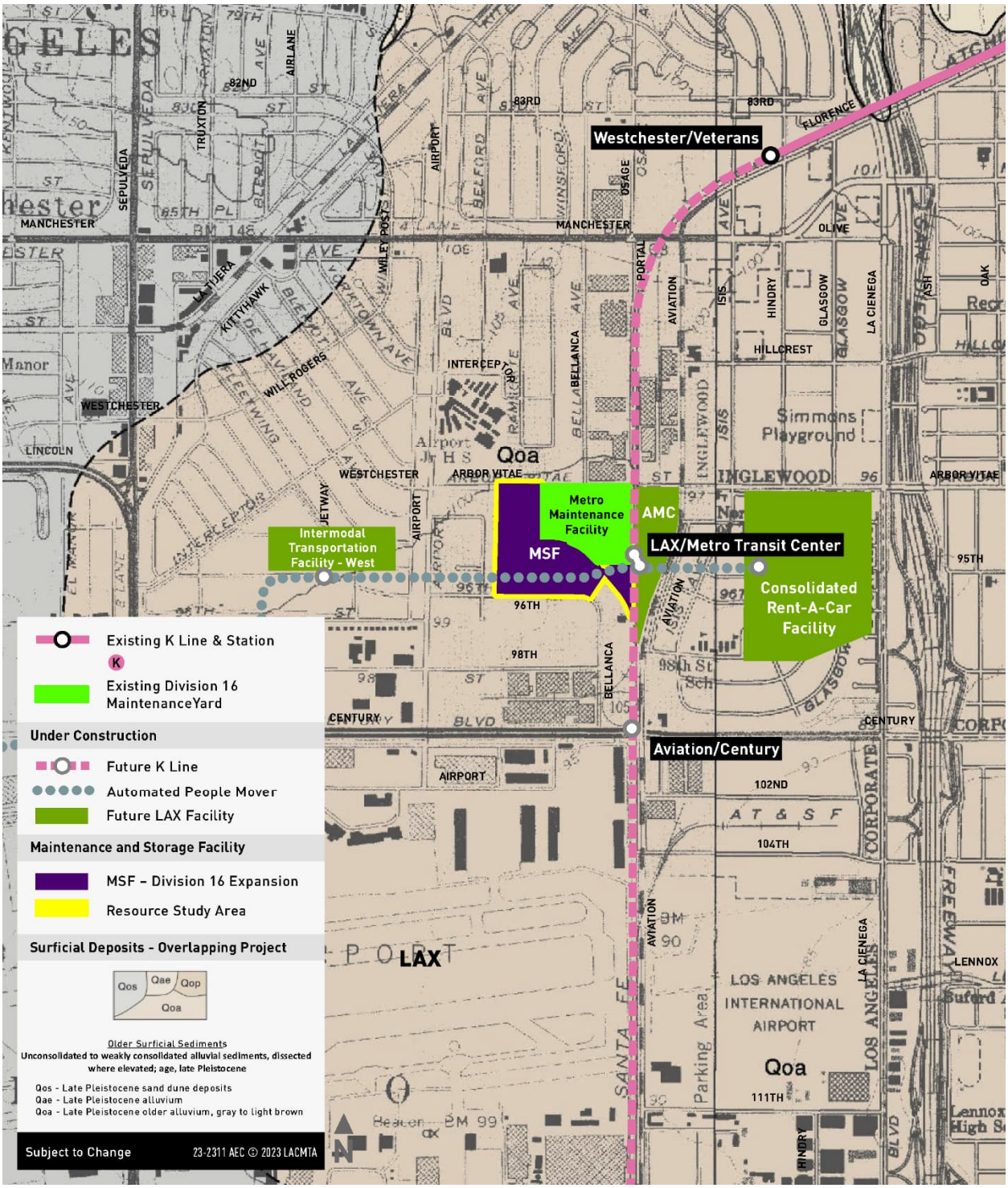
Any cultural deposits that are or may have been present within the RSA would likely have been located on or near the surface within younger alluvium (Qa) deposits. These recent alluvial deposits are common throughout the northern half of the RSA and are characterized by deposits of gravel and sand that form active parts of alluvial valleys.

FIGURE 3.6-3. SURFICIAL DEPOSITS IN VICINITY OF THE KNE ALIGNMENTS



Source: Dibblee and Ehrenspeck 1991a and 1991b; Connect Los Angeles Partners 2024

FIGURE 3.6-4. SURFICIAL DEPOSITS IN THE VICINITY OF THE MSF



Source: Dibblee and Minch 2007; Connect Los Angeles Partners 2024

3.6.5.1.1.2 PREHISTORIC CONTEXT

The prehistory of the Southern California coastal region is typically divided into Early (9,000 to 3,000 BP), Middle (2,550 to 800 BP), and Late Period (800 to 400 BP), with an initial Paleo-Indian period dating to the late Pleistocene and early Holocene (13,000 to 10,000 BP) (Wallace 1955; Warren 1968).

PALEO-INDIAN PERIOD (13,000 TO 10,000 BP)

The limited contextualized evidence of Paleo-Indian hunting technology and the more recent identification of early sites along the Pacific coast indicate that the earliest people to colonize California likely arrived along the shores and settled into these rich coastal environments (Erlandson et al. 2007:53; Willis and Des Lauriers 2011). In the Southern California coastal region, the earliest evidence of human occupation comes from a handful of sites with early tools and some human remains that have been dated from 7,000 to around 13,000 years old (Erlandson 2012:21).

EARLY PERIOD (9000 TO 3000 BP)

Although people are known to have inhabited what is now Southern California beginning at least 13,000 years BP (Arnold et al. 2004), the first solid evidence of human occupation in the Los Angeles Basin dates to roughly 9000 BP and is associated with a period known as the Early Period or the Millingstone Horizon (Wallace 1955; Warren 1968). Sites from this time period typically contain shell middens, large numbers of milling implements, crude core and cobble tools, flaked stone tools, distinctive cogged stone implements, and infrequent side-notched dart points (Fenenga 1953).

MIDDLE PERIOD (2500 TO 800 BP)

Although many aspects of Early Period culture persisted, by 3000 BP, a number of socioeconomic changes occurred (Erlandson 1994; Wallace 1955; Warren 1968). These changes are associated with the period known as the Middle Period or Intermediate Horizon (Wallace 1955). The mortar and pestle were introduced during this period, suggesting an increased reliance on hard plant foods such as acorns (Altschul and Grenda 2002). Increasing population size coincides with intensified exploitation of terrestrial and marine resources (Erlandson 1994).

LATE PERIOD (800 TO 400 BP)

The Late Prehistoric period, spanning from approximately 800 years ago to the Spanish Mission era, is the period associated with the florescence of contemporary Native American groups. The Late Period is notable for a dramatic increase in the number of habitation and food processing sites. These sites include more bone tools, numerous types of Olivella shell beads, circular fishhooks, and occasional pottery vessels (Miller 1991). Between 800 and 200 years BP, small arrow-sized projectile points, of the Desert side-notched and Cottonwood triangular series, were adopted along what is now the Southern California coast (Altschul and Grenda 2002). Following European contact, glass trade beads and metal items also appeared in the archaeological record. Burial practices shifted to cremation in what is now the Los Angeles Basin and northern Orange County. However, at many coastal and most Channel Island sites, interment remained the common practice (Moratto 1984).

At the time of European contact, the general project vicinity was occupied by Shoshonean-speaking Gabrieliño people who controlled what is now the Los Angeles Basin and Orange County down to Aliso Creek (Kroeber 1925). The northern San Fernando Valley was the northernmost extent of the territory occupied by people who the Spanish referred to as the Fernadeño, a name derived from nearby Mission San Fernando. The Fernadeño were culturally identical to the Gabrieliño. The Tataviam and Chumash, of the Hokan Chumashan language family, lived to the north and west of this territory (Bean and Smith 1978; Shipley 1978).

3.6.5.1.1.3 HISTORIC CONTEXT

The historical era in California began with Spanish colonization and is often divided into three distinctive chronological and historical periods: the Spanish or Mission Period (1542 to 1821), the Mexican or Rancho Period (1821 to 1848), and the American Period (1848 to present). The history of Los Angeles is characterized by population influx and diversity, as well as infrastructural and architectural developments.

3.6.5.1.2 INVENTORY RESULTS

This discussion identifies the results of identification efforts for cultural resources.

3.6.5.1.2.1 INTERESTED PARTY CONSULTATION

Metro has sought information, as appropriate, from three government agencies (the City of West Hollywood Planning and Development Services, the Historic Landmarks and Records Commission of Los Angeles County, and the Los Angeles County Department of Regional Planning) and 32 organizations (i.e., historical societies, museums, libraries, and preservation organizations) likely to have knowledge of or concerns about cultural resources in the RSA and vicinity to identify issues related to potential impacts on historical and archaeological resources.

Letters were sent to interested parties on October 4, 2023, describing the RSA and the United States Geological Survey (USGS) topographic maps of the alignments. No responses have been received to date.

3.6.5.1.2.2 ARCHIVAL RESEARCH

Archaeologists, historians, and architectural historians who meet the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) and are familiar with resources and research considerations within the vicinity of KNE conducted the archival research for this study.

SOUTH CENTRAL COASTAL INFORMATION CENTER RECORDS SEARCH

A records search for the project was conducted at the South Central Coastal Information Center (SCCIC) of the California Historical Resources Information System, California State University, Fullerton on January 13, 18, and 19, and February 22, 2023. The SCCIC, an affiliate of the Office of Historic Preservation (OHP), is the official state repository of cultural resources records and studies for Los Angeles County. The search included a review of all previously recorded prehistoric archaeological, historic archaeological, and built environment resources and previous cultural resource reports on file within a 0.25-mile radius of the RSA. In addition, the California Points of Historical Interest, the California Historical Landmarks, the CRHR, the

NRHP, the California State Historic Resources Inventory, and local registers were reviewed. Historical USGS quadrangle maps were also reviewed.

The SCCIC records search identified 134 previously recorded resources within 0.25-mile radius of the RSA. Of the 134 resources (128 built environment, five archaeological, and one multi-component resource), 61 resources intersect the built environment RSA, 36 of which intersect the archaeological RSA. Table 3.6-1 provides the number of resources that overlap with the alignments, design option, and MSF.

TABLE 3.6-1. SCCIC PREVIOUSLY RECORDED RESOURCES WITHIN THE KNE BUILT ENVIRONMENT RSA

PROJECT COMPONENT	BUILT ENVIRONMENT RESOURCES	ARCHAEOLOGICAL RESOURCES	TOTAL
KNE San Vicente–Fairfax Alignment	42	2	44
KNE Fairfax Alignment	39	2	42
KNE La Brea Alignment	35	1	36
Hollywood Bowl Design Option	8	0	8
MSF	0	0	0

Source: SCCIC 2023
Note: Although there are 61 resources in the RSA, several resources overlap in the alignments and the design option; therefore, the resources identified in this table for all of the project components are more than 61.
KNE = K Line Northern Extension; MSF = maintenance and storage facility; RSA = resource study area; SCCIC = South Central Coastal Information Center

The SCCIC records search identified 128 built environment resources and one multi-component (built environment and archaeological) resource within a 0.25-mile radius of the RSA, of which 61 intersect the built environment RSA. Of these 61 built environment resources, 29 were identified as eligible and/or listed as historical resources on the CRHR. Built environment resources range from historic districts, such as the Whitley Heights Historic District, Miracle Mile Historic District, and Hollywood Boulevard Commercial and Entertainment District, to commercial buildings, such as the Zephyr Club, Rexall Drug Store, Lee Drug Co., and Johnie's Coffee Shop. Other building types include civic resources, such as the Hollywood High School Auditorium, the West Hollywood Library, and the Cahuenga Pass Transportation Center, to residential resources, such as the Samuel Freeman House, the Highland-Camrose Bungalow Village, and the De Keyser Residence. Many of these resources overlap with multiple alignments and the design option.

Additionally, the SCCIC records search identified six archaeological sites within the 0.25-mile radius of the archaeological RSA (Table 3.6-2). Two historic archaeological sites (P-19-003045 and P-19-003302) are within the archaeological RSA; one historic archaeological site (P-19-002964) is within the built environment RSA but outside the archaeological RSA; and one prehistoric archaeological site (P-19-000159) and two historic archaeological sites (P-19-001261 and P-19-002393) are outside both RSAs.

TABLE 3.6-2. SCCIC PREVIOUSLY RECORDED ARCHAEOLOGICAL RESOURCES

PRIMARY NUMBER (P-19-)	RESOURCE NAME/ DESCRIPTION	CONSTRUCTION DATE/TIME PERIOD	ELIGIBILITY/ EVALUATION STATUS FOR CRHR/NRHP	LOCATION
000159	La Brea Tar Pits – prehistoric archaeological materials and human remains	Prehistoric	Unevaluated	0.25-mile buffer
001261	La Brea Tar Pits – historic-age refuse in historic mining pit	Late 19th to early 20th Century	Unevaluated	0.25-mile buffer
002393	Historic-age refuse in redwood-lined privy or well	1902-1911	Unevaluated	0.25-mile buffer
002964	Historic-age trash deposit and brick-lined structure	1901-1950	Unevaluated	Built Environment RSA; KNE La Brea Alignment
003045	Gilmore Adobe and associated archaeological deposits	1852	Locally Significant	Archaeological RSA; KNE La Brea Alignment
003302	Historic-age trash deposit	Unknown	Unevaluated	Archaeological RSA; all KNE Alignments; Destroyed

Source: SCCIC 2023
CRHR = California Register of Historical Resources; NRHP = National Register of Historic Places; RSA = resource study area; SCCIC = South Central Coastal Information Center

BUILT ENVIRONMENT RESOURCE DIRECTORY

In addition to information from the SCCIC, archival research included a review of the Built Environment Resources Directory (BERD). The BERD is an inventory of built environment resources maintained by the OHP and contains many built resources that are not indicated on the SCCIC's maps. The BERD search identified 209 resources within the built environment RSA, many of which overlap multiple alignments and the design option, as summarized in Table 3.6-3.

TABLE 3.6-3. BERD RESOURCES WITHIN THE KNE BUILT ENVIRONMENT RSA

PROJECT COMPONENT	NUMBER OF BERD RESOURCES*
KNE San Vicente–Fairfax Alignment	174
KNE Fairfax Alignment	159
KNE La Brea Alignment	101
Hollywood Bowl Design Option	21
MSF	0

Source: BERD 2023
Note: Although there are 209 BERD resources in the RSA, multiple BERD resources overlap in the alignments and the design option; therefore, the resources identified in this table for all of the project components are more than 209.
BERD = Built Environment Resources Directory; KNE = K Line Northern Extension; MSF = maintenance and storage facility; RSA = resource study area

CITY OF LOS ANGELES HISTORIC RESOURCES INVENTORY

A search of the Los Angeles Historic Resources Inventory (HistoricPlacesLA) was also conducted. HistoricPlacesLA contains information on Los Angeles Historic-Cultural Monuments (LAHCMs), Historic Preservation Overlay Zones (HPOZs), and properties identified as eligible for listing in the NRHP or CRHR, or as an LAHCM or a HPOZ through the Los Angeles Historic Resources Survey, known as SurveyLA. The HistoricPlacesLA search identified five HPOZs partially within the built environment RSA: Carthay Circle HPOZ, La Fayette Square HPOZ, Miracle Mile HPOZ, Miracle Mile North HPOZ, and Whitley Heights HPOZ. A review of SurveyLA identified two additional historical resources: the Park La Brea Garden Apartments and the Firestone Tire Building. Table 3.6-4 summarizes these results by alignment and design option. No HPOZs were identified within the MSF RSA.

TABLE 3.6-4. HISTORIC PRESERVATION OVERLAY ZONES WITHIN THE KNE BUILT ENVIRONMENT RSA

HPOZ NAME	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
Carthay Circle HPOZ	X	X		
La Fayette Square HPOZ	X	X	X	
Miracle Mile HPOZ	X	X	X	
Miracle Mile North HPOZ			X	
Whitley Heights HPOZ				X
TOTAL OVERLAY ZONES	**3**	**3**	**3**	**1**

Source: HistoricPlacesLA 2023
HPOZ = Historic Preservation Overlay Zones; KNE = K Line Northern Extension; RSA = resource study area

In addition, the HistoricPlacesLA search identified 18 listed LAHCMs within the built environment RSA. Table 3.6-5 summarizes these results by alignment and design option. No LAHCMs were identified within the MSF RSA.

TABLE 3.6-5. LOS ANGELES HISTORIC-CULTURAL MONUMENTS WITHIN THE KNE BUILT ENVIRONMENT RSA

LAHCM NUMBER	ADDRESS	DESCRIPTION	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
475	1920-1928 North Highland Avenue	Highland Towers Apartments				X
248	6817 Franklin Avenue	First United Methodist Church of Hollywood	X	X	X	
291	2103-2115 1/2 North Highland Avenue	Highland - Camrose Bungalow Village				X
231	817-823 North Hayworth Avenue	El Greco Apartments		X		

LAHCM NUMBER	ADDRESS	DESCRIPTION	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
667	344-346 North Fairfax Avenue	The Leader Building rooftop neon sign		X		
1248	7901-7909 West Beverly Boulevard	Fairfax Theater		X		
1045	6101 West Wilshire Boulevard	Johnie's Coffee Shop	X	X		
566	6067 Wilshire Boulevard	May Company Wilshire	X	X		
543	6333 West 3rd Street	Original Farmers Market	X	X		
1167	7800-7860 West Beverly Boulevard	CBS Television City	X	X		
813	5207-5209 Wilshire Boulevard	Security-First National Bank			X	
1020	800 South La Brea Avenue	Firestone Tire Building			X	
451	5370 Wilshire Boulevard	Darkroom (façade only)			X	
Pending	5401 Wilshire Boulevard	Sontag Drug Store			X	
439	450-458 South Detroit Street	Apartments			X	
194	Hollywood Boulevard (between Gower and La Brea) and Vine Street (between Sunset and Yucca)	Hollywood Walk of Fame	X	X	X	
593	1666 North Highland Avenue	Max Factor Makeup Salon	X	X	X	
495	6834-6838 Hollywood Boulevard	El Capitan Theater	X	X	X	
TOTAL LAHCM			**8**	**11**	**9**	**2**

Source: HistoricPlacesLA 2023
KNE = K Line Northern Extension; LAHCM = Los Angeles Historic-Cultural Monument; RSA = resource study area

NATIVE AMERICAN HERITAGE COMMISSION SACRED LANDS FILE SEARCH

A Sacred Lands File (SLF) search was conducted by the Native American Heritage Commission (NAHC) on January 19, 2023, to identify any Native American cultural resources that may be Traditional Cultural Properties or tribal cultural resources and that might be affected by the project, as required by CEQA as amended by Assembly Bill (AB) 52.

The results of the SLF search indicate that the region contains Native American cultural resources, Traditional Cultural Properties, and/or tribal cultural resources. The NAHC also identified 10 Native American representatives for AB 52 consultation efforts and recommended contacting the Fernandeño Tataviam Band of Mission Indians and the Gabrieleño/Tongva San Gabriel Band of Mission Indians for additional information. A summary of AB 52 consultation is included in Section 3.17, Tribal Cultural Resources.

3.6.5.1.2.3 FIELD SURVEY

A targeted field survey was conducted on March 8 and 17, 2023, by a qualified architectural historian and archaeologist (36 CFR Part 61) to identify cultural resources in the RSA.

BUILT ENVIRONMENT RESOURCES

Due to the primarily underground nature of the project, the built environment survey focused on proposed station locations, TBM launch and retrieval sites, and construction staging areas with aboveground project components. The built environment survey was undertaken to identify architectural resources, which include the man-made features that comprise the recognizable built environment. This typically includes extant aboveground buildings and structures that date from the earliest territorial settlements until the present day.

To capture all potential historical resources through the duration of the project, the built environment component of the survey included all resources that would be at least 45 years old at project construction, which is estimated to begin in 2041. Therefore, all resources that were or appeared to be constructed by 1996 were included in the survey. Building construction dates were identified using Los Angeles County Tax Assessor information and verified in field and desktop surveys. All significant built environment resources newly identified during the survey were formally recorded on Department of Parks and Recreation (DPR) series 523 forms. DPR updates on previously recorded properties were also prepared as needed if previous documentation was inadequate or the resource had been substantially altered. Properties that were identified as ineligible resources were exempted from evaluation.

As a result of the pedestrian surveys, 16 previously documented built environment resources were updated and 50 new built environment resources were recorded.

ARCHAEOLOGICAL RESOURCES

The archaeological component of the field survey included accessible areas of exposed ground surface along the KNE footprint. Because a majority of the RSA is developed, prior to the survey a desktop review of the RSA was conducted to identify potential areas with exposed ground surface that could be inspected for evidence of material culture. Satellite imagery was used to map undeveloped lots and landscaped areas along roads, sidewalks, and other public areas in the RSA that could be examined for traces of archaeological resources.

No new or previously documented archaeological resources were observed during the survey.

3.6.5.1.3 SIGNIFICANT RESOURCES WITHIN THE RSA

This discussion summarizes resources identified within the RSAs that meet CEQA significance thresholds for cultural resources.

3.6.5.1.3.1 BUILT ENVIRONMENT RESOURCES

The cultural resources study identified 64 built environment resources within the built environment RSAs that qualify as historical resources for the purposes of CEQA, including one with an archaeological component. A total of 45 historical resources are located within the KNE San Vicente–Fairfax Alignment RSA, 42 within the KNE Fairfax Alignment RSA, 28 within the KNE La Brea Alignment RSA, and 10 within the Hollywood Bowl Design Option RSA. Many of these resources overlap with multiple alignments and the design option. Table 3.6-6 lists these resources and the alignment(s) that they overlap with. No historical resources have been identified within the MSF RSA.

TABLE 3.6-6. BUILT ENVIRONMENT HISTORICAL RESOURCES WITHIN THE KNE BUILT ENVIRONMENT RSA

MAP REFERENCE[1]	NAME	ADDRESS	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
1	First United Methodist Church of Hollywood	6817 Franklin Ave	X	X	X	
2	Hollywood Wax Museum	6765 Hollywood Blvd	X	X	X	
3	Los Angeles First Federal, Security Pacific Bank	6777 Hollywood Blvd	X	X	X	
4	Sivananda Yoga Community	1538 McCadden Pl	X	X	X	
5	Hollywood High School Historic District	1521 N Highland Ave	X	X	X	
6	Hollywood High School Liberal Arts Building	1521 N Highland Ave	X	X	X	
7	6806 Hollywood Boulevard	6806 Hollywood Blvd	X	X	X	
8	Rexall Drug Store, Lee Drug Company	6800 Hollywood Blvd	X	X	X	
9	Max Factor Makeup Salon	1666 N Highland Ave	X	X	X	
10	Bank of America	6780 Hollywood Blvd	X	X	X	
11	Hollywood High School Auditorium	1521 N Highland Ave	X	X	X	

MAP REFERENCE[1]	NAME	ADDRESS	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
12	Hollywood Walk of Fame	Hollywood Blvd and Vine St	X	X	X	
13	Hollywood Boulevard Commercial And Entertainment District	6200-7000 Hollywood Blvd; with adjacent parcels on N Vine St, N Highland Ave, and N Ivar S.	X	X	X	
14	1145 N Sycamore Avenue	1145 N. Sycamore Ave	X	X	X	
15	1143 N Sycamore Avenue	1143 N. Sycamore Ave	X	X	X	
16	1133 N Detroit Street	1133 N. Detroit St	X	X	X	
17	Formosa Café	7118 Santa Monica Blvd	X	X	X	
18	Lexington Avenue Single-Family Residences	6800-7000 Blocks of Lexington Ave	X	X	X	
19	Johnie's Coffee Shop	6101 Wilshire Blvd	X	X		
20	May Company Building	6067 Wilshire Blvd	X	X		
21	6132 Orange Street	6132 Orange St	X	X		
22	7900 Santa Monica Boulevard	7900 Santa Monica Blvd	X	X		
23	US Post Office (Fairfax Avenue)	1125 N Fairfax Ave	X	X		
24	Pacific Design Center	8687 Melrose Ave	X			
25	Commercial Building (7916-7922 Santa Monica Boulevard)	7916-7922 Santa Monica Blvd	X	X		
26	Campbell Building	7906-7914 Santa Monica Blvd	X	X		
27	7900-7904 Santa Monica Boulevard	7900-7904 Santa Monica Blvd	X	X		
28	Plummer Park and Oldest House in Hollywood	7377 Santa Monica Blvd	X	X		
29	United Artists/Samuel Goldwyn Studios	7200 Santa Monica Blvd	X	X		

MAP REFERENCE[1]	NAME	ADDRESS	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
30	Santa Monica Boulevard Commercial Grouping	7900-7936 Santa Monica Blvd	X	X		
31	Santa Palm Car Wash	8787 Santa Monica Blvd	X			
32	8851 Santa Monica Boulevard	8851 Santa Monica Blvd	X			
33	8701 Santa Monica Boulevard	8701 Santa Monica Blvd	X			
34	8703 Santa Monica Boulevard	8703 Santa Monica Blvd	X			
35	Whitley Heights HPOZ	Multiple				X
36	Hollywood Bowl	2301 N. Highland Ave				X
37	Hollywood Bowl Pedestrian Tunnel	N/A				X
38	Lasky Demille Studio Barn	2100 N. Highland Ave				X
39	Highland-Cambrose Bungalow Village	2103-2115 1/2 N Highland Ave, 6814-6836 Alta Loma Terrace, and 6819 Camrose Ave				X
40	Palazzo Verde Apartments	2040 N Highland Ave				X
41	Valentino Apartments	2000 N Highland Ave				X
42	Roman Gardens	2000 N Highland Ave				X
43	El Greco Apartment	817 N Hayworth Ave		X		
44	Whitley Heights Historic District	Bounded by Franklin Ave on the South - Highland Ave on the West - Cahuenga Ave on the East - Converging to an apex on the North at Cahuenga Pass				X

MAP REFERENCE[1]	NAME	ADDRESS	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
45	Samuel Freeman House	1962 Glencoe Way				X
46	West Boulevard Separator	West Blvd. over Venice Blvd	X	X	X	
47	Haig M. Prince/Fairfax Building	7901 Beverly Blvd		X		
48	Clem Wilson/ Mutual Of Omaha Building	5225 Wilshire Blvd			X	
49	Firestone Tire Building	800 S La Brea Ave			X	
50	Zephyr Club	5209 Wilshire Blvd			X	
51	5352-5354 Wilshire Boulevard	5352-5354 Wilshire Blvd			X	
52	330 N La Brea Ave, Los Angeles CA 90036	330 N La Brea			X	
53	453 S La Brea Ave, Los Angeles CA	453 S La Brea Ave			X	
54	571 S Fairfax Ave, Los Angeles CA	571 S Fairfax Ave	X	X		
55	575 S Fairfax Ave, Los Angeles CA	575 S Fairfax Ave	X	X		
56	6122 Orange St, Los Angeles CA 90048	6122 Orange St	X	X		
57	6148 Orange St, Los Angeles CA 90048	6148 Orange St	X	X		
58	6200 Wilshire Blvd, Los Angeles CA	6200 Wilshire Blvd	X	X		
59	357 N La Brea Ave, Los Angeles CA	357 N La Brea Ave			X	
60	Morris Memorial	4450 W. Adams Blvd	X	X	X	
61	7760 Santa Monica Boulevard	7760 Santa Monica Blvd	X	X		
62	Park La Brea Apartments	555 S Ogden Dr	X	X		

MAP REFERENCE[1]	NAME	ADDRESS	SAN VICENTE–FAIRFAX ALIGNMENT	FAIRFAX ALIGNMENT	LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION
63	Original Farmers Market[2]	6333 W 3rd St	X	X		
64	Hollywood Theater	6766 Hollywood Blvd	X	X	X	
		TOTAL PROPERTIES	**45**	**42**	**28**	**10**

Source: HistoricPlacesLA 2023; SCCIC 2023; BERD 2023
[1] Refer to Appendix 3.6-A, KNE Cultural and Paleontological Resources Technical Report, for maps showing the locations of the historical resources identified in this table.
[2] Contains archaeological component P-19-003045
KNE = K Line Northern Extension; RSA = resource study area

3.6.5.1.3.2 ARCHAEOLOGICAL RESOURCES

Two archaeological resources, P-19-003045 and P-19-003302, have been identified within the archaeological RSA. Archaeological deposits associated with these resources consist of historic-age refuse deposits encountered below ground surface in the course of construction activities. The resources were documented in the field and artifacts were collected prior to the destruction of observed archaeological components. Documents reviewed at the SCCIC do not indicate that either site has been evaluated to be determined a historical resource or a unique archaeological resource under CEQA. The following discussion addresses the CEQA status for previously documented archaeological resources in the archaeological RSA and the potential to encounter previously unidentified archaeological resources within the archaeological RSA during construction.

P-19-003045

P-19-003045 consists of the Gilmore Adobe and associated archaeological deposits. The Gilmore Adobe, also known as the La Brea Adobe, and Original Farmers Market has been determined to be a built environment historical resource under CEQA and is listed as LAHCM No. 543. The archaeological deposit for P-19-003045 consists primarily of dispersed historic-age trash scatters and limited subsurface utility features across a wide area surrounding the adobe and farmers market, which date to all phases of historic occupation of the site. The existing 2002 site record on file with the SCCIC does not evaluate the eligibility of the archaeological component of the site but it should be treated as a historical resource under CEQA based on the status of the associated structures. While no artifacts or features associated with this site appear to have been previously recorded within the archaeological RSA, the dispersed nature of the archaeological deposit recorded for this resource suggests there is potential to encounter portions of the site that have not been previously documented during construction.

P-19-003302

P-19-003302 consisted of a discrete, two-foot-diameter, trash pit of undetermined age that was completely removed as a result of archaeological monitoring of construction activities associated with Metro's Red Line Project (Avalos 2003). This resource has been destroyed and is not considered eligible for listing as a historical resource or a unique archaeological resource under CEQA.

3.6.5.1.3.3 ARCHAEOLOGICAL SENSITIVITY OF THE RSA

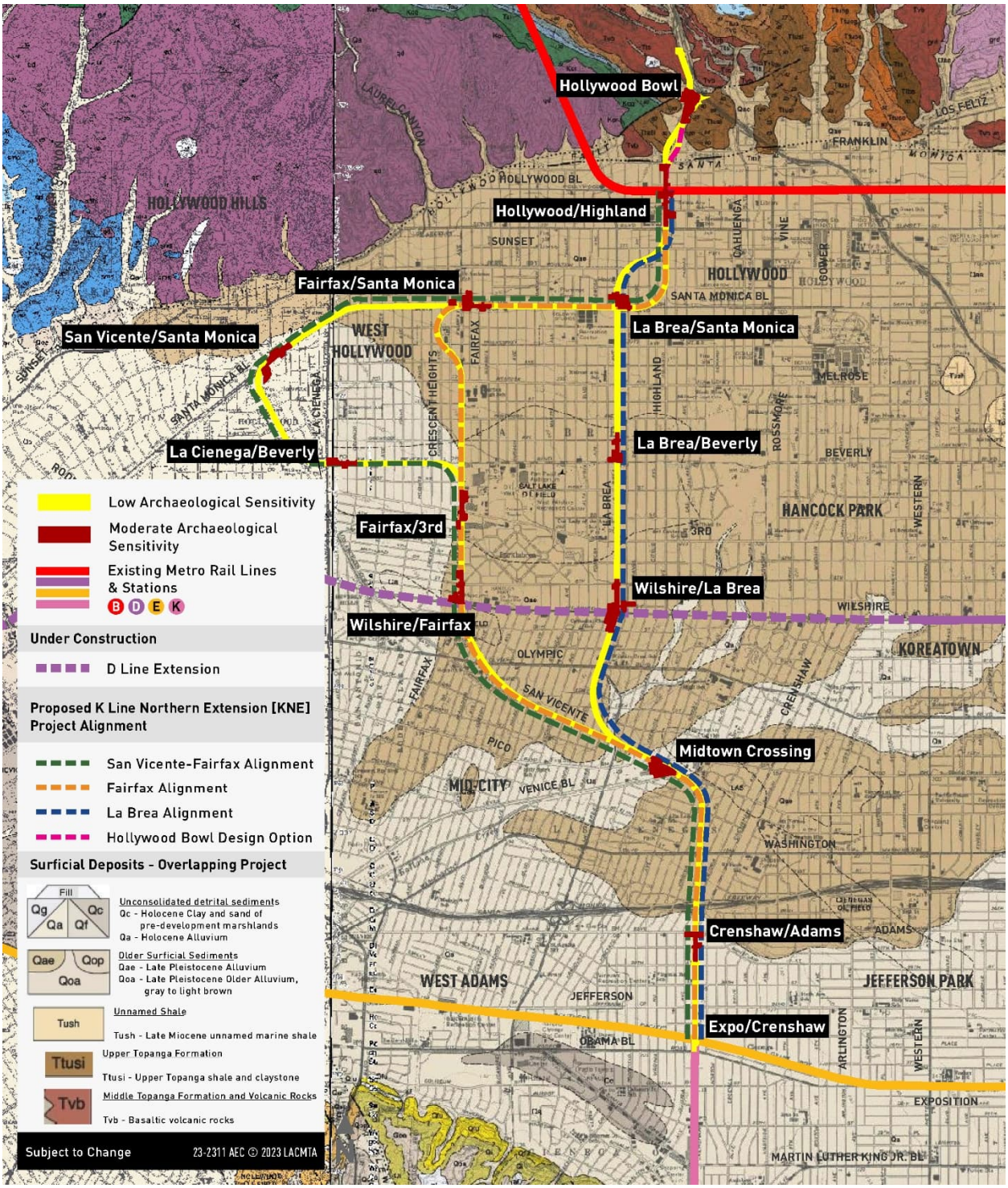
No archaeological resources were observed during the cultural field survey; however, a majority of the archaeological RSA is paved, and exposed surfaces available for inspection consisted primarily of landscape features, which are often small and contain heavily disturbed soils or imported fill.

Archival research indicates that a majority of archaeological deposits recorded within the RSAs and a 0.25-mile radius were encountered below ground surface during construction activities. Site records for archaeological resources identified at the SCCIC indicate the potential exists for project-related construction activities to encounter historic-age refuse and archaeological features within the first five feet below ground surface underlying existing developments, with some features extending much farther below surface.

While no prehistoric archaeological resources have been identified within the archaeological RSA, one prehistoric resource, the La Brea Tar Pits (P-19-000159), is located within 0.25 mile of the RSAs. Most of the archaeological RSA is in an alluvial depositional environment. Geologic mapping indicates that the majority of the archaeological RSA is situated on late Holocene to middle Pleistocene-aged alluvial fan and landslide deposits. The young age of the Holocene soils indicates that the sediments that they formed on were deposited in the last 5,000 years and, therefore, have a moderate potential for burial of older archaeological deposits. Generally, the younger a surficial alluvial landform is, the higher its potential for preservation of buried archaeological deposits. People are known to have inhabited the region beginning at least 13,000 years ago, indicating soils from the late Pleistocene through the late Holocene have the potential to contain archaeological resources. Older Pleistocene soils present at depth in the archaeological RSA are not likely to contain archaeological resources. In addition, it has been demonstrated that archaeological sites are not distributed randomly across the landscape, but tend to correlate with certain environmental factors, including slope (flatter being more positively correlated) and distance to water and other resources.

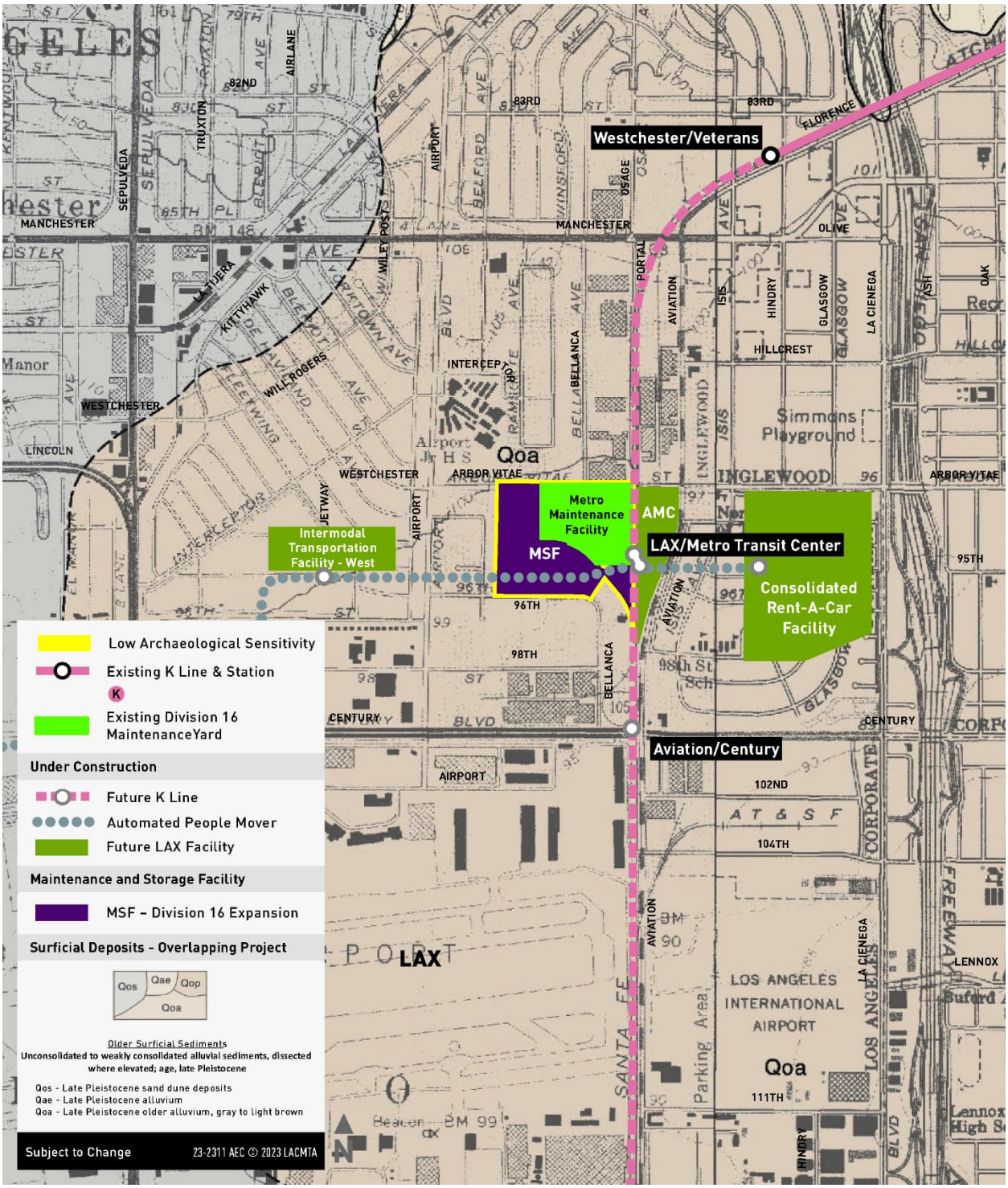
The archaeological sensitivity of the archaeological RSA is considered to range from low to moderate (Figure 3.6-5 and Figure 3.6-6). The degree and depth of previous ground disturbance across the archaeological RSA is not known, but a majority of the archaeological RSA has been subject to prior construction and development. Areas with low potential for archaeological resources include older geologic deposits, such as project components to be constructed at great depth or near surface components in areas with older surficial deposits, and areas with high levels of previous subsurface ground disturbance. Areas with moderate potential to encounter archaeological resources include portions of KNE with limited previous ground disturbance in younger alluvial soils and areas in proximity to previously recorded archaeological resources in or near the archaeological RSA.

FIGURE 3.6-5. ARCHAEOLOGICAL SENSITIVITY IN THE VICINITY OF KNE ALIGNMENTS AND STATIONS



Source: Dibblee and Ehrenspeck 1991a and 1991b; Connect Los Angeles Partners 2024

FIGURE 3.6-6. ARCHAEOLOGICAL SENSITIVITY IN THE VICINITY OF THE MSF



Source: Dibblee and Minch 2007; Connect Los Angeles Partners 2024

While the exact depth and degree of previous subsurface ground disturbance for the archaeological RSA is not known, grading for roads, rails, and parking lots, and construction of utilities and building foundations found across KNE are likely to have had impacts reaching depths of five feet below ground surface or more. It is anticipated that the degree of ground disturbance required to construct shallow project components, such as those proposed at the MSF, is consistent with the level of previous shallow ground disturbance expected to be present in the area. Work anticipated to be shallow and predominantly located in previously disturbed soils, such as for the MSF, have low potential to encounter intact buried archaeological deposits that may constitute a unique archaeological resource or significant archaeological historic resource. Tunnel construction is estimated to occur 50 to 70 feet below surface in older geological deposits, which have low sensitivity for archaeological deposits.

Other proposed construction activities, such as mass excavation required for the new stations and TBM launch and extraction sites, could encounter deeper, intact archaeological deposits in the RSA, and are considered to have moderate archaeological sensitivity. Project components with proximity to P-19-003045 and P-19-000159, including the important asphaltum source at the La Brea Tar Pits, contribute to the sensitivity of station and TBM launch and extraction locations in the vicinity of the resources.

3.6.5.1.3.4 HUMAN REMAINS

This analysis, consisting of an SCCIC records search, additional archival research, and archaeological field survey, did not identify any human remains within any of the RSAs for any of the alignments and stations, the design option, or the MSF. One archaeological site with remains from a single individual (P-19-000159) was identified approximately 0.23 mile from the nearest project component. No human remains were identified in the RSA.

3.6.6 PROJECT MEASURES

Project measures are design features, best management practices, or other commitments that Metro would implement as part of all proposed alignments, the design option, and the MSF to reduce or avoid environmental effects associated with project construction and operation. Project measures are not the same as mitigation measures, which are used to reduce an environmental impact's significance level. Where applicable, project measures are also discussed in Section 3.6.7 as part of the evaluation of environmental impacts.

There are no project measures specific to cultural resources that have been identified.

3.6.7 IMPACT EVALUATION AND MITIGATION MEASURES

This analysis presents the construction and operational impacts for cultural resources, as well as any applicable mitigation measures associated with KNE. A summary of the impact conclusions and applicable mitigation measures is found in Table 3.6-11 in Section 3.6.7.5.

3.6.7.1 IMPACT CUL-1: HISTORICAL RESOURCES

Impact CUL-1: Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CCR Section 15064.5?

3.6.7.1.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.6.7.1.1.1 CONSTRUCTION IMPACTS

Significant Impact. Construction activities related to the KNE San Vicente–Fairfax Alignment would include property acquisitions, demolition of existing structures, and new construction of permanent project features. Potential impacts to historical resources would be related to the construction of new infrastructure that would require their immediate surroundings to be demolished or altered.

Significant impacts would occur to 25 of the 45 historical resources within the built environment RSA (Table 3.6-7). Of the 25 historical resources, five would be acquired and demolished, as shown in the table. With the exception of the five historical resources that would be demolished as part of the project, there would be no permanent visual impacts to historical resources or their setting. The remaining 20 historical resources with significant impacts would not have permanent visual impacts related to construction activities. However, construction of the stations, use of TBM launch and extraction sites, and use of construction staging areas could cause vibrations and ground settlement that could affect these adjacent historical resources. Additionally, the Original Farmers Market/Rancho La Brea Adobe contains a subsurface archaeological component that could be physically affected by construction activities, which would result in a significant impact. (Impacts to the archaeological component of this resource are discussed under Impact CUL-2 in Section 3.6.7.2.1). Table 3.6-7 indicates the specific design components of the alignment that would be associated with identified significant impacts to each of the 25 historical resources within the built environment RSA.

TABLE 3.6-7. KNE SAN VICENTE–FAIRFAX ALIGNMENT SIGNIFICANT IMPACTS

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
1	First United Methodist Church of Hollywood	6817 Franklin Ave, Los Angeles, CA	19-169321	1928	Staging Area/TBM extraction site at Franklin Avenue and Highland Avenue	Construction Vibration and Ground Settlement
2	Hollywood Wax Museum	6765 Hollywood Blvd, Los Angeles, CA	19-167577	1928	Hollywood/Highland Station	Construction Vibration
3	Los Angeles First Federal, Security Pacific Bank	6777 Hollywood Blvd, Los Angeles, CA	19-167578	1927	Hollywood/Highland Station	Construction Vibration
4	Sivananda Yoga Community	1538 McCadden Ln, Los Angeles, CA	19-168032	1922	Staging area at the southeast corner of Highland Ave and Selma Ave	Construction Vibration
5	Hollywood High School Historic District	1521 N. Highland Ave, Los Angeles, CA	19-189990	1904-1956	Staging area at the southeast corner of Highland Ave and Selma Ave	Construction Vibration

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
6	Hollywood High School Liberal Arts Building	1521 N. Highland Ave, Los Angeles, CA	N/A	1938	Staging area at the southeast corner of Highland Ave and Selma Ave	Construction Vibration
7	6806 Hollywood Blvd	6806 Hollywood Blvd, Los Angeles, CA	19-168608	1922	Hollywood/Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
8	Rexall Drug Store, Lee Drug Company	6800 Hollywood Blvd, Los Angeles, CA	19-167580	1935	Hollywood/Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
9	Max Factor Makeup Salon	1666 N. Highland Ave, Los Angeles, CA	19-167596	1931	Hollywood/Highland Station	Construction Vibration
10	Bank of America	6780 Hollywood Blvd, Los Angeles, CA	19-167579	1933; 1936	Hollywood/Highland Station Entrance Option 2 SE	Demolition
11	Hollywood High School Auditorium	1521 N Highland Ave, Los Angeles, CA	19-171030	1954	Staging area at the southeast corner of Highland Ave and Selma Ave	Construction Vibration
12	Hollywood Walk of Fame	Hollywood Blvd and Vine St, Los Angeles, CA	19-167544	1958	Hollywood/Highland Station	Construction Vibration
13	Hollywood Boulevard Commercial and Entertainment District	6200-7000 Hollywood Blvd; with adjacent parcels on N Vine St, N Highland Ave, and N Ivar St, Los Angeles, CA	19-174178	1915-1939	Hollywood/Highland Station	Construction Vibration
14	1145 N Sycamore Ave	1145 N. Sycamore Ave, Los Angeles, CA	19-169143	1923	La Brea/Santa Monica Station	Construction Vibration
15	1143 N Sycamore Ave	1143 N. Sycamore Ave, Los Angeles, CA	19-169141	1925	La Brea/Santa Monica Station	Construction Vibration
16	1133 N Detroit St	1133 N. Detroit St, West Hollywood, CA	N/A	1962	La Brea/Santa Monica Station (TBM launch site)	Vibrations and Ground Settlement
19	Johnie's Coffee Shop	6101 Wilshire Blvd	19-189263	1956	Wilshire/Fairfax Station Staging Area	Construction Vibration
20	May Company Building	6067 Wilshire Blvd	19-173051	1939-1940	Wilshire/Fairfax Station Staging Area	Construction Vibration

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
23	U.S. Post Office (Fairfax Avenue)	1125 N. Fairfax Ave, West Hollywood, CA	N/A	1947	Fairfax/Santa Monica Station	Construction Vibration
31	Santa Palm Car Wash	8787 Santa Monica Blvd, West Hollywood, CA	N/A	1964	San Vicente/Santa Monica Station (Construction Staging Area; Entrance Option 2 – North)	Demolition
32	8851 Santa Monica Boulevard	8851 Santa Monica Blvd, West Hollywood, CA	19-176829	1926; 1946	San Vicente/Santa Monica Station	Construction Vibration
60	Morris Memorial	4450 W. Adams Blvd, Los Angeles, CA	N/A	1930; 1940	Crenshaw/Adams Station	Construction Vibration
61	7760 Santa Monica Boulevard	7760 Santa Monica Blvd, West Hollywood, CA	N/A	1935	Fairfax/Santa Monica Station	Construction Vibration
63	Original Farmers Market and Rancho La Brea Adobe	6333 W. 3rd St, Los Angeles, CA	N/A	1935	Fairfax/3rd Station	Construction Vibration
64	Hollywood Theater	6766 Hollywood Blvd, Los Angeles, CA	19-167576	1914; 1935	Hollywood/ Highland Station Entrance Option 2 – SE	Demolition

Source: Connect Los Angeles Partners 2024
[1] Refer to Appendix 3.6-A, KNE Cultural and Paleontological Resources Technical Report, for maps showing the locations of the historical resources identified in this table.
N/A = not applicable; TBM = tunnel boring machine

Of the 25 properties listed in the table, physical demolition of the following five resources would materially impair their significance:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of American (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)
- Santa Palm Car Wash (8787 Santa Monica Boulevard)

No construction-related impact would occur to the remaining 20 historical resources within the built environment RSA because they are located either along the underground portions of the proposed alignment or at a considerable distance from a station, construction staging area, and TBM launch and extraction sites.

As described above, construction of the alignment would cause substantial adverse changes in the significance of a historical resource pursuant to CCR Section 15064.5. Therefore, the KNE San Vicente–Fairfax Alignment would have a significant impact during construction, and mitigation would be required.

3.6.7.1.1.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operational activities associated with the KNE San Vicente–Fairfax Alignment would be limited to operation and maintenance of the project. Potential impacts to historical resources would be related to visual, audible, or atmospheric effects resulting from operation and maintenance activities, as well as new pedestrian traffic at these locations. Therefore, the KNE San Vicente–Fairfax Alignment would have a less than significant impact during operation.

3.6.7.1.2 KNE FAIRFAX ALIGNMENT

3.6.7.1.2.1 CONSTRUCTION IMPACTS

Significant Impact. Construction activities related to the KNE Fairfax Alignment would include property acquisitions, demolition of existing structures, and new construction of permanent project features. Potential impacts to historical resources would be related to the construction of new infrastructure that would require historical resources and/or their immediate surroundings to be demolished or altered.

Significant impacts would occur to 23 of the 42 historical resources within the KNE Fairfax Alignment built environment RSA (Table 3.6-8). Of the 23 historical resources, four would be acquired and demolished, as shown in the table. With the exception of the four historical resources that would be demolished as part of the project, there would be no permanent visual impacts to historical resources or their setting. The remaining 19 historical resources with significant impacts would not have permanent visual impacts related to construction activities. However, construction of the stations, use of TBM launch and extraction sites, and use of construction staging areas has the potential to cause vibrations and ground settlement that could impact these adjacent historical resources. Additionally, the Original Farmers Market/Rancho La Brea Adobe contains a subsurface archaeological component that could be physically affected by construction activities, which would result in a significant impact. Impacts to the archaeological component of this resource are discussed under Impact CUL-2 in Section 3.6.7.2.2. Table 3.6-8 indicates the specific design components of the alignment that would be associated with identified significant impacts to the 23 historical resources within the built environment RSA.

TABLE 3.6-8. KNE FAIRFAX ALIGNMENT SIGNIFICANT IMPACTS

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
1	First United Methodist Church of Hollywood	6817 Franklin Ave, Los Angeles, CA	19-169321	1928	Staging Area/TBM extraction site at Franklin Avenue and Highland Avenue	Construction Vibration and Ground Settlement
2	Hollywood Wax Museum	6765 Hollywood Blvd, Los Angeles, CA	19-167577	1928	Hollywood/Highland Station	Construction Vibration
3	Los Angeles First Federal, Security Pacific Bank	6777 Hollywood Blvd, Los Angeles, CA	19-167578	1927	Hollywood/Highland Station	Construction Vibration
4	Sivananda Yoga Community	1538 McCadden Ln, Los Angeles, CA	19-168032	1922	Staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
5	Hollywood High School Historic District	1521 N Highland Ave	19-189990	1904-1956	Staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
6	Hollywood High School Liberal Arts Building	1521 N Highland Ave, Los Angeles, CA	N/A	1938	Hollywood/Highland staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
7	6806 Hollywood Blvd	6806 Hollywood Blvd, Los Angeles, CA	19-168608	1922	Hollywood/ Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
8	Rexall Drug Store, Lee Drug Company	6800 Hollywood Blvd, Los Angeles, CA	19-167580	1935	Hollywood/Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
9	Max Factor Makeup Salon	1666 N Highland Ave, Los Angeles, CA	19-167596	1931	Hollywood/Highland Station	Construction Vibration
10	Bank of America	6780 Hollywood Blvd	19-167579	1933; 1936	Hollywood/Highland Station Entrance Option 2 SE	Demolition
11	Hollywood High School Auditorium	1521 N Highland Ave, Los Angeles, CA	19-171030	1954	Hollywood/Highland Staging Area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
12	Hollywood Walk of Fame	Hollywood Blvd and Vine St, Los Angeles, CA	19-167544	1958	Hollywood/Highland Station	Construction Vibration
13	Hollywood Boulevard Commercial and Entertainment District	6200-7000 Hollywood Blvd, with adjacent parcels on N. Vine St, N Highland Ave., and N Ivar St, Los Angeles, CA	19-174178	1915-1939	Hollywood/Highland Station	Construction Vibration
14	1145 N Sycamore Ave	1145 N Sycamore Ave, Los Angeles, CA	19-169143	1923	La Brea/Santa Monica Station	Construction Vibration
15	1143 N Sycamore Ave	1143 N Sycamore Ave, Los Angeles, CA	19-169141	1925	La Brea/Santa Monica Station	Construction Vibration
16	1133 N Detroit St	1133 N Detroit St, West Hollywood, CA	N/A	1962	La Brea/Santa Monica Station (TBM Launch Site)	Construction Vibration and Ground Settlement
19	Johnie's Coffee Shop	6101 Wilshire Blvd	19-189262	1956	Wilshire/Fairfax Station Staging Area	Construction Vibration
20	May Company Building	6067 Wilshire Blvd	19-173051	1939-1940	Wilshire/Fairfax Station Staging Area	Construction Vibration
23	U.S. Post Office (Fairfax Avenue)	1125 N Fairfax Ave, West Hollywood, CA	N/A	1947	Fairfax/Santa Monica Station	Construction Vibration
60	Morris Memorial	4450 W Adams Blvd, Los Angeles, CA	N/A	1930; 1940	Crenshaw/Adams Station	Construction Vibration
61	7760 Santa Monica Boulevard	7760 Santa Monica Blvd, West Hollywood, CA	N/A	1935	Fairfax/Santa Monica Station	Construction Vibration
63	Farmers Market and Rancho La Brea Adobe	6333 W 3rd St, Los Angeles, CA	N/A	1935	Fairfax/3rd Station	Construction Vibration
64	Hollywood Theater	6766 Hollywood Blvd, Los Angeles, CA	19-167576	1914; 1935	Hollywood/Highland Station Entrance Option 2 SE	Demolition

Source: Connect Los Angeles Partners 2023
[1] Refer to Appendix 3.6-A, KNE Cultural and Paleontological Resources Technical Report, for maps showing the locations of the historical resources identified in this table.
N/A = not applicable; SE = southeast; TBM = tunnel boring machine

Of these 23 properties listed in the table, physical demolition of the following four resources would materially impair their significance:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of American (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

No construction-related impact would occur to the remaining 19 historical resources within the built environment RSA because they are located either along the underground portions of the alignment or at a considerable distance from the station, construction staging area, and TBM launch and extraction sites.

As described above, the alignment would cause substantial adverse changes in the significance of a historical resource pursuant to CCR Section 15064.5. Therefore, the KNE Fairfax Alignment would have a significant impact during construction, and mitigation would be required.

3.6.7.1.2.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operational activities associated with the KNE Fairfax Alignment would be limited to operation and maintenance of the project. Potential impacts to historical resources would be related to visual, audible, or atmospheric effects resulting from operation and maintenance activities, as well as new pedestrian traffic at these locations. Therefore, the KNE Fairfax Alignment would have a less than significant impact during operation.

3.6.7.1.3 KNE LA BREA ALIGNMENT

3.6.7.1.3.1 CONSTRUCTION IMPACTS

Significant Impact. Construction activities related to the KNE La Brea Alignment would include property acquisitions, demolition of existing structures, and new construction of permanent project features. Potential impacts to historical resources would be related to the construction of new infrastructure that would require historical resources and/or their immediate surroundings to be demolished or altered.

Significant impacts would occur to 23 of the 28 historical resources within the KNE La Brea Alignment built environment RSA (Table 3.6-9). Of the 23 historical resources, four would be acquired and demolished, as shown in the table. With the exception of the four historical resources that would be demolished as part of the project, there would be no permanent visual impacts to historical resources or their setting. The remaining 19 historical resources with significant impacts would not have permanent visual impacts related to construction activities. However, construction of the stations, use of TBM launch and extraction sites, and use of construction staging areas has the potential to cause vibrations and ground settlement that could impact these adjacent historical resources. Table 3.6-9 indicates the specific design elements of the KNE La Brea Alignment that would be associated with the significant impacts to the 23 historical resources within the built environment RSA.

TABLE 3.6-9. KNE LA BREA ALIGNMENT SIGNIFICANT IMPACTS

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
1	First United Methodist Church of Hollywood	6817 Franklin Ave, Los Angeles, CA	19-169321	1928	Hollywood/Highland staging area/TBM extraction site at Franklin Avenue and Highland Avenue	Construction Vibration and Ground Settlement
2	Hollywood Wax Museum	6765 Hollywood Blvd, Los Angeles, CA	19-167577	1928	Hollywood/Highland Station	Construction Vibration
3	Los Angeles First Federal, Security Pacific Bank	6777 Hollywood Blvd, Los Angeles, CA	19-167578	1927	Hollywood/Highland Station	Construction Vibration
4	Sivananda Yoga Community	1538 McCadden Ln, Los Angeles, CA	19-168032	1922	Hollywood/Highland staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
5	Hollywood High School Historic District	1521 N Highland Ave, Los Angeles, CA	19-189990	1904-1956	Hollywood/Highland staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
6	Hollywood High School Liberal Arts Building	1521 N Highland Ave, Los Angeles, CA	N/A	1938	Hollywood/Highland staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration
7	6806 Hollywood Blvd	6806 Hollywood Blvd, Los Angeles, CA	19-168608	1922	Hollywood/Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
8	Rexall Drug Store, Lee Drug Company	6800 Hollywood Blvd, Los Angeles, CA	19-167580	1935	Hollywood/Highland Station Entrance Option 1 SW; Entrance Option 2 SE	Demolition
9	Max Factor Makeup Salon	1666 N Highland Ave, Los Angeles, CA	19-167596	1931	Hollywood/Highland Station	Construction Vibration
10	Bank of America	6780 Hollywood Blvd	19-167579	1933; 1936	Hollywood/ Highland Station Entrance Option 2 SE	Demolition
11	Hollywood High School Auditorium	1521 N Highland Ave, Los Angeles, CA	19-171030	1954	Hollywood/Highland staging area at the southeast corner of Highland Avenue and Selma Avenue	Construction Vibration

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
12	Hollywood Walk of Fame	Hollywood Blvd and Vine St, Los Angeles, CA	19-167544	1958	Hollywood/Highland Station	Construction Vibration
13	Hollywood Boulevard Commercial and Entertainment District	6200-7000 Hollywood Blvd, with adjacent parcels on N Vine St, N Highland Ave, and N Ivar St, Los Angeles, CA	19-174178	1915-1939	Hollywood/Highland Station	Construction Vibration
14	1145 N Sycamore Ave	1145 N Sycamore Ave	19-169143	1923	La Brea/Santa Monica Station	Construction Vibration
15	1143 N Sycamore Ave	1143 N Sycamore Ave, Los Angeles, CA	19-169141	1925	La Brea/Santa Monica Station	Construction Vibration
16	1133 N Detroit St	1133 N Detroit St, West Hollywood, CA	N/A	1962	La Brea/Santa Monica Station (TBM Launch Site)	Construction Vibration and Ground Settlement
48	Clem Wilson/ Mutual of Omaha Building	5225 Wilshire Blvd	19-173045	1930	Staging area at Wilshire Boulevard and La Brea Avenue	Construction Vibration
50	Zephyr Club	5209 Wilshire Blvd	19-170998	1929	Staging area at Wilshire Boulevard and La Brea Avenue	Construction Vibration
51	5352-5354 Wilshire Boulevard	5352-5354 Wilshire Blvd	19-175237	1937	Staging area at Wilshire Boulevard and La Brea Avenue	Construction Vibration
52	330 N La Brea Avenue	330 N La Brea Ave, Los Angeles, CA	N/A	1928	La Brea/Beverly Station	Construction Vibration
59	357 N La Brea Avenue	357 N. La Brea Ave, Los Angeles, CA	N/A	1930	La Brea/Beverly Station	Construction Vibration
60	Morris Memorial	4450 W Adams Blvd, Los Angeles, CA	N/A	1930; 1940	Crenshaw/Adams Station	Construction Vibration
64	Hollywood Theater	6766 Hollywood Blvd, Los Angeles, CA	19-167576	1914; 1935	Hollywood/Highland Station Entrance Option 2 SE	Demolition

Source: Connect Los Angeles Partners 2024
[1] Refer to Appendix 3.6-A, KNE Cultural and Paleontological Resources Technical Report, for maps showing the locations of the historical resources identified in this table.
N/A = not applicable; TBM = tunnel boring machine

Of the 23 properties listed in the table, physical demolition of the following four resources would materially impair their significance:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of American (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

No construction-related impact would occur to the remaining five historical resources within the built environment RSA because they are located either along the underground portions of the alignment or at a considerable distance from the station, construction staging area, and TBM launch and extraction sites.

As described above, the alignment would cause substantial adverse changes in the significance of a historical resource pursuant to CCR Section 15064.5. Therefore, the KNE La Brea Alignment would have a significant impact during construction, and mitigation would be required.

3.6.7.1.3.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operational activities associated with the KNE La Brea Alignment would be limited to operation and maintenance of the project. Potential impacts to historical resources would be related to visual, audible, or atmospheric effects resulting from operation and maintenance activities, as well as new pedestrian traffic at these locations. Therefore, the KNE La Brea Alignment would have a less than significant impact during operation.

3.6.7.1.4 HOLLYWOOD BOWL DESIGN OPTION

3.6.7.1.4.1 CONSTRUCTION IMPACTS

Significant Impact. Construction activities related to the Hollywood Bowl Design Option would include property acquisitions and new construction of permanent project features. Significant impacts would occur at two of the 10 historical resources within the Hollywood Bowl Design Option built environment RSA: the Hollywood Bowl Pedestrian Tunnel and the Lasky DeMille Studio Barn (Table 3.6-10). Neither of these resources would be physically demolished, destroyed, relocated, or altered. No permanent visual impacts on these historical resources or their setting are anticipated from the addition of the station or the underground alignment. However, construction of the station, use of the TBM extraction site, and use of construction staging areas could cause adjacent vibrations and ground settlement that could affect these historical resources. Therefore, the Hollywood Bowl Design Option would have a potentially significant impact during construction, and mitigation would be required.

TABLE 3.6-10. KNE HOLLYWOOD BOWL DESIGN OPTION SIGNIFICANT IMPACTS

MAP ID[1]	RESOURCE NAME	ADDRESS	PRIMARY NO. (P-)	CONSTRUCTION DATE	DESIGN COMPONENT	IMPACT
37	Hollywood Bowl Pedestrian Tunnel	N/A	N/A	1950	Hollywood Bowl Station (underground tunnel excavation)	Construction Vibration and Ground Settlement
38	Lasky DeMille Studio Barn	2100 N Highland Ave, Los Angeles, CA	19-166802	1927	Hollywood Bowl Station (station vent shaft and construction staging area)	Construction Vibration

Source: Connect Los Angeles Partners 2024
[1] Refer to Appendix 3.6-A, KNE Cultural and Paleontological Resources Technical Report, for maps showing the locations of the historical resources identified in this table.
KNE = K Line Northern Extension; N/A = not applicable

3.6.7.1.4.2 OPERATIONAL IMPACTS

Less than Significant Impact. Operational activities associated with the Hollywood Bowl Design Option would be limited to operation and maintenance of the project. Potential impacts to historical resources would be related to visual, audible, or atmospheric effects resulting from operation and maintenance activities, as well as new pedestrian traffic at these locations. Therefore, the Hollywood Bowl Design Option would have a less than significant impact during operation.

3.6.7.1.5 MAINTENANCE AND STORAGE FACILITY

3.6.7.1.5.1 CONSTRUCTION IMPACTS

No Impact. No built environment resources are located in the MSF built environment RSA that meet the NRHP/CRHR criteria for eligibility and are considered historical resources for the purposes of CEQA. Therefore, the MSF would have no impact during construction.

3.6.7.1.5.2 OPERATIONAL IMPACTS

No Impact. No built environment resources are located in the MSF built environment RSA that meet the NRHP/CRHR criteria for eligibility and are considered historical resources for the purposes of CEQA. Therefore, the MSF would have no impact during operation.

3.6.7.2 IMPACT CUL-2: ARCHAEOLOGICAL RESOURCES

Impact CUL-2: Would the project cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CCR Section 15064?

3.6.7.2.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.6.7.2.1.1 CONSTRUCTION IMPACTS

Significant Impact. The archaeological sensitivity in the KNE San Vicente–Fairfax Alignment archaeological RSA ranges from low to moderate, which indicates construction activities associated with the alignment would have a low to moderate potential to encounter previously unidentified archaeological resources below ground surface. No unique archaeological resources eligible for listing in the CRHR or in a local register of historical resources were identified within the archaeological RSA; however, one historical resource (Original Farmers Market/Rancho La Brea Adobe) with an archaeological component (P-19-003045) was identified in the RSA. One archaeological resource (P-19-003302) that does not constitute a unique archaeological resource under CEQA was previously documented in the archaeological RSA for the alignment; however, the resource was completely removed during construction monitoring and does not require further treatment. Gabrieliño villages, burials, important prehistoric resource areas, and prehistoric and historic-age archaeological resources have been identified nearby (P-19-000159, P-19-001261, P-19-002393, and P-19-002964). In addition, the sediments present across the alignment consist of younger and older quaternary alluvium that have potential to contain archaeological deposits.

Locations considered to have low potential to encounter archaeological resources are those in older geologic deposits, such as project components to be constructed at great depth, and areas with high levels of previous subsurface ground disturbance. Locations considered to have moderate potential to encounter archaeological deposits are those in younger soils, such as project components constructed in shallower depths, and with low or unknown levels of previous disturbance. Proximity to previously recorded archaeological resources and water sources also increases sensitivity.

Additionally, Section 3.17, Tribal Cultural Resources, indicates that the region contains Native American cultural resources. Therefore, it is possible that unknown unique archaeological resources may be buried within the archaeological RSA.

Buried archaeological resources may exist within the archaeological RSA of the alignment, and it is possible these resources could be unearthed during ground-disturbing activities. The proposed alignment is largely within public ROW that has already been disturbed by utility and street construction, but these disturbances were relatively shallow. As a result, shallow construction work associated with the alignment would have lower potential to encounter intact archaeological resources due to these prior disturbances. Tunnel construction is estimated to occur 50 to 110 feet below the surface in older geological deposits that have low sensitivity for archaeological deposits. Other proposed construction activities, such as mass excavation required for the new stations and TBM launch and extraction sites, could encounter deeper, intact archaeological deposits in the archaeological RSA, and are considered to have moderate archaeological sensitivity. P-19-003045, the historic-age archaeological deposit with potential to extend into the archaeological RSA, and P-19-000159, the nearest prehistoric resource located over 300 meters from the archaeological RSA, contribute to the sensitivity of station and TBM launch and extraction locations in the vicinity of the resources.

Based on this analysis, construction of this alignment could cause a substantial adverse change in the significance of a unique archaeological resource listed or eligible for listing in the CRHR or in a local

register of historical resources. Therefore, the KNE San Vicente–Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.2.1.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE San Vicente–Fairfax Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the KNE San Vicente–Fairfax Alignment would have no impact during operation.

3.6.7.2.2 KNE FAIRFAX ALIGNMENT

3.6.7.2.2.1 CONSTRUCTION IMPACTS

Significant Impact. The archaeological sensitivity in the KNE Fairfax Alignment archaeological RSA ranges from low to moderate, which indicates construction activities associated with the alignment would have a low to moderate potential to encounter previously unidentified archaeological resources below the ground surface. No unique archaeological resources eligible for listing in the CRHR or in a local register of historical resources were identified within the archaeological RSA; however, one historical resource (Original Farmers Market/Rancho La Brea Adobe) with an archaeological component (P-19-003045) was identified in the RSA. One archaeological resource (P-19-003302) that does not constitute a unique archaeological resource under CEQA was previously documented in the archaeological RSA for the alignment; however, the resource was completely removed during construction monitoring and does not require further treatment. Gabrieliño villages, burials, important prehistoric resource areas, and prehistoric and historic-age archaeological resources have been identified nearby (P-19-000159, P-19-001261, P-19-002393, and P-19-002964). In addition, the sediments present across the alignment consist of younger and older quaternary alluvium that have potential to contain archaeological deposits.

Locations considered to have low potential to encounter archaeological resources are those in older geologic deposits, such as project components to be constructed at great depth, and areas with high levels of previous subsurface ground disturbance. Locations considered to have moderate potential to encounter archaeological deposits are those in younger soils, such as project components constructed in shallower depths, and with low or unknown levels of previous disturbance. Proximity to previously recorded archaeological resources and water sources also increases sensitivity.

Additionally, Section 3.17, Tribal Cultural Resources, indicates that the region contains Native American cultural resources. Therefore, it is possible that unknown unique archaeological resources may be buried within the archaeological RSA.

Buried archaeological resources may exist within the archaeological RSA of the alignment, and it is possible these resources could be unearthed during ground-disturbing activities. The proposed alignment is largely within public ROW that has already been disturbed by utility and street construction, but these disturbances were relatively shallow. As a result, shallow construction work associated with the alignment would have lower potential to encounter intact archaeological resources due to these prior disturbances.

Tunnel construction is estimated to occur 50 to 110 feet below the surface in older geological deposits that have low sensitivity for archaeological deposits. Other proposed construction activities, such as mass excavation required for the new stations and TBM launch and extraction sites, could encounter deeper, intact archaeological deposits in the archaeological RSA, and are considered to have moderate archaeological sensitivity. P-19-003045, the historic-age archaeological deposit with potential to extend into the archaeological RSA, and P-19-000159, the nearest prehistoric resource located over 300 meters from the archaeological RSA, contribute to the sensitivity of station and TBM launch and extraction locations in the vicinity of the resources.

Based on this analysis, construction of this alignment could cause a substantial adverse change in the significance of a unique archaeological resource listed or eligible for listing in the CRHR or in a local register of historical resources. Therefore, the KNE Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.2.2.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE Fairfax Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the KNE Fairfax Alignment would have no impact during operation.

3.6.7.2.3 KNE LA BREA ALIGNMENT

3.6.7.2.3.1 CONSTRUCTION IMPACTS

Significant Impact. The archaeological sensitivity in the KNE La Brea Alignment archaeological RSA ranges from low to moderate, which indicates construction activities associated with the alignment would have a low to moderate potential to encounter previously unidentified archaeological resources below the ground surface. No unique archaeological resources eligible for listing in the CRHR or in a local register of historical resources were identified within the archaeological RSA. One archaeological resource (P-19-003302) that does not constitute a unique archaeological resource under CEQA was previously documented in the archaeological RSA for the alignment; however, the resource was completely removed during construction monitoring and does not require further treatment. Gabrieliño villages, burials, important prehistoric resource areas, and prehistoric and historic-age archaeological resources have been identified nearby (P-19-000159, P-19-001261, P-19-002393, and P-19-002964). In addition, the sediments present across the alignment consist of younger and older quaternary alluvium that have potential to contain archaeological deposits.

Locations considered to have low potential to encounter archaeological resources are those in older geologic deposits, such as project components to be constructed at great depth, and areas with high levels of previous subsurface ground disturbance. Locations considered to have moderate potential to encounter archaeological deposits are those in younger soils, such as project components constructed in shallower depths, and with low or unknown levels of previous disturbance. Proximity to previously recorded archaeological resources and water sources also increases sensitivity.

Additionally, Section 3.17, Tribal Cultural Resources, indicates that the region contains Native American cultural resources. Therefore, it is possible that unknown unique archaeological resources may be buried within the archaeological RSA.

Buried archaeological resources may exist within the archaeological RSA of the alignment, and it is possible these resources could be unearthed during ground-disturbing activities. The proposed alignment is largely within public ROW that has already been disturbed by utility and street construction, but these disturbances were relatively shallow. As a result, shallow construction work associated with the alignment would have lower potential to encounter intact archaeological resources due to these prior disturbances. Tunnel construction is estimated to occur 50 to 110 feet below the surface in older geological deposits that have low sensitivity for archaeological deposits. Other proposed construction activities, such as mass excavation required for the new stations and TBM launch and extraction sites, could encounter deeper, intact archaeological deposits in the archaeological RSA, and are considered to have moderate archaeological sensitivity. P-19-000159, the nearest prehistoric resource, located over 900 meters from the archaeological RSA, contributes to the sensitivity of station and TBM launch and extraction locations in the vicinity of the resources.

Based on this analysis, construction of this alignment could cause a substantial adverse change in the significance of a unique archaeological resource listed or eligible for listing in the CRHR or in a local register of historical resources. Therefore, the KNE La Brea Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.2.3.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE La Brea Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the KNE La Brea Alignment would have no impact during operation.

3.6.7.2.4 HOLLYWOOD BOWL DESIGN OPTION

3.6.7.2.4.1 CONSTRUCTION IMPACTS

Significant Impact. The archaeological sensitivity in the Hollywood Bowl Design Option archaeological RSA ranges from low to moderate, which indicates construction activities associated with the design option would have a low to moderate potential to encounter previously unidentified archaeological resources below the ground surface. No unique archaeological resources eligible for listing in the CRHR or in a local register of historical resources were identified within the archaeological RSA. One archaeological resource (P-19-003302) that does not constitute a unique archaeological resource under CEQA was previously documented in the archaeological RSA for the design option; however, the resource was completely removed during construction monitoring and does not require further treatment. Gabrieliño villages, burials, important prehistoric resource areas, and prehistoric and historic-age archaeological resources have been identified nearby (P-19-000159, P-19-001261, P-19-002393, and P-19-002964). In addition, the

sediments present across the RSA consist of younger and older quaternary alluvium that have potential to contain archaeological deposits.

Locations considered to have low potential to encounter archaeological resources are those in older geologic deposits, such as project components to be constructed at great depth, and areas with high levels of previous subsurface ground disturbance. Locations considered to have moderate potential to encounter archaeological deposits are those in younger soils, such as project components constructed in shallower depths, and with low or unknown levels of previous disturbance. Proximity to previously recorded archaeological resources and water sources also increases sensitivity.

Additionally, Section 3.17, Tribal Cultural Resources, indicates that the region contains Native American cultural resources. Therefore, it is possible that unknown unique archaeological resources may be buried within the archaeological RSA.

Buried archaeological resources may exist within the archaeological RSA of the design option, and it is possible these resources could be unearthed during ground-disturbing activities. The proposed design option is largely within public ROW that has already been disturbed by utility and street construction, but these disturbances were relatively shallow. As a result, shallow construction work associated with the design option would have lower potential to encounter intact archaeological resources due to these prior disturbances. Sequential excavation method (SEM) tunnel construction is estimated to occur 50 to 110 feet below the surface in older geological deposits that have low sensitivity for archaeological deposits. Other proposed construction activities, such as SEM construction required for the Hollywood Bowl Station and TBM extraction at the station, could encounter deeper, intact archaeological deposits in the archaeological RSA and are considered to have moderate archaeological sensitivity. P-19-000159, the nearest prehistoric resource located over 300 meters from the archaeological RSA, contributes to the sensitivity of station and TBM launch and extraction locations in the vicinity of the resources.

Based on this analysis, construction of the design option could cause a substantial adverse change in the significance of a unique archaeological resource listed or eligible for listing in the CRHR or in a local register of historical resources. Therefore, the Hollywood Bowl Design Option would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.2.4.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the Hollywood Bowl Design Option would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the design option would not cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the Hollywood Bowl Design Option would have no impact during operation.

3.6.7.2.5 MAINTENANCE AND STORAGE FACILITY

3.6.7.2.5.1 CONSTRUCTION IMPACTS

Less than Significant Impact. The archaeological sensitivity in the MSF archaeological RSA is low, which indicates construction activities associated with the MSF would have a low potential to encounter previously unidentified archaeological resources below ground surface. No previously recorded prehistoric or historic-age archaeological sites have been identified within the archaeological RSA for the MSF based on data available at the SCCIC; however, Gabrieliño villages, burials, important prehistoric resource areas, and prehistoric and historic-age archaeological resources have been identified nearby. While the sediments present across the MSF site consist of older quaternary alluvium that has the potential to contain archaeological deposits, a review of satellite images and targeted field survey shows all portions of the MSF site have been subject to development for the construction of buildings, structures, parking lots, roads, and railways. The exact depth and degree of previous subsurface ground disturbances at the MSF site is not known, but grading for roads, rails, and parking lots, and construction of utilities and building foundations are likely to have had impacts reaching depths of approximately five feet below ground surface.

Light rail tracks and structures for storage and maintenance of light rail vehicles are proposed to be constructed on the selected MSF site. It is anticipated that the degree of ground disturbance required to construct project components is consistent with the level of previous shallow ground disturbance expected to be present in the area. Because work is anticipated to be shallow and predominantly located in previously disturbed soils, the MSF has low potential to encounter intact buried archaeological deposits that may constitute a unique archaeological resource or significant archaeological historic resource. While it is unlikely that ground-disturbing activities would encounter intact archaeological resources, the potential does exist that construction may encounter archaeological resources.

The region contains Native American cultural resources (see Section 3.17, Tribal Cultural Resources); therefore, it is possible that unknown unique archaeological resources may be buried within the MSF archaeological RSA.

Because the MSF archaeological RSA is almost entirely developed, the minimal and/or shallow construction work that would be required would be unlikely to encounter intact unique archaeological resources. Construction of the MSF has a low potential to cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the MSF would have a less than significant impact during construction.

3.6.7.2.5.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the MSF would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the MSF would not cause a substantial adverse change in the significance of a unique archaeological resource. Therefore, the MSF would have no impact during operation.

3.6.7.3 IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Impact CUL-3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

3.6.7.3.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.6.7.3.1.1 CONSTRUCTION IMPACTS

Significant Impact. There are no known cemeteries or archaeological sites including human remains within the KNE San Vicente–Fairfax Alignment archaeological RSA. However, unknown human burials may exist within the archaeological RSA, and it is possible these burials could be encountered during excavation activities. Therefore, construction of the alignment could cause a substantial adverse change to an unknown burial. Therefore, the KNE San Vicente–Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.3.1.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE San Vicente–Fairfax Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the KNE San Vicente–Fairfax Alignment would have no impact during operation.

3.6.7.3.2 KNE FAIRFAX ALIGNMENT

3.6.7.3.2.1 CONSTRUCTION IMPACTS

Significant Impact. There are no known cemeteries or archaeological sites including human remains within the KNE Fairfax Alignment archaeological RSA. However, unknown human burials may exist within the archaeological RSA, and it is possible these burials could be encountered during excavation activities. As a result, construction of the alignment could cause a substantial adverse change to an unknown burial. Therefore, the KNE Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.3.2.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE Fairfax Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the KNE Fairfax Alignment would have no impact during operation.

3.6.7.3.3 KNE LA BREA ALIGNMENT

3.6.7.3.3.1 CONSTRUCTION IMPACTS

Significant Impact. There are no known cemeteries or archaeological sites including human remains within the KNE La Brea Alignment archaeological RSA. However, unknown human burials may exist within the archaeological RSA, and it is possible these burials could be encountered during excavation activities for the tunnels and stations. As a result, construction of the alignment could cause a substantial adverse change to an unknown burial. Therefore, the KNE La Brea Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.3.3.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE La Brea Alignment would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the alignment would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the KNE La Brea Alignment would have no impact during operation.

3.6.7.3.4 HOLLYWOOD BOWL DESIGN OPTION

3.6.7.3.4.1 CONSTRUCTION IMPACTS

Significant Impact. There are no known cemeteries or archaeological sites including human remains within the archaeological RSA of the Hollywood Bowl Design Option. However, unknown human burials may exist within the archaeological RSA, and it is possible these burials could be encountered during excavation activities for the tunnels and station. As a result, construction of the design option could cause a substantial adverse change to an unknown burial. Therefore, the Hollywood Bowl Design Option would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.3.4.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the Hollywood Bowl Design Option would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the design option would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the Hollywood Bowl Design Option would have no impact during operation.

3.6.7.3.5 MAINTENANCE AND STORAGE FACILITY

3.6.7.3.5.1 CONSTRUCTION IMPACTS

Significant Impact. There are no known cemeteries or archaeological sites including human remains within the archaeological RSA of the MSF. However, unknown human burials may exist within the archaeological RSA, and it is possible these burials could be encountered during project excavation activities. As a result, construction of the MSF could cause a substantial adverse change to an unknown

burial. Therefore, the MSF would have a potentially significant impact during construction, and mitigation would be required.

3.6.7.3.5.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the MSF would be limited to the operation and maintenance of the project and would not include further ground-disturbing activities. As a result, operation of the MSF would not have the potential to disturb any human remains, including those interred outside of formal cemeteries. Therefore, the MSF would have no impact during operation.

3.6.7.4 MITIGATION MEASURES

The mitigation measures described below are provided to reduce significant cultural resources impacts. Section 3.6.7.4.10 discusses the impact significance after mitigation.

3.6.7.4.1 MM CUL-1: PROTECTION MEASURES – DIFFERENTIAL SETTLEMENT/VIBRATION/TBM SPECIFICATIONS

Metro shall conduct a pre-construction baseline survey, implement building protection measures, and conduct a post-construction survey of historical resources in relation to TBM launch and extraction, as well as cut-and-cover and SEM construction, as applicable, for underground construction adjacent to the historical resources listed below for each alignment and the Hollywood Bowl Design Option. Building protection measures shall be implemented in conjunction with project measure PM NOI-1 and mitigation measure MM NOI-1 (see Section 3.14, Noise and Vibration) and would be included in the Cultural Resources Monitoring and Mitigation Plan (CRMMP) described in MM CUL-5 below.

MM CUL-1 includes the following elements:

- Metro shall conduct a pre-construction survey to establish baseline pre-construction conditions and building category and to assess the potential for ground-borne vibration to cause damage. Geotechnical investigations shall be undertaken to evaluate soil, groundwater, seismic, and environmental conditions along the alignment. These investigations shall inform the development of appropriate support mechanisms for cut-and-cover construction areas or areas that could experience differential settlement as a result of using a TBM in proximity to the historical resource. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shall review final design documents prior to implementation of measures.
- Metro shall implement building protection measures such as underpinning, soil grouting, or other forms of ground improvement, and use lower-vibration equipment and/or construction techniques. If the historical resource has the potential to be affected by differential settlement caused by TBM construction, Metro shall require the use of an earth pressure balance or slurry shield TBM.
- In addition, as part of final design, geotechnical construction recommendations and instrumentation and monitoring plans would be developed by a qualified engineer. These recommendations would be documented in the geotechnical design reports and would be

incorporated in structural design and construction drawings, as required per the Metro Rail Design Criteria. Refer to the Section 3.8, Geology and Soils, for additional detail and evaluation.

- A post-construction survey shall also be undertaken to ensure that no significant impacts had occurred to historical resources. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shall prepare an assessment of the implementation of the mitigation measures.

ALIGNMENTS AND STATIONS

For the KNE San Vicente–Fairfax Alignment, Fairfax Alignment, and La Brea Alignment, MM CUL-1 shall be implemented for the following two historical resources:

- First United Methodist Church of Hollywood (6817 Franklin Avenue)
- 1133 N Detroit Street

HOLLYWOOD BOWL DESIGN OPTION

For the Hollywood Bowl Design Option, MM CUL-1 shall be implemented for the following historical resource:

- Hollywood Bowl Pedestrian Tunnel

3.6.7.4.2 MM CUL-2: CONSTRUCTION VIBRATION PROTECTION MEASURES – HISTORICAL RESOURCES

Metro shall conduct a pre-construction baseline survey, implement building protection measures, and conduct a post-construction survey of the historical resources listed below for each alignment and the Hollywood Bowl Design Option in relation to construction staging and construction vibration and cut-and-cover activities adjacent to these historical resources. This mitigation measure includes the following elements:

- Metro shall conduct a pre-construction survey to establish baseline pre-construction conditions and to assess the potential for damage related to improvements adjacent to the historical resources listed below. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shall review proposed protection measures.
- Metro shall implement building protection measures such as fencing or sensitive construction techniques based on final project design.
- Metro shall conduct a post-construction survey to ensure that no significant impacts had occurred to the historical resources. An architectural historian or historical architect who meets the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) shall prepare an assessment of the implementation of the mitigation measure.

These protection measures shall be included in the CRMMP (see MM CUL-5) for the relevant historical resources.

KNE SAN VICENTE–FAIRFAX ALIGNMENT

For the KNE San Vicente–Fairfax Alignment, MM CUL-2 shall be implemented for the following 20 historical resources:

- First United Methodist Church of Hollywood (6817 Franklin Avenue)
- Hollywood Wax Museum (6765 Hollywood Boulevard)
- Los Angeles First Federal, Security Pacific Bank (6777 Hollywood Boulevard)
- Sivananda Yoga Community (1538 McCadden Place)
- Hollywood High School Historic District (1521 N Highland Avenue)
- Hollywood High School Liberal Arts Building (1521 N Highland Avenue)
- Max Factor Makeup Salon (1666 N Highland Avenue)
- Hollywood High School Auditorium (1521 N Highland Avenue)
- Hollywood Walk of Fame
- Hollywood Boulevard Commercial and Entertainment District
- 1145 N Sycamore Avenue
- 1143 N Sycamore Avenue
- 1133 N Detroit Street
- Johnie's Coffee Shop (6101 Wilshire Boulevard)
- May Company Building (6067 Wilshire Boulevard)
- US Post Office (Fairfax Avenue) [1125 N Fairfax Avenue]
- 8851 Santa Monica Boulevard
- Morris Memorial
- 7760 Santa Monica Boulevard
- Original Farmers Market and Rancho La Brea Adobe

KNE FAIRFAX ALIGNMENT

For the KNE Fairfax Alignment, MM CUL-2 shall be implemented for the following 19 historical resources:

- First United Methodist Church of Hollywood (6817 Franklin Avenue)
- Hollywood Wax Museum (6765 Hollywood Boulevard)
- Los Angeles First Federal, Security Pacific Bank (6777 Hollywood Boulevard)
- Sivananda Yoga Community (1538 McCadden Place)
- Hollywood High School Historic District (1521 N Highland Avenue)
- Hollywood High School Liberal Arts Building (1521 N Highland Avenue)
- Max Factor Makeup Salon (1666 N Highland Avenue)
- Hollywood High School Auditorium (1521 N Highland Avenue)

- Hollywood Walk of Fame
- Hollywood Boulevard Commercial and Entertainment District
- 1145 N Sycamore Avenue
- 1143 N Sycamore Avenue
- 1133 N Detroit Street
- Johnie's Coffee Shop (6101 Wilshire Boulevard)
- May Company Building (6067 Wilshire Boulevard)
- US Post Office (Fairfax Avenue) [1125 N Fairfax Avenue]
- Morris Memorial
- 7760 Santa Monica Boulevard
- Original Farmers Market and Rancho La Brea Adobe

KNE LA BREA ALIGNMENT

For the KNE La Brea Alignment, MM CUL-2 shall be implemented for the following 19 historical resources:

- First United Methodist Church of Hollywood (6817 Franklin Avenue)
- Hollywood Wax Museum (6765 Hollywood Boulevard)
- Los Angeles First Federal, Security Pacific Bank (6777 Hollywood Boulevard)
- Sivananda Yoga Community (1538 McCadden Place)
- Hollywood High School Historic District (1521 N Highland Avenue)
- Hollywood High School Liberal Arts Building (1521 N Highland Avenue)
- Max Factor Makeup Salon (1666 N Highland Avenue)
- Hollywood High School Auditorium (1521 N Highland Avenue)
- Hollywood Walk of Fame
- Hollywood Boulevard Commercial and Entertainment District
- 1145 N Sycamore Avenue
- 1143 N Sycamore Avenue
- 1133 N Detroit Street
- Clem Wilson/Mutual Omaha Building
- Zephyr Club
- 5352-5354 Wilshire Boulevard
- 330 N La Brea Avenue
- 357 N La Brea Avenue
- Morris Memorial

HOLLYWOOD BOWL DESIGN OPTION

For the Hollywood Bowl Design Option, MM CUL-2 shall be implemented for the following two historical resources:

- Lasky DeMille Studio Barn
- Hollywood Bowl Pedestrian Tunnel

3.6.7.4.3 MM CUL-3: HISTORICAL RESOURCES ARCHIVAL DOCUMENTATION

Metro shall provide archival documentation of the historical resources listed below for each of the alignments, following the guidelines of the National Park Service's Historic American Buildings Survey/Historic American Engineering Record/Historic American Landscape Survey (HABS/HAER/HALS) program. Documentation requirements would be outlined in the CRMMP (see MM CUL-5) and at a minimum shall consist of:

- Large-format photography, including negatives and archival prints
- Written narrative following the HABS/HAER/HALS short format
- Site plan

Metro shall provide copies of the documentation to the City of Los Angeles and City of West Hollywood for archival purposes. Large-format photography shall be completed prior to any demolition activities that would affect these resources. The documentation shall be prepared so that the original archival-quality documentation could be donated for inclusion in the Library of Congress if the National Park Service accepts these materials. Copies of documentation shall also be offered to the Los Angeles Public Library and local historical societies upon request.

KNE SAN VICENTE–FAIRFAX ALIGNMENT

For the KNE San Vicente–Fairfax Alignment, MM CUL-3 shall be implemented for the following five resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)
- Santa Palm Car Wash (8787 Santa Monica Boulevard)

KNE FAIRFAX ALIGNMENT

For the KNE Fairfax Alignment, MM CUL-3 shall be implemented for the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)

- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

KNE LA BREA ALIGNMENT

For the KNE La Brea Alignment, MM CUL-3 shall be implemented for the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

3.6.7.4.4 MM CUL-4: INTERPRETIVE PROGRAM

Metro shall provide interpretive materials in the form of an exhibit, pamphlet, website, or similar material that describe and/or illustrate the historic significance of the historical resources listed below for each of the alignments, per the CRMMP (see MM CUL-5).

Interpretive materials shall be provided to the City of Los Angeles and City of West Hollywood for public education purposes. Copies of interpretive materials shall also be offered to the Los Angeles Public Library and local historical societies upon request.

KNE SAN VICENTE–FAIRFAX ALIGNMENT

For the KNE San Vicente–Fairfax Alignment, MM CUL-4 shall be implemented for the following five historical resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)
- Santa Palm Car Wash (8787 Santa Monica Boulevard)

KNE FAIRFAX ALIGNMENT

For the KNE Fairfax Alignment, MM CUL-4 shall be implemented for the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

KNE LA BREA ALIGNMENT

For the KNE La Brea Alignment, MM CUL-4 would be implemented for the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

3.6.7.4.5 MM CUL-5: CULTURAL RESOURCES MONITORING AND MITIGATION PLAN (CRMMP)

To mitigate impacts to archaeological resources that may be encountered in the RSA during construction activities, a CRMMP shall be developed and implemented by Metro. The CRMMP shall provide information on project personnel roles and responsibilities, establish procedures for cultural resources training for construction personnel (see MM CUL-6), include guidelines for treatment of unanticipated discoveries and human remains, and outline monitoring requirements and protocols (see MM CUL-7 and MM CUL-8).

The CRMMP shall require that an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) in prehistoric and historical archaeology be retained prior to ground-disturbing activities to implement CRMMP requirements.

The CRMMP shall provide details on procedures to follow when encountering unanticipated archaeological resources. If buried archaeological resources, such as flaked or ground stone, historic debris, building foundations, or culturally modified non-human bone, are discovered during project-related ground-disturbing activities within any part of the RSA, work would stop in that area and within 50 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Work may continue in other areas of the project. The CRMMP shall include a detailed prehistoric and historic context that clearly states the themes under which any subsurface deposits identified during construction would be determined significant under CEQA. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. A Native American monitor shall be retained if treatment involves work at a prehistoric site, or at other locations determined appropriate during tribal consultation.

Archaeological and Native American monitoring shall be required at locations with moderate sensitivity for buried archaeological deposits, including areas of new station construction and TBM launch and extraction sites (see mitigation measures MM CUL-7 and MM CUL-8), protocols for which would be established in the CRMMP. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated.

Additionally, the CRMMP shall outline and describe in depth the mitigation measures (see mitigation measures MM CUL-1 through MM CUL-4) dedicated to mitigating impacts for the built environment resources that qualify as historical resources for the purposes of CEQA. Protocol for inadvertent discoveries of human remains (see MM CUL-9) shall also be outlined and described in depth.

3.6.7.4.6 MM CUL-6: CULTURAL RESOURCES TRAINING

Prior to any ground-disturbing activities, all construction personnel involved in ground-disturbing activities shall be provided with appropriate cultural resources training in accordance with the project CRMMP (see MM CUL-5). The training will instruct the personnel regarding the legal framework protecting cultural resources, typical kinds of cultural resources that may be found within the RSA, and proper procedures and notifications if cultural resources are inadvertently discovered.

3.6.7.4.7 MM CUL-7: ARCHAEOLOGICAL MONITORING

Project-related ground-disturbing activities shall be monitored by a qualified archaeologist, in accordance with the project CRMMP (see MM CUL-5). If archaeological artifacts are discovered, then work shall be halted in the immediate vicinity of the find and a qualified archaeologist shall assess the significance of the find and, if necessary, develop appropriate treatment measures, per the CRMMP (see MM CUL-5).

3.6.7.4.8 MM CUL-8: NATIVE AMERICAN MONITORING

Project-related ground-disturbing activities conducted in areas identified as having moderate sensitivity for buried archaeological deposits, and other locations determined appropriate through AB 52 consultation, shall be monitored by a Native American representative from an NAHC identified tribe, in accordance with the project CRMMP as detailed in MM CUL-5. The tribal monitor shall be ancestrally affiliated with the RSA and vicinity and qualified by their tribe to monitor for tribal cultural resources.

In the event that an archaeological resource discovered during project construction is determined to be potentially of Native American origin based on the initial assessment of the find by a qualified archaeologist pursuant to California PRC Section 21083.2(i), the Native American tribes that consulted on the proposed project pursuant to AB 52 shall be notified and be provided information about the find to allow for early input from the tribal representatives with regard to the potential significance and treatment of the resource. Resources shall be treated with culturally appropriate dignity, taking into consideration the tribal cultural values and meaning of the resource. The input of all consulting tribes shall be considered in the preparation of any required treatment plan activities prepared by the qualified archaeologist for any prehistoric archaeological resources or tribal cultural resources identified during the project. Work in the area of the discovery may not resume until evaluation and treatment of the resource is completed and/or the resource is recovered and removed from the site. Construction activities may continue on other parts of the construction site while evaluation and treatment of the resource takes place.

3.6.7.4.9 MM CUL-9: UNANTICIPATED DISCOVERY OF HUMAN REMAINS

If human remains are discovered, work in the immediate vicinity of the discovery shall be suspended and the Los Angeles County Coroner shall be contacted. If the remains are deemed Native American in origin, the coroner shall contact the NAHC and a Most Likely Descendant (MLD) would be identified pursuant to PRC Section 5097.98 and CCR Section 15064.5. The MLD may inspect the site within 48 hours of being notified and issue recommendations for scientific removal and nondestructive analysis. If the MLD fails to make recommendations, then Metro and/or the landowner may rebury the remains in a location not subject to further disturbance at their discretion. Work may be resumed at the landowner's discretion but would only commence after consultation with the Los Angeles County Coroner, the MLD, and Metro has been concluded and treatment of the remains has been resolved. Work may continue on other parts of the project while consultation and treatment are conducted.

3.6.7.4.10 IMPACT SIGNIFICANCE AFTER MITIGATION

As described in Sections 3.6.7.1, 3.6.7.2, and 3.6.7.3, there would be significant impacts related to historical resources (Impact CUL-1), archaeological resources (Impact CUL-2), and disturbance of human remains (Impact CUL-3) during construction of the KNE San Vicente–Fairfax Alignment, KNE Fairfax Alignment, KNE La Brea Alignment, and Hollywood Bowl Design Option, and there would be a significant impact related to disturbance of human remains (Impact CUL-3) during construction of the MSF. The subsections below describe the impact significance for each of the alignments, the design option, and the MSF after implementation of mitigation.

3.6.7.4.10.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

IMPACT CUL-1: HISTORICAL RESOURCES

Under the KNE San Vicente–Fairfax Alignment, mitigation measures MM CUL-1 (Protection Measures – Differential Settlement/Vibration/TBM Specifications) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the two resources identified in Section 3.6.7.4.1 where there would be a significant impact related to ground settlement (see Table 3.6-7). In addition, mitigation measures MM CUL-2 (Construction Vibration Protection Measures – Historical Resources) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the 20 resources (inclusive of the two resources listed above) identified for the KNE San Vicente–Fairfax Alignment in Section 3.6.7.4.2 where there would be significant impacts related to construction vibration (see Table 3.6-7). With implementation of mitigation measures MM CUL-1, MM CUL-2, and MM CUL-5, the impact during construction of the KNE San Vicente–Fairfax Alignment on the 20 resources referenced above would be reduced to a less than significant level.

Under the KNE San Vicente–Fairfax Alignment, mitigation measures MM CUL-3 (Historical Resources Archival Documentation), MM CUL 4 (Interpretive Program), and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the following five resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)

- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)
- Santa Palm Car Wash (8787 Santa Monica Boulevard)

However, because these five resources would be demolished, the impact during construction of the KNE San Vicente–Fairfax Alignment would be significant and unavoidable.

IMPACT CUL-2: ARCHAEOLOGICAL RESOURCES

Implementation of mitigation measures MM CUL 5 (Cultural Resources Monitoring and Mitigation Plan), MM CUL-6 (Cultural Resources Training), MM CUL-7 (Archaeological Monitoring), and MM CUL-8 (Native American Monitoring) during construction of the KNE San Vicente–Fairfax Alignment would reduce impacts to P-19-003045 and unknown archaeological historical resources or unique archaeological resources to a less than significant level.

IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Implementation of mitigation measures MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) and MM CUL-9 (Unanticipated Discovery of Human Remains) during construction of the KNE San Vicente–Fairfax Alignment would reduce impacts to unknown buried human remains, including those interred outside formal cemeteries, to a less than significant level.

3.6.7.4.10.2 KNE FAIRFAX ALIGNMENT

IMPACT CUL-1: HISTORICAL RESOURCES

Under the KNE Fairfax Alignment, mitigation measure MM CUL-1 (Protection Measures – Differential Settlement/Vibration/TBM Specifications) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the two resources identified in Section 3.6.7.4.1 where there would be a significant impact related to ground settlement (see Table 3.6-8). In addition, mitigation measures MM CUL-2 (Construction Vibration Protection Measures – Historical Resources) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the 19 resources (inclusive of the two resources listed above) identified for the KNE Fairfax Alignment in Section 3.6.7.4.2 where there would be significant impact related to construction vibration (see Table 3.6-8). With implementation of mitigation measures MM CUL-1, MM CUL-2, and MM CUL-5, the impact during construction of the KNE Fairfax Alignment on the 19 resources referenced above would be reduced to a less than significant level.

Under the KNE Fairfax Alignment, mitigation measures MM CUL-3 (Historical Resources Archival Documentation), MM CUL 4 (Interpretive Program), and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)

- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

However, because these four resources would be demolished, the impact during construction of the KNE Fairfax Alignment would be significant and unavoidable.

IMPACT CUL-2: ARCHAEOLOGICAL RESOURCES

Implementation of mitigation measures MM CUL 5 (Cultural Resources Monitoring and Mitigation Plan), MM CUL-6 (Cultural Resources Training), MM CUL-7 (Archaeological Monitoring), and MM CUL-8 (Native American Monitoring) during construction of the KNE Fairfax Alignment would reduce impacts to P-19-003045 and unknown archaeological historical resources or unique archaeological resources to a less than significant level.

IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Implementation of mitigation measures MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) and MM CUL-9 (Unanticipated Discovery of Human Remains) during construction of the KNE Fairfax Alignment would reduce impacts to unknown buried human remains, including those interred outside formal cemeteries, to a less than significant level.

3.6.7.4.10.3 KNE LA BREA ALIGNMENT

IMPACT CUL-1: HISTORICAL RESOURCES

Under the KNE La Brea Alignment, mitigation measure MM CUL-1 (Protection Measures – Differential Settlement/Vibration/TBM Specifications) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the two resources identified in Section 3.6.7.4.1 where there would be a significant impact related to ground settlement (see Table 3.6-9). In addition, mitigation measures MM CUL-2 (Construction Vibration Protection Measures – Historical Resources) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the 19 resources (inclusive of the two resources listed above) identified for the KNE La Brea Alignment in Section 3.6.7.4.2 where there would be significant impact related to construction vibration (see Table 3.6-9). With implementation of mitigation measures MM CUL-1, MM CUL-2, and MM CUL-5, the impact during construction of the KNE La Brea Alignment on the 19 resources referenced above would be reduced to a less than significant level.

Under the KNE La Brea Alignment, mitigation measures MM CUL-3 (Historical Resources Archival Documentation), MM CUL 4 (Interpretive Program), and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the following four resources:

- 6806 Hollywood Boulevard
- Rexall Drug Store, Lee Drug Company (6800 Hollywood Boulevard)
- Bank of America (6780 Hollywood Boulevard)
- Hollywood Theater (6766 Hollywood Boulevard)

However, because these four resources would be demolished, the impact during construction of the KNE La Brea Alignment would be significant and unavoidable.

IMPACT CUL-2: ARCHAEOLOGICAL RESOURCES

Implementation of mitigation measures MM CUL 5 (Cultural Resources Monitoring and Mitigation Plan), MM CUL-6 (Cultural Resources Training), MM CUL-7 (Archaeological Monitoring), and MM CUL-8 (Native American Monitoring) during construction of the KNE La Brea Alignment would reduce impacts to unknown archaeological historical resources or unique archaeological resources to a less than significant level.

IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Implementation of mitigation measures MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) and MM CUL-9 (Unanticipated Discovery of Human Remains) during construction of the KNE La Brea Alignment would reduce impacts to unknown buried human remains, including those interred outside formal cemeteries, to a less than significant level.

3.6.7.4.10.4 HOLLYWOOD BOWL DESIGN OPTION

IMPACT CUL-1: HISTORICAL RESOURCES

Under the Hollywood Bowl Design Option, mitigation measures MM CUL-2 (Construction Vibration Protection Measures – Historical Resources) and MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) would be implemented at the Lasky DeMille Studio Barn. For the Hollywood Bowl Pedestrian Tunnel, MM CUL-1 (Protection Measures – Differential Settlement/Vibration/TBM Specifications) would be implemented in addition to MM CUL-2 and MM CUL-5. With implementation of these mitigation measures, the impact during construction of the Hollywood Bowl Design Option on the two resources referenced above would be reduced to a less than significant level.

IMPACT CUL-2: ARCHAEOLOGICAL RESOURCES

Implementation of mitigation measures MM CUL 5 (Cultural Resources Monitoring and Mitigation Plan), MM CUL-6 (Cultural Resources Training), MM CUL-7 (Archaeological Monitoring), and MM CUL-8 (Native American Monitoring) during construction of the Hollywood Bowl Design Option would reduce impacts to unknown archaeological historical resources or unique archaeological resources to a less than significant level.

IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Implementation of mitigation measures MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) and MM CUL-9 (Unanticipated Discovery of Human Remains) during construction of the Hollywood Bowl Design Option would reduce impacts to unknown buried human remains, including those interred outside formal cemeteries, to a less than significant level.

3.6.7.4.10.5 MAINTENANCE AND STORAGE FACILITY

IMPACT CUL-3: DISTURBANCE OF HUMAN REMAINS

Implementation of mitigation measures MM CUL-5 (Cultural Resources Monitoring and Mitigation Plan) and MM CUL-9 (Unanticipated Discovery of Human Remains) during construction of the MSF would reduce impacts to unknown buried human remains, including those interred outside formal cemeteries, to a less than significant level.

3.6.7.5 SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES

Table 3.6-11 summarizes the cultural resources impact significance conclusions and applicable mitigation measures.

TABLE 3.6-11. KNE SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES FOR CULTURAL RESOURCES

IMPACT		IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES				
		KNE SAN VICENTE–FAIRFAX ALIGNMENT	KNE FAIRFAX ALIGNMENT	KNE LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact CUL-1: Historical Resources	Impact Before Mitigation	Construction: Significant Operation: LTS	Construction: Significant Operation: LTS	Construction: Significant Operation: LTS	Construction: Significant Operation: LTS	Construction: No Impact Operation: No Impact
	Mitigation Measures	Construction: MM CUL-1 – MM CUL-5 Operation: None Required	Construction: MM CUL-1 – MM CUL-5 Operation: None Required	Construction: MM CUL 1 – MM CUL-5 Operation: None Required	Construction: MM CUL-1, MM CUL-2, MM CUL-5 Operation: None Required	None Required
	Impact After Mitigation	Construction: SAU Operation: LTS	Construction: SAU Operation: LTS	Construction: SAU Operation: LTS	Construction: LTS Operation: LTS	Construction: No Impact Operation: No Impact
Impact CUL-2: Archaeological Resources	Impact Before Mitigation	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: LTS Operation: No Impact
	Mitigation Measures	Construction: MM CUL-5 – MM CUL-8 Operation: None Required	Construction: MM CUL-5 – MM CUL-8 Operation: None Required	Construction: MM CUL-5 – MM CUL-8 Operation: None Required	Construction: MM CUL-5 – MM CUL-8 Operation: None Required	None Required
	Impact After Mitigation	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact

IMPACT		IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES				
		KNE SAN VICENTE–FAIRFAX ALIGNMENT	KNE FAIRFAX ALIGNMENT	KNE LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact CUL-3: Disturbance of Human Remains	Impact Before Mitigation	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact
	Mitigation Measures	Construction: MM CUL-5, MM CUL-9 Operation: None Required	Construction: MM CUL-5, MM CUL-9 Operation: None Required	Construction: MM CUL-5, MM CUL-9 Operation: None Required	Construction: MM CUL-5, MM CUL-9 Operation: None Required	Construction: MM CUL-5, MM CUL-9 Operation: None Required
	Impact After Mitigation	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact	Construction: LTS Operation: No Impact

Source: Connect Los Angeles Partners 2024
Note: LTS = less than significant impact; SAU = significant and unavoidable impact

3.6.8 PALEONTOLOGICAL RESOURCES INTRODUCTION

This discussion provides an evaluation of KNE as it relates to paleontological resources. It includes descriptions of the state and local regulatory setting, existing conditions, and the impacts from construction and operation of the proposed alignments and stations, design option, and MSF, as well as mitigation measures where applicable. For more detailed information, refer to the KNE Cultural and Paleontological Resources Technical Report (Appendix 3.6-A).

3.6.9 REGULATORY FRAMEWORK

3.6.9.1 FEDERAL

No federal regulations are applicable to the project regarding paleontological resources.

3.6.9.2 STATE

The following state laws and regulations are relevant to construction and operation of the project:

- California Environmental Quality Act (PRC Sections 21000-21177)
- California PRC Section 5097 and Section 30244

3.6.9.3 REGIONAL

No regional regulations are applicable to the project regarding paleontological resources.

3.6.9.4 LOCAL

The following local regulations are relevant to construction and operation of the project:

- City of Los Angeles, General Plan, Conservation Element

3.6.9.4.1 SOCIETY OF VERTEBRATE PALEONTOLOGY STANDARDS

The SVP has established standard guidelines (SVP 1995, 2010) that outline professional protocols and practices for conducting paleontological resource assessments and surveys; monitoring and mitigation; data and fossil recovery; sampling procedures; and specimen preparation, identification, analysis, and curation. State regulatory agencies with paleontological regulations and standards typically accept and use the professional standards set forth by the SVP.

3.6.10 METHODOLOGY

3.6.10.1 CEQA METHODOLOGY

The purpose of this analysis is to evaluate the project against CEQA thresholds of significance as the basis for determining the level of impacts related to paleontological resources. The methodology used for paleontological resources included delineation of the RSA, review of geologic maps, a paleontological

records search, and a literature review. Because the paleontological resources RSA surface is largely obscured by urbanization, a comprehensive field survey was not warranted.

3.6.10.2 SIGNIFICANCE THRESHOLDS

In accordance with Appendix G of the 2022 CEQA Guidelines, the project would have a significant impact related to paleontological resources if it would:

- Impact PAL-1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

3.6.11 RESOURCE STUDY AREA

The paleontological resources RSA encompasses areas where temporary or permanent ground disturbance may occur and includes all proposed ROW, acquisition, and construction areas for the alignments and stations, the design option, and the MSF.

An overview of the paleontological resources RSA is provided on Figure 3.6-1 in Section 3.6.4, and Figure 3.6-2 in Section 3.6.4 shows the MSF RSA.

3.6.12 EXISTING SETTING

This existing setting discussion summarizes current conditions related to paleontological resources within and near the KNE RSA.

3.6.12.1 REGIONAL SETTING

KNE is located in a relatively flat area of the Los Angeles Basin. The basin is bounded by the Santa Monica Mountains to the northwest, the San Gabriel Mountains to the north, and the San Bernardino and San Jacinto Mountains to the east. The basin was formed by alluvial and fluvial deposits derived from these surrounding mountains. Today, the vicinity of KNE is a densely populated and heavily developed city landscape.

3.6.12.1.1 GEOLOGIC SETTING

The Los Angeles Basin is a structural depression approximately 50 miles long and 20 miles wide in the northernmost Peninsular Ranges Geomorphic Province of California (Ingersoll and Rumelhart 1999). The Los Angeles Basin developed as a result of tectonic forces and the San Andreas fault zone, with subsidence occurring 18 to three million years ago (Ma) (Critelli et al. 1995). While sediments dating back to the Cretaceous (66 Ma) are preserved in the basin, continuous sedimentation began in the middle Miocene (around 13 Ma) (Yerkes et al. 1965). Since that time, sediments have been eroded into the basin from the surrounding highlands, resulting in thousands of feet of accumulation (Yerkes et al. 1965). Most of these sediments were marine, until sea level dropped in the Pleistocene Epoch and deposition of the alluvial sediments that compose the uppermost units in the Los Angeles Basin began.

Geologic mapping indicates that most of the surface of the project is covered with Pleistocene-aged (11,700 BP to 2.58 Ma) alluvium, alluvial fan, and valley deposits (mapped as Qae in Figure 3.6-3 and

Figure 3.6-4 in Section 3.6.5.1.1.1). A smaller portion of the project is covered by Holocene-aged (less than 11,700 BP) alluvium mapped as Qa. At the very northern tip of KNE, outcrops of the Topanga Formation cross the RSA.

Recent alluvial deposits (Qa) are common throughout the northern half of KNE. This younger alluvium is characterized by deposits of gravel and sand that form active parts of alluvial valleys. Holocene-aged alluvium deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material (SVP 2010); however, they may overlay sensitive older deposits at unknown depths.

Late Pleistocene deposits (Qae) contain deposits of unsorted boulders, cobbles, gravel, and sand that form inactive parts of alluvial fans. Pleistocene-aged alluvial fan deposits cover large portions of the vicinity of KNE. In general, these alluvial sediments are composed of tan to reddish-brown sandstone and siltstone deposited during the late to middle Pleistocene. Pleistocene-aged deposits have proven to yield scientifically significant paleontological resources throughout Southern California. In the Ballona Creek drainage, green to blue Pleistocene sediments underlie the Qae sediments, and these reflect fluctuating river and marine depositional conditions. Pleistocene sediments mapped as Qoa occur near Los Angeles International Airport.

The upper claystone unit of the Topanga Formation is identified as occurring as extensive outcrops that comprise the hills at the northern end of KNE. This unit consists of micaceous clay shale or claystone (Ttusi) with thin sandstone interbedded basalt (Tvb). The Topanga Formation is interpreted to represent wave-dominated coastal deposits grading into river-dominated deltaic deposits and fluvial deposits in the upper parts of the formation (Critelli and Ingersoll 1995). The Topanga Formation dates to the middle Miocene, around 20 to 16 Ma. Fossils from the Topanga Formation include numerous invertebrate and vertebrate remains from both marine and terrestrial settings, including Desmostylus (McLeod, pers. com., 2023), sharks, bony fishes, birds, whales, dolphins, and land mammals (Koch et al. 2004; Campbell and Yerkes 1980; Whistler and Lander 2003).

Table 3.6-12 provides a summary of the geologic units that the alignments and stations, the design option, and the MSF would cross and the paleontological potential for each.

TABLE 3.6-12. PALEONTOLOGICAL POTENTIAL OF GEOLOGIC UNITS IN THE RSA

GEOLOGIC GROUP	ABBREVIATION	UNIT DESCRIPTION	PALEONTOLOGICAL POTENTIAL
Unconsolidated detrital sediments	Qa	Holocene alluvium	Low
	Qc	Holocene sand and clay of pre-development marshlands	Low
Older surficial sediments	Qae	Late Pleistocene alluvial fan sediments	High
	Qoa	Late Pleistocene older alluvium	High
Late Miocene sediments	Tush	Unnamed Shale	High
Middle Miocene sediments	Ttusi	Upper Topanga Formation	High
	Tvb	Basaltic volcanic rocks	Low

Source: Dibblee and Ehrenspeck 1991a and 1991b; Dibblee and Minch 2007
KNE = K Line Northern Extension; RSA = resource study area

3.6.12.1.2 INVENTORY RESULTS

Portions of the KNE alignments and stations, the design option, and the MSF would cross geologic units with high paleontological potential (Qae, Qoa, Ttusi). Additionally, the Natural History Museum of Los Angeles County (LACM) paleontological records search revealed extensive records of paleontological localities (fossil localities) near the various project components, and one that directly overlaps with the RSA (Bell 2023). Furthermore, a paleontological literature search revealed additional localities not listed in the records search report.

3.6.12.1.2.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

The KNE San Vicente–Fairfax Alignment originates at the Metro K Line Expo/Crenshaw Station in Qa sediments. It then passes into Qae sediments just south of I-10. Just over 1.2 miles west of Crenshaw Boulevard on Jefferson Boulevard lie two LACM vertebrate localities. LACM 336 produced a camel fossil, and LACM 3369 produced a horse fossil. Although the surficial geology at these locations is mapped as Qa, the fossils come from subsurface Pleistocene deposits. North of I-10, the alignment begins at a curve to the west and crosses a narrow belt of Qa sediment (Ballona Creek Valley). This narrow belt of Qa sediments corresponds to the historic path of Ballona Creek, and one LACM vertebrate fossil locality (7137) falls both within the alignment and within the path of the creek. Two other localities (1226 and 1783) lie in Qae sediments, but very near the Qa sediments of Ballona Creek. Localities 7137 and 1226 produced bison fossils. Locality 1783 produced ground sloth, horse, camel, and bison fossils. From Ballona Creek, the alignment continues in Qae sediments northwest along San Vicente Boulevard, and then curves northward toward Wilshire Boulevard at Fairfax Avenue.

Near the intersection of Fairfax Avenue and Wilshire Boulevard are many Pleistocene brea (asphalt) deposits, some of them part of the world-famous La Brea Tar Pits. There are many Pleistocene fossil localities, particularly in and around the Rancho La Brea Tar Pits in Hancock Park. These localities occur in asphaltic sands and silts and those deposits producing extinct organisms dated from 11,000 to 38,000

years old. These occur from ground surface to perhaps 45 feet deep. Hundreds of animal and plant species have been found there. Mammoths, mastodons, ground sloths, camels, saber-tooth cats, and dire wolves are among the animal species that attract public interest. The location and accessibility of these deposits make them truly unique (Turner 2006). This area and the fossils it produced have been the subject of intensive research on geology, paleontology, and archaeology for over 150 years. In 1951, this general site was designated as the type locality for the Rancholabrean North American Land Mammal Age, meaning it is the site of reference for fossils between 240,000 and 11,000 years ago in North America. The site was also formally recognized by the National Park Service in 1964 as a National Natural Landmark. Many newspaper accounts have featured fossils found while excavating the Wilshire/Fairfax Station for the Metro D Line.

At 3rd Steet, the alignment continues north along Fairfax Avenue and passes into Qa sediments. Between 3rd Street and Beverly Boulevard, the alignment passes five LACM vertebrate fossil localities. Construction of The Grove at the Original Farmers Market unearthed a variety of fossils, including mammoth, camel, bison, horse, rodents, and turtle. The surficial sediments there are mapped as Qae. Another locality from construction at The Grove produced a rodent fossil at a depth of 46 feet. The sediments at that depth are assigned to the Palos Verdes Sand (a marine formation). West of Fairfax Avenue lie three localities in Qa sediments. Proboscidean fossils were recovered at a depth of 20 feet near 3rd Street and Edinburgh Avenue. A bit farther west, proboscidean fossils were found both near 5th Street and San Vicente Boulevard, and Colgate Avenue and San Vicente Boulevard.

Still in Qa sediments, the alignment turns west at Beverly Boulevard. Proboscidean fossils were found in the vicinity of Kilkea Drive and Beverly Boulevard. Deer and Proboscidea remains were found near 3rd Street and San Vicente Boulevard. Then the alignment turns northwest at San Vicente Boulevard. Two vertebrate fossil localities lie east of San Vicente Boulevard. In the vicinity of the 300 block of North La Cienega Boulevard, 150 specimens of plant, invertebrate, and multiple mastodon fossils were found. A horse fossil was found near the intersection of Rosewood Avenue and Westbourne Drive. The alignment turns northeast under Santa Monica Boulevard and terminates at Fairfax Avenue. All localities along this alignment west of Fairfax Avenue lie in Qae sediment beneath surficial Qya sediments. No localities lie between the San Vicente/Santa Monica Station and the Hollywood/Highland Station.

3.6.12.1.2.2 KNE FAIRFAX ALIGNMENT

The KNE Fairfax is confluent with the KNE San Vicente–Fairfax Alignment from the current Metro K Line terminus at Expo/Crenshaw to the Fairfax/3rd Station between Beverly Boulevard and 3rd Street. Thus, it shares all the nearby paleontological localities with the KNE San Vicente–Fairfax Alignment up to that point. No localities lie between the Fairfax/3rd Station and the Fairfax/Santa Monica Station. The KNE Fairfax Alignment continues north on Fairfax Avenue to Santa Monica Boulevard, where it extends through a sigmoid curve to join Highland Avenue and then terminates at the Hollywood/Highland Station.

3.6.12.1.2.3 KNE LA BREA ALIGNMENT

The KNE La Brea Alignment is confluent with the KNE San Vicente–Fairfax Alignment from the Metro K Line Expo/Crenshaw Station to the Midtown/Crossing Station. That segment is all within sediments

mapped as Qa. The alignment proceeds northeast as it becomes confluent with Redondo Boulevard. Just southeast of where Redondo Boulevard intersects with La Brea Avenue lies a vertebrate fossil locality (LACM 1814). Asphaltic sediment at that location (mapped as Qae) produced a fossil of a shrub ox at a depth of six feet. From the intersection of Redondo Boulevard and La Brea Avenue to Santa Monica Boulevard, the alignment is in Qae sediments. No recorded localities lie along that segment. The alignment then curves to the east, then north, joins Highland Avenue, and terminates at the Hollywood/Highland Station. No recorded localities occur along this last segment.

3.6.12.1.2.4 HOLLYWOOD BOWL DESIGN OPTION

From the Hollywood/Highland Station to about Camrose Drive, the path is mapped as Qae sediments. From south of Camrose Drive to the Hollywood Bowl Station the RSA lies in a valley with Qae sediment on the surface. However, Ttusi sediments (Upper Topanga Formation) may be affected at a shallow depth. The northern extension of track north of the station follows the boundary between Qae sediments and Tvb volcanic rocks. The nearest known paleontological localities are invertebrate localities (LACM IP 22304 and 22305) in the vicinity of Pilgrimage Bridge. Mollusk fossils were found at these sites. The nearest vertebrate fossil locality is 1.5 miles northwest of the proposed station. A Desmostylus fossil was found there. The invertebrate localities are on the US-101 freeway opposite of this design option (east of the US-101 Freeway).

3.6.12.1.2.5 MAINTENANCE AND STORAGE FACILITY

The MSF site lies in sediments mapped as Qoa. Three fossil localities are recorded in the vicinity: LACM VP locality 7332 is northwest of the proposed MSF, LACM VP locality 4942 lies to the north, and LACM VP locality 3789 lies to the south.

3.6.13 PROJECT MEASURES

Project measures are design features, best management practices, or other commitments that Metro would implement as part of all proposed alignments, the design option, and the MSF to reduce or avoid environmental effects associated with project construction and operation. Project measures are not the same as mitigation measures, which are used to reduce an environmental impact's significance level. Where applicable, project measures are also discussed in Section 3.6.14 as part of the evaluation of environmental impacts.

There are no project measures specific to paleontological resources that have been identified.

3.6.14 IMPACT EVALUATION AND MITIGATION MEASURES

This analysis presents the construction and operational impacts for paleontological resources, as well as any applicable mitigation measures associated with KNE. A summary of the impact conclusions and applicable mitigation measures is found in Table 3.6-13 in Section 3.6.14.3.

3.6.14.1 IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Impact PAL-1: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

3.6.14.1.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

3.6.14.1.1.1 CONSTRUCTION IMPACTS

Significant Impact The KNE San Vicente–Fairfax Alignment is the longest of the three proposed alignments, with a total of 9.7 miles of tunnel boring, of which 6.4 miles would be in Qa sediments (low paleontological potential) and 3.3 miles in Qae sediments (high paleontological potential). Additionally, LACM vertebrate fossil 7137 was identified within the RSA, and many other paleontological localities are known along the route, several of which are located in areas mapped as Qa, indicating that older Pleistocene sediments lie beneath younger Holocene sediments. Construction of this alignment could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the KNE San Vicente–Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.14.1.1.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE San Vicente–Fairfax Alignment would be limited to the operation and maintenance of the project and would not include ground-disturbing activities. As a result, operation of this alignment would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the KNE San Vicente–Fairfax Alignment would have no impact during operation.

3.6.14.1.2 KNE FAIRFAX ALIGNMENT

3.6.14.1.2.1 CONSTRUCTION IMPACTS

Significant Impact. The KNE Fairfax Alignment has a total of 7.8 miles of boring, of which 6.4 miles would be in Qa sediments (low paleontological potential) and 3.3 miles in Qae sediments (high paleontological potential). Additionally, as with the other KNE alignments, LACM vertebrate fossil 7137 was identified within the RSA, and many other paleontological localities are known along the route, several of which are located in areas mapped as Qa, indicating that older Pleistocene sediments lie beneath younger Holocene sediments. Construction of this alignment could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the KNE Fairfax Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.14.1.2.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE Fairfax Alignment would be limited to the operation and maintenance of the project and would not include ground-disturbing activities. As a result, operation of this alignment would not directly or indirectly destroy a unique paleontological resource or

site or a unique geologic feature. Therefore, the KNE Fairfax Alignment would have no impact during operation.

3.6.14.1.3 KNE LA BREA ALIGNMENT

3.6.14.1.3.1 CONSTRUCTION IMPACTS

Significant Impact. The KNE La Brea Alignment is the shortest of the three proposed alignments with a total of 6.2 miles of boring, of which 2.3 miles are in Qa (low paleontological potential) and 3.9 miles in Qae (high paleontological potential). Additionally, LACM vertebrate fossil 7137 was identified within the RSA, and many other paleontological localities are known along the route, several of which are located in areas mapped as Qa, indicating that older Pleistocene sediments lie beneath younger Holocene sediments. Construction of this alignment could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the KNE La Brea Alignment would have a potentially significant impact during construction, and mitigation would be required.

3.6.14.1.3.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the KNE La Brea Alignment would be limited to the operation and maintenance of the project and would not include ground-disturbing activities. As a result, operation of this alignment would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the KNE La Brea Alignment would have no impact during operation.

3.6.14.1.4 HOLLYWOOD BOWL DESIGN OPTION

3.6.14.1.4.1 CONSTRUCTION IMPACTS

Significant Impact. The Hollywood Bowl Design Option RSA does not contain known paleontological resources. However, it lies in sediments designated as having high paleontological potential (Qae sediment) and paleontological resources are known to exist in the vicinity of the RSA. As a result, construction of the design option could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the Hollywood Bowl Design Option could have a potentially significant impact during construction, and mitigation would be required.

3.6.14.1.4.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the Hollywood Bowl Design Option would be limited to the operation and maintenance of the project and would not include ground-disturbing activities. As a result, operation of this design option would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the Hollywood Bowl Design Option would have no impact during operation.

3.6.14.1.5 MAINTENANCE AND STORAGE FACILITY

3.6.14.1.5.1 CONSTRUCTION IMPACTS

Significant Impacts. No paleontological resources are located within the MSF RSA. However, it lies in sediments designated as having high paleontological potential (Qoa sediment), and LACM vertebrate localities 4942 and 3789, and other paleontological resources are known to exist in the vicinity of the RSA. Construction of the MSF could directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the MSF would have a potentially significant impact during construction, and mitigation would be required.

3.6.14.1.5.2 OPERATIONAL IMPACTS

No Impact. Operational activities associated with the MSF would be limited to the operation and maintenance of the project and would not include ground-disturbing activities. As a result, operation of the MSF would not directly or indirectly destroy a unique paleontological resource or site or a unique geologic feature. Therefore, the MSF would have no impact during operation.

3.6.14.2 MITIGATION MEASURES

The mitigation measures described below are provided to reduce significant paleontological impacts. Section 3.6.14.2.4 discusses the impact significance after mitigation.

3.6.14.2.1 MM PAL-1: PALEONTOLOGICAL RESOURCES MONITORING AND MITIGATION PLAN (PRMMP)

To mitigate impacts to paleontological resources that may be encountered in the paleontological RSA during construction activities associated with the project, a PRMMP shall be developed and implemented by Metro. The PRMMP shall be prepared by a qualified paleontologist (project Paleontologist) prior to ground-disturbing activities, and include the following:

- Qualifications for project Paleontologist and Paleontological Monitor(s)
- Procedures for paleontological resources training for construction personnel (MM PAL-2)
- Monitoring protocol (MM PAL-2)
- Stop-work authority to temporarily stop construction activities within 50 feet of a discovered paleontological resource
- Treatment measures for discovered paleontological resources
- Curation requirements of recovered fossil materials
- Collection and testing strategies for microfossils
- Reporting requirements

3.6.14.2.2 MM PAL-2: WORKER EDUCATION

Prior to construction, the project Paleontologist or Paleontological Monitor shall inform construction personnel who would be involved with earth-moving activities that paleontological resources may be encountered during ground-disturbing activities and shall prepare and provide construction personnel with a project-specific Worker Environmental Awareness Plan outlining the requirements and procedures triggered in the event paleontological resources are uncovered during construction activities.

3.6.14.2.3 MM PAL-3: PALEONTOLOGICAL MONITORING

The project Paleontologist shall supervise the Paleontological Monitor to monitor excavation in areas identified as likely to contain paleontological resources, per the project PRMMP (MM PAL-1). These areas are defined as all areas within the older alluvium in the RSA where planned excavation would exceed three feet below the surface or three feet into undisturbed sediments, and all areas within the younger alluvium in the RSA where planned excavation would exceed 10 feet below the surface or 10 feet into undisturbed sediments. The project Paleontologist shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are determined to have low potential to contain fossil resources.

3.6.14.2.4 IMPACT SIGNIFICANCE AFTER MITIGATION

As described in Section 3.6.14.1, there would be a potentially significant impact related to directly or indirectly destroying a unique paleontological resource or site or a unique geologic feature (Impact PAL-1) during construction of the KNE San Vicente–Fairfax Alignment, KNE Fairfax Alignment, KNE La Brea Alignment, Hollywood Bowl Design Option, and MSF. The subsections below describe the impact significance for each of the alignments, the design option, and the MSF after implementation of mitigation.

3.6.14.2.4.1 KNE SAN VICENTE–FAIRFAX ALIGNMENT

IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Implementation of mitigation measures MM PAL-1 (Paleontological Resources Monitoring and Mitigation Plan), MM PAL-2 (Worker Education), and MM PAL-3 (Paleontological Monitoring) during construction of the new stations associated with the KNE San Vicente–Fairfax Alignment would reduce impacts to paleontological resources to a less than significant level. However, in areas where TBMs are used for tunnel construction, these mitigation measures cannot reduce impacts to a less than significant level. Therefore, the KNE San Vicente–Fairfax Alignment would have a significant and unavoidable impact during construction.

3.6.14.2.4.2 KNE FAIRFAX ALIGNMENT

IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Implementation of mitigation measures MM PAL-1 (Paleontological Resources Monitoring and Mitigation Plan), MM PAL-2 (Worker Education), and MM PAL-3 (Paleontological Monitoring) during construction of the new stations associated with the KNE Fairfax Alignment would reduce impacts to paleontological resources to a less than significant level. However, in areas where TBMs are used for tunnel construction, these mitigation measures cannot reduce impacts to a less than significant level. Therefore, the KNE Fairfax Alignment would have a significant and unavoidable impact during construction.

3.6.14.2.4.3 KNE LA BREA ALIGNMENT

IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Implementation of mitigation measures MM PAL-1 (Paleontological Resources Monitoring and Mitigation Plan), MM PAL-2 (Worker Education), and MM PAL-3 (Paleontological Monitoring) during construction of the new stations associated with the KNE La Brea Alignment would reduce impacts to paleontological resources to a less than significant level. However, in areas where TBMs are used for tunnel construction, these mitigation measures cannot reduce impacts to a less than significant level. Therefore, the KNE La Brea Alignment would have a significant and unavoidable impact during construction.

3.6.14.2.4.4 HOLLYWOOD BOWL DESIGN OPTION

IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Mitigation measures MM PAL-1 (Paleontological Resources Monitoring and Mitigation Plan), MM PAL-2 (Worker Education), and MM PAL-3 (Paleontological Monitoring) would be implemented during construction of the Hollywood Bowl Design Option. However, in areas where SEM is used for construction, these mitigation measures cannot reduce impacts to paleontological resources to a less than significant level. Therefore, the Hollywood Bowl Design Option would have a significant and unavoidable impact during construction.

3.6.14.2.4.5 MAINTENANCE AND STORAGE FACILITY

IMPACT PAL-1: PALEONTOLOGICAL RESOURCES

Implementation of mitigation measures MM PAL-1 (Paleontological Resources Monitoring and Mitigation Plan), MM PAL-2 (Worker Education), and MM PAL-3 (Paleontological Monitoring) during construction activities associated with the MSF would reduce impacts to paleontological resources to a less than significant level.

3.6.14.3 SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES

Table 3.6-13 summarizes the paleontological resources impact significance conclusions and applicable mitigation measures.

TABLE 3.6-13. KNE SUMMARY OF IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES FOR PALEONTOLOGICAL RESOURCES

IMPACT		IMPACT SIGNIFICANCE CONCLUSIONS AND MITIGATION MEASURES				
		KNE SAN VICENTE–FAIRFAX ALIGNMENT	KNE FAIRFAX ALIGNMENT	KNE LA BREA ALIGNMENT	HOLLYWOOD BOWL DESIGN OPTION	MAINTENANCE AND STORAGE FACILITY
Impact PAL-1: Paleontological Resources	Impact Before Mitigation	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact	Construction: Significant Operation: No Impact
	Mitigation Measures	Construction: MM PAL-1 – MM PAL-3 Operation: None Required	Construction: MM PAL-1 – MM PAL-3 Operation: None Required	Construction: MM PAL-1 – MM PAL-3 Operation: None Required	Construction: MM PAL-1 – MM PAL-3 Operation: None Required	Construction: MM PAL-1 – MM PAL-3 Operation: None Required
	Impact After Mitigation	Construction: SAU Operation: No Impact	Construction: SAU Operation: No Impact	Construction: SAU Operation: No Impact	Construction: SAU Operation: No Impact	Construction: LTS Operation: No Impact

Source: Connect Los Angeles Partners 2024
LTS = less than significant impact; SAU = significant and unavoidable impact