

APPENDIX A

Air Quality Emissions Modeling Report (CalEEMod)

Road Construction Emissions Model, Version 9.0.0

Daily Emission Estimates for -> North 16th Street Streetscape														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.24	10.52	13.38	2.58	0.58	2.00	0.93	0.52	0.42	0.02	2,237.07	0.59	0.05	2,266.12
Grading/Excavation	6.17	48.70	69.11	5.02	3.02	2.00	3.15	2.73	0.42	0.10	9,742.16	2.87	0.13	9,851.57
Drainage/Utilities/Sub-Grade	3.65	30.99	36.82	3.79	1.79	2.00	2.08	1.66	0.42	0.06	5,728.18	1.21	0.08	5,783.06
Paving	1.72	18.15	16.58	1.00	1.00	0.00	0.89	0.89	0.00	0.03	2,893.06	0.75	0.06	2,928.99
Maximum (pounds/day)	6.17	48.70	69.11	5.02	3.02	2.00	3.15	2.73	0.42	0.10	9,742.16	2.87	0.13	9,851.57
Total (tons/construction project)	0.27	2.25	2.93	0.25	0.13	0.11	0.15	0.12	0.02	0.00	432.92	0.12	0.01	437.62
Notes:														
Project Start Year ->	2020													
Project Length (months) ->	6													
Total Project Area (acres) ->	3													
Maximum Area Disturbed/Day (acres) ->	0													
Water Truck Used? ->	Yes													
Phase	Total Material Imported/Exported Volume (yd ³ /day)			Daily VMT (miles/day)										
	Soil	Asphalt		Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck							
Grubbing/Land Clearing	0	0		0	0	280	40							
Grading/Excavation	1	0		0	0	880	40							
Drainage/Utilities/Sub-Grade	2	0		0	0	600	40							
Paving	4	2		0	0	480	40							
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														

Total Emission Estimates by Phase for -> North 16th Street Streetscape														
Project Phases	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM10 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.07	0.09	0.02	0.00	0.01	0.01	0.00	0.00	0.00	14.76	0.00	0.00	13.57
Grading/Excavation	0.16	1.29	1.82	0.13	0.08	0.05	0.08	0.07	0.01	0.00	257.19	0.08	0.00	235.94
Drainage/Utilities/Sub-Grade	0.08	0.72	0.85	0.09	0.04	0.05	0.05	0.04	0.01	0.00	132.32	0.03	0.00	121.19
Paving	0.02	0.18	0.16	0.01	0.01	0.00	0.01	0.01	0.00	0.00	28.64	0.01	0.00	26.31
Maximum (tons/phase)	0.16	1.29	1.82	0.13	0.08	0.05	0.08	0.07	0.01	0.00	257.19	0.08	0.00	235.94
Total (tons/construction project)	0.27	2.25	2.93	0.25	0.13	0.11	0.15	0.12	0.02	0.00	432.92	0.12	0.01	397.01

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, .25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

APPENDIX B
Natural Environment Study

Natural Environment Study

(Minimal Impacts)

North 16th Street Streetscape Project

City of Sacramento

Sacramento County, California

XXXX-XXXX(XXX)

June 2018

STATE OF CALIFORNIA
Department of Transportation
District 3

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Summary

The City of Sacramento, in conjunction with the California Department of Transportation (Caltrans), is proposing the North 16th Street Streetscape Improvements Project (Project). The Project area is located along 16th Street and North 16th Street in Midtown Sacramento, in Sacramento County, between H Street and Richards Boulevard (Figure 1). The project constitutes a local undertaking supported by federal funding and consists of improvements to pedestrian and bicycle circulation areas of 16th and North 16th Streets, as well as improvements to overall streetscape visual quality. This would include improvements to sidewalks, curbs, drainage features, safety-related design features, identification of bike routes, and landscaping.

The City of Sacramento and its consultant, Dudek, has prepared this Natural Environment Study – Minimal Impact (NES-MI) on behalf of Caltrans. The purpose of an NES is to describe the biological resources within the Biological Study Area (BSA), and the potential impacts of the project alternatives. It is appropriate to use the NES-MI when the project alternatives would have minimal impacts that can be addressed by minimization and avoidance measures.

There are no habitats or natural communities of special concern within the BSA. The area along 16th Street between H Street and Richards Boulevard is developed and paved, with several businesses occurring along both sides of the street (Figure 2). Numerous mature street trees occur along this segment of the road, and traffic is generally moderate to heavy.

Only one special status-species has the potential to occur within the BSA, which is Swainson's hawk (*Buteo swainsoni*). Due to the developed/disturbed nature of the BSA, no special-status plant species are expected to occur within the BSA. Implementation of the mitigation measures listed in Section 4.3, would ensure that no construction-related or operational impacts would result to Swainson's hawk as a result of Project activities.

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1. Introduction

1.1 Project History

The 16th/North 16th Street corridor is a northbound, four lane arterial connecting Downtown with northern Sacramento, located within a federally designated Promise Zone (Figure 1).¹ The portion of the corridor covered under this project, from H Street to Richards Boulevard, cuts through two distinct districts separated by the Union Pacific Railroad Underpass with pedestrian tunnels on each side of the street (Figure 2).

The North 16th Street corridor was part of the historic Lincoln Highway, and in addition to being the primary connection to Highway 160 it is one of the few roadway crossings of the Union Pacific Railroad (UPRR) tracks. Accordingly, the street serves as a major commuter route with over 25,000 ADT. The 48-foot wide street carries four vehicle travel lanes, with no bike lanes due to insufficient width.

The street front uses in the Mansion Flats and Washington School Historic District (Mansion/Washington Neighborhoods) consist of many auto-related businesses, such as motels and auto repair shops, that were developed when the street served as a state highway. A number of vacant parcels line the street. Many have sat vacant for years, with no active plans for redevelopment.

The pedestrian connection between Mansion Flat/Washington neighborhood to the south and the River District to the north requires crossing through narrow tunnels beneath the UPRR underpass. The tunnels are dark and confining, despite the City's ongoing work to keep these areas clean and to keep the lighting functioning, illegal camping and criminal activity persists. The City has identified the tunnels as the primary health and safety issue within the corridor.

North of the UPRR tracks, the corridor passes through the North 16th Street Historic District, lined with brick warehouses and home to a mix of businesses.

The River District streetscape is a mix of redeveloped and run-down stretches with few street trees and a saw-tooth pattern of sidewalks. With no or little on- or off-street parking nearby, a stretch of unarticulated sidewalk often serves as parking in front of retail establishments.

A major redevelopment project is slated for North 16th Street. The Twin Rivers Public Housing Project has been awarded \$30 million through the Choice Neighborhood grant, administered by the U.S. Department of Housing and Urban Development. This project proposes constructing

¹ Promise Zones receive priority access to federal investments that further their strategic plans, federal staff to help communities navigate federal resources, and AmeriCorps VISTA members to recruit and manage volunteers and strengthen the capacity of the Promise Zone initiatives.

housing on the triangular vacant property located at the confluence of North 12th and North 16th Streets, adjacent to the future Dos Rios Light Rail Station.

1.2 Project Description

The proposed Project is located on 16th and North 16th Streets in Sacramento, California (Figures 1 and 2). Specifically, the approximate center of the Project is located at 38.3513 N, - 121.2853 W, within Township 8 North, Range 5 East, and Section 6, and Township 9 north, Range 5 East, and Section 31 of the Mt. Diablo Meridian. It is within the “Sacramento East, CA” United States Geological Survey (USGS) 7.5 minute quadrangle.

The City proposes to focus improvements on the pedestrian facilities of 16th and North 16th Streets from H Street to Richards Boulevard. The project corridor is shown in Figure 2. Key aspects of the project include the following:

- Installing new curb, gutter, and sidewalks at several locations along the corridor;
- Potential pavement modifications to accommodate proposed vertical curb, gutter, and sidewalk.
- Signing and/or striping to identify east-west bike routes through the River District from Sacramento Northern Bike Trail to North 12th Street;
- Modifying existing traffic signals throughout the Plan area;
- Installing drainage improvements along the roadway corridor;
- Installing consistently spaced street trees;
- Re-striping to accommodate on-street parking where feasible and appropriate;
- Installation of LED street lighting and ‘smart’ poles; and
- Improving access and safety at existing pedestrian tunnels below the Union Pacific tracks.

No major utilities (water, sewer, storm drain, and “dry” utilities) are planned to be relocated as a part of this project. Some service connections to individual buildings or properties may have to be replaced or relocated. Streetscape improvements will include drainage improvements at some intersections as well as ADA improvements to drain inlets. In some cases, LID strategies may be implemented. Overall, project construction activities are anticipated to occur as funding is identified and improvement plans are prepared. Phased construction would occur during traditionally non-rainy months. Construction work hours are anticipated to occur Monday through Saturday between the hours of 7 a.m. and 3 p.m., with weekday commute traffic being taken into consideration. Construction staging areas may be located on privately owned parcels after gaining right of entry/permission from property owners.

It is anticipated that excavators, bulldozers, cranes, pavers, dump trucks, concrete trucks, and concrete pumps may be required to construct the proposed project (see **Table 1**).

**Table 1
Anticipated Construction Equipment**

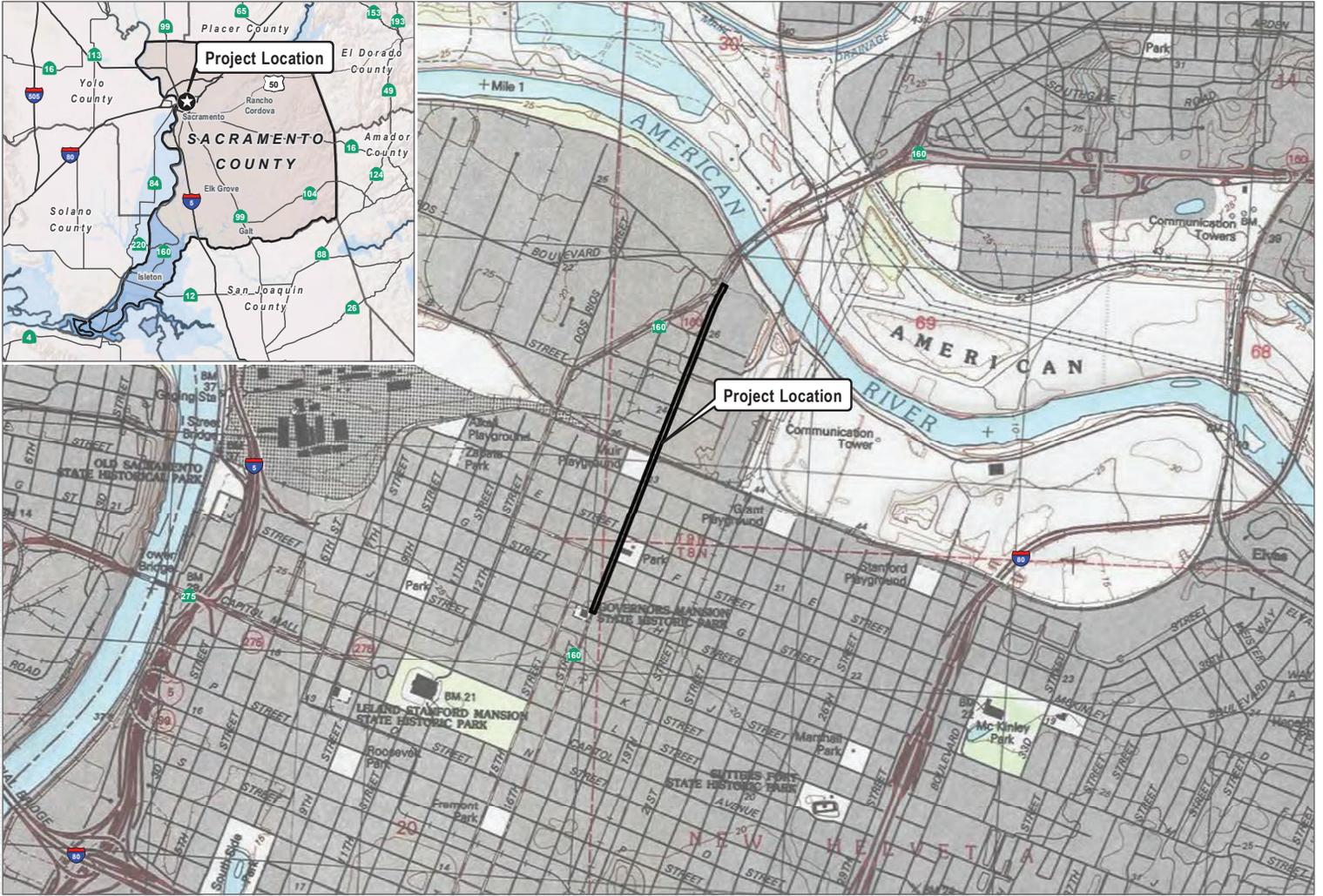
Equipment	Construction Purpose
Asphalt Concrete Paver	Re-paving roadway (possible)
Backhoe	Soil manipulation and drainage work
Bobcat	Sidewalk and parkway strip excavation
Bulldozer/Loader	Earthwork construction, clearing and grubbing
Dump Truck	Fill material delivery/surplus removal
Excavator	Soil manipulation
Front-end Loader	Dirt or gravel manipulation
Haul Truck	Earthwork construction; clearing and grubbing
Paver	Roadway paving
Roller	Earthwork and compacting
Scraper	Earthwork construction; clearing and grubbing
Water Truck	Earthwork construction; clearing and grubbing

To minimize construction-related impacts to surrounding land uses, a number of best management practices will be implemented during the construction phase of the proposed project. For example, where ground disturbing or grading activities are necessary, fugitive dust will be minimized by on-site watering. Standard Best Management Practices (BMPs) will also be undertaken as part of the project to ensure erosion control, with a Stormwater Pollution Prevention Plan (SWPPP) to be prepared and implemented by the construction contractor to achieve this purpose.

Traffic controls will be implemented during construction, although minimal traffic restrictions are anticipated. The project contractor will prepare a traffic control plan that will be approved by the City prior to construction commencement.

Streetscape improvements will require ongoing maintenance. Activities such as graffiti removal, landscape and irrigation maintenance, tunnel cleaning and monitoring and street light repair will need to be accounted for once improvements are installed.

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SOURCE: USGS 7.5-Minute Series Sacramento East Quadrangle



FIGURE 1
Project Location
 North 16th Street Streetscape Project

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SOURCE: Sacramento County 2018; USDA 2018



FIGURE 2
Study Area

North 16th Street Streetscape Project

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2. Study Methods

This section discusses the methods utilized to determine the potential for special-status species or their habitat to be present within or adjacent to the Biological Study Area (BSA). The BSA consists of the area of potential direct and indirect Project impacts (Figure 3). General habitat assessments and observations of wildlife were performed by a Dudek biologist within and adjacent to the Project site during a field visit conducted on May 9, 2018. The information provided in this report was gathered from the site conditions assessed during the site visit, as well as information obtained in the literature reviewed, as described below in Section 2.2.

2.1 Regulatory Requirements

The federal regulatory requirements and laws that may apply to the proposed Project include:

- Federal Endangered Species Act
- Clean Water Act, Sections 404 and 401
- Migratory Bird Treaty Act

Applicable state laws and regulations include:

- California Endangered Species Act
- Native Plant Protection Act
- California Fish and Game Code

A brief description of each of the relevant laws and regulations is provided below.

Federal Endangered Species Act. Under the Federal Endangered Species Act (FESA), the Secretary of the Interior and the Secretary of Commerce, jointly have the authority to list a species as threatened or endangered (16 United States Code [USC] 1533[c]). FESA defines “endangered” species as those in danger of extinction throughout all or a significant portion of their range. A “threatened” species is any species that is likely to become an “endangered” species within the foreseeable future throughout all, or a significant portion of its range. Additional special-status species include “candidate” species and “species of concern.” “Candidate” species are those for which the U.S. Fish and Wildlife Service (USFWS) has on file enough information to propose listing as endangered or threatened. Species of concern” are those for which listing is possibly appropriate, but where the USFWS lacks sufficient information to support a listing proposal. A species that has been “delisted” is one whose population has met its recovery goal target and is no longer in jeopardy of extinction.

Section 7 of FESA requires formal consultation with the USFWS or National Marine Fisheries Service (NMFS) for only those species listed as endangered, threatened or proposed for threatened or endangered. Taking of a federally listed species is prohibited under Section 9 of FESA. Taking is defined by FESA [Section 3(19)] to mean “to harass, harm, pursue, hunt,

shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” An incidental take of a listed species requires consultation with the USFWS or NMFS.

Federally listed species may be addressed for a proposed Project in one of two ways: (1) a nonfederal government entity may resolve potential adverse impacts to species protected under Section 10 of FESA, or (2) a federal lead agency may resolve potential adverse effects to listed species in accordance with Section 7 of FESA. Both require consultation with the USFWS or NMFS, which administers the Act and ultimately issues a final opinion determining whether a project is likely to adversely affect or jeopardize the continued existence of a federally listed species, or result in the destruction or adverse modification of critical habitat proposed to be designated for such species (16 USC 1536[3],[4]).

Clean Water Act. Under Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (USACE) regulates the disposal of dredged and fill materials into “waters of the United States”. Waters of the U.S. include intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, and wetlands adjacent to any water of the U.S. [CFR 33 Part 328]. In areas subject to tidal influence, Section 404 jurisdiction extends to the high tide line. Certain waters of the U.S. are considered “special aquatic sites” because they are generally recognized as having particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallows, coral reefs, and riffle and pool complexes. Special aquatic sites are defined by the U.S. Environmental Protection Agency and may be afforded additional consideration in the permit process for a project. The USACE also regulates navigable waters under Section 10 of the Rivers and Harbors Act. These are defined as “...those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce” [33 CFR Part 322.2].

In addition to the Section 404 permit, Section 401 of the Clean Water Act requires that a 404 permit applicant obtain a certificate from the appropriate state agency stating that the fill is consistent with the state’s water quality standards and criteria. In California, the authority to grant certification or waive the requirement for permits under Section 401 is delegated by the State Water Resources Control Board to one of nine Regional Water Quality Control Boards. Pursuant to the Porter-Cologne Act, each Regional Water Quality Control Board (RWQCB) must prepare and periodically update basin plans that set forth water quality standards for surface and groundwater, as well as actions to control point and non-point sources of pollution. Basin plans offer an opportunity to achieve wetlands protection through enforcement of water quality standards. No USACE 404 permit is valid under the Clean Water Act unless it is “certified” by the state. Therefore, a RWQCB may effectively veto or add conditions to any USACE permit.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act (MBTA) of 1918 (16 United States Code 703-711) is an international treaty for the conservation and management of bird species that may migrate through more than one country. It is enforced in the United States by the USFWS, and makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a “take” and is potentially punishable by fines and/or imprisonment. In 1972, the MBTA was amended to include protection for migratory birds of prey (raptors). All species and subspecies of the families listed above are protected under the provisions of the 1972 amendment.

California Endangered Species Act and Native Plant Protection Act. The California Endangered Species Act (CESA) and the Native Plant Protection Act authorizes the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (§2050-2098, Fish & Game Code). CESA defines “endangered” species as those whose continued existence in California is jeopardized. State listed “threatened” species are those not presently threatened with extinction, however may become endangered if their environments change or deteriorate. Protection of special-status species is detailed in Sections 2050 and 2098 of the Fish and Game Code. The California Code of Regulations (Title 14, Section 670.5) lists animal species considered endangered and threatened by the State. Formal consultation must be initiated with the California Department of Fish and Wildlife (CDFW) for projects that may have an adverse effect on a state-listed species. If no state listed species will be affected by a proposed project, environmental documentation is provided to the CDFW at the discretion of the lead agency.

Section 2080 of the California Fish and Game Code prohibits the taking of state listed plant and animals. The CDFW also designates “fully protected” or “protected” species as those that may not be taken or possessed without a permit from the Fish and Game Commission and/or the CDFW. Species designated as fully protected or protected may or may not be listed as endangered or threatened.

CDFW’s Natural Heritage Division administers the State’s endangered species program. CDFW’s implementation of the CESA has created a program that is similar in structure to, but different in detail from, the USFWS program implementing the federal ESA.

The CDFW maintains a list of designated endangered, threatened, and rare plant and animal species. Listed species are either designated under the Native Plant Protection Act, or designated by the Fish and Game Commission. In addition to recognizing three levels of endangerment, the CDFW can afford interim protection to candidate species while they are reviewed by the Fish and Game Commission.

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SOURCE: USDA 2017; Bing Maps 2018



FIGURE
Project Soils

North 16th Street Streetscape Project

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The CDFW also maintains a list of animal “Species of Special Concern,” most of which are species whose breeding populations in California may face extirpation. Although these species have no legal status, the CDFW recommends consideration of them during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future.

Under provisions of Section 15380(d) of CEQA, the project lead agency and CDFW, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFW considers species on Lists 1A, 1B, or 2 of the *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994) as qualifying for consideration under this CEQA provision. Species on the Native Plant Society's List 3 or 4 may, but generally do not, qualify for protection under this provision.

Fish and Game Code Section 1601-1603. Sections 1601-1603 of the Fish and Game Code require agencies to notify CDFW prior to any project that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake.

Porter Cologne Water Quality Control Act. Under the Porter-Cologne Water Quality Control Act (California Water Code, Div. 7, §13000 et seq.), discharges to wetlands and other “waters of the state” have been and remain subject to state regulation. Thus, “isolated” or “non-navigable” waters that may not be subject to USACE jurisdiction may be regulated by the applicable RWQCB.

2.2 Studies Required

The BSA was defined as the corridor along 16th Street to be directly affected by Project construction plus adjacent areas within 100-feet of the Project area that may be indirectly affected by the proposed Project.

Literature Search

Prior to conducting a site visit, the following agency database queries were performed for the Sacramento East, CA USGS 7.5 minute quadrangle and the eight surrounding quadrangles (Florin, Taylor Monument, Rio Linda, Citrus Heights, Sacramento West, Sacramento East, Carmichael, Clarksburg, and Elk Grove). Refer to Appendix A for the results of the database searches.

- California Natural Diversity Database (CNDDB)
- California Native Plant Society's Online Inventory of Rare and Endangered Plants
- USFWS' IPaC Report.

Additional information was obtained from high-resolution aerial photographs, topographical maps, and previous environmental documents drafted for the vicinity of the project.

Field Reviews

A site visit was performed by a Dudek biologist on May 9, 2018. The site visit consisted of walking the BSA and scanning a 100-foot buffer to record habitat types, document potentially suitable habitat for special-status wildlife and plant species, identify potential wetlands and waterways, and document all potential biological resources that may pose constraints to project construction.

2.3 Personnel and Survey Dates

Dudek biologist Lisa Achter conducted a general biological survey on May 9, 2018. Ms. Achter is a wildlife biologist with over 10 years' experience, specializing in conducting habitat assessments, general and focused biological surveys, trapping and relocation studies and various other studies for a number of special-status and common wildlife species in California.

2.4 Agency Coordination and Professional Contacts

To date, no agency coordination has taken place.

3. Results: Environmental Setting

3.1 Biological Study Area

The BSA is located along 16th Street and includes the sidewalks and a 100-ft buffer on either side of the street. Although the street is developed, paved, and urbanized, the mature street trees and other roadside vegetation provide nesting and foraging habitat for multiple avian species.

3.1.1 Physical Conditions

Climate

The BSA is located within the central valley of California, which is characterized by a Mediterranean climate with hot, dry summers, and cool, wet winters.

Soils

A custom Soil Resources Report was generated for the BSA (NRCS 2018), which provided information on known soil types within the proposed Project area (Figure 3). The following soil types were identified within the Project area:

Columbia-Urban land complex, drained, 0 to 2% slopes. Columbia-Urban land complex occurs on levees and floodplains and consists of poorly drained sand, silt and clay loam soils formed in alluvium. (NRCS 2018).

Urban land. Urban land is comprised of large areas covered by impervious surfaces (NRCS 2018). The majority of the Project area is classified as Urban land.

3.1.2 Vegetation Communities

The following descriptions of habitat types within the Project area reference habitat values relative to each habitat type. For the purposes of this evaluation, habitat values are based on the condition of land to provide essential habitat elements that are used by wildlife for all or a part of their life cycles. Key habitat elements contributing to habitat values include: the abundance and availability of food and water; corridors for migration and dispersal; and escape, nesting, and thermal cover.

Urban Landscaping/Developed. The entire Project area is considered urban/developed habitat. Some of these areas are subject to regular maintenance as well as high levels of human disturbance (cycling, jogging, walking, homeless camps, etc.). Landscaped areas along the street that consist of trees and shrubs provide wildlife habitat values such as nesting and foraging habitat for several common and special-status bird species (Figures 4a 4b, and 4c). Swainson's hawks are known to nest in mature trees in and adjacent to the downtown Sacramento area. Other resident and migratory raptor and passerine species such red-tailed hawk (*Buteo jamaicensis*), and American robin (*Turdus migratorius*) are also known to use urban habitat areas within the City for nesting, food, and cover.

3.2 Regional Species and Habitats of Concern

For the purposes of this report, special-status species include taxa with a moderate or greater potential to occur on the campus including those: (1) listed as threatened or endangered under either the California or Federal Endangered Species Acts; (2) candidates for either state or federal listing; (3) species afforded protection under the Fish and Game Code of California; (4) federal and CDFW “Species of Special Concern”; (5) CDFW “Species of Special Concern” highest and second priority lists; (6) and CNPS Rank 1-2 plants.

The CNDDDB, the CNPS electronic database, and the official USFWS species list were reviewed as part of this NES-MI to determine the occurrence or potential occurrence of special-status plant or wildlife species, and natural communities of special concern on or within the “Sacramento East, CA” USGS quadrangle and eight surrounding quadrangles. The CNDDDB is based on actual recorded occurrences and does not constitute an exhaustive inventory of every resource.

Table 2 includes lists of these special-status plant and wildlife species with both scientific and common names, legal status, description of habitat preference, and the recorded or potential occurrence within the project site. All but one of the special-status wildlife and plant species are not expected to occur in the Project vicinity due to a lack of suitable habitat within the Project area, or the Project area is outside of the species known range. All species with potential to occur are included in the table below and in Appendix A for reference, but only Swainson’s hawk is discussed further below.

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
<i>Invertebrates</i>				
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened/None	Vernal pool fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, and also seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Not expected to occur. Suitable aquatic habitat for this species is not present within or adjacent to the project area.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered/None	Vernal pool tadpole shrimp is associated with low-alkalinity seasonal pools in unplowed grasslands. The vernal pool tadpole shrimp is found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales,	Not expected to occur. Suitable aquatic habitat for this species is not present within or adjacent to the

Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
			and other seasonal wetlands in California. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone. This species inhabits freshwater habitats containing clear to highly turbid water, with water temperatures ranging from 50 to 84 degrees Fahrenheit and pH ranging from 6.2 to 8.5.	project area.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Threatened/None	Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (<i>Sambucus nigra</i>), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	Not expected to occur. No elderberry shrubs are present within or adjacent to the project area.
<i>Fish</i>				
delta smelt	<i>Hypomesus transpacificus</i>	Threatened/Endangered	Delta smelt are a tolerant of a wide salinity range. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
longfin smelt	<i>Spirinchus thaleichthys</i>	Threatened/Threatened, SSC	The longfin smelt is a pelagic estuarine fish. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to mature. The life cycle of most longfin smelt generally requires estuarine conditions. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
			waters with salinities ranging from 14 to 28 parts per thousand. Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (°C). Most longfin smelt in the San Francisco Bay are believed to breed in the lower reaches of the Sacramento and San Joaquin Rivers.	
Central Valley steelhead	<i>Oncorhynchus mykiss irideus</i> (NMFS)	Threatened/None	Central Valley steelhead spawn downstream of dams on every major tributary within the Sacramento and San Joaquin River systems. Regardless of life history strategy, for the first year or two of life rainbow trout and steelhead are found in cool, clear, fast-flowing permanent streams and rivers where riffles predominate over pools, there is ample cover from riparian vegetation or undercut banks, and invertebrate life is diverse and abundant.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	<i>Sacramento River Winter Run</i> - Endangered/Endangered <i>Central Valley Spring Run</i> - Threatened/Threatened	Adult winter-run Chinook salmon immigration and holding (upstream spawning migration) through the Delta and into the lower Sacramento River occurs from December through July, with a peak during the period extending from January through April. Winter-run Chinook salmon are sexually immature when upstream migration begins, and they must hold for several months in suitable habitat prior to spawning. Adult Central Valley spring-run Chinook salmon leave the ocean to begin their upstream migration in late January and early February, and enter the Sacramento River between March and September, primarily in May and June. Spring-run Chinook salmon generally enter rivers as sexually immature fish and must hold in freshwater for up to several months before spawning. While maturing, adults hold in deep pools with cold water. Spawning normally occurs between mid-August and early October, peaking in September.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
<i>Amphibians and Reptiles</i>				
California tiger salamander	<i>Ambystoma californiense</i>	Threatened/None	California tiger salamander (CTS) may be found in riparian and wet meadow habitats, but is more common in grasslands. CTS spends most of its life cycle underground in adjacent valley oak woodland or grassland habitat, primarily in rodent burrows. Breeding	Not expected to occur. Suitable aquatic and upland habitat for this species is not present within or

Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
			takes place following the first heavy winter rains. Temporary or permanent freshwater pools or slowly flowing streams are required for egg-laying and larval development. They appear to be absent in waters containing predatory game fish.	adjacent to the project area.
California red-legged frog	<i>Rana draytonii</i>	Threatened/ SSC	California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. These frogs also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (<i>Salix</i> spp.) are preferred, although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy. Adult frogs prefer dense, shrubby or emergent riparian vegetation near deep [≥ 2 to 3 feet (0.6 to 0.9 m)], still or slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail (<i>Typha</i> sp.) occur adjacent to open water.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
giant gartersnake	<i>Thamnophis gigas</i>	Threatened/Threatened	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marsh and wetlands, irrigation ditches, low gradient streams and rice fields containing emergent vegetation. Adjacent upland habitat is necessary for cover and aestivation.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
western pond turtle	<i>Emys marmorata</i>	None/SSC	Western pond turtles use both aquatic and terrestrial habitats. They are found in rivers, lakes, streams, ponds, wetlands, vernal pools, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Western pond turtles prefer areas that provide cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Terrestrial habitats are used for wintering and consist usually of burrows in leaves and soil. Western pond turtles also lay their eggs in terrestrial habitats. They are rarely found at altitudes above 1,500 meters.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
<i>Birds</i>				
bank swallow	<i>Riparia riparia</i>	None/Threatened	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. Feeds predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland.	Not expected to occur. Suitable cliff habitat for this species is not present within or adjacent to the project area.
burrowing owl	<i>Athene cunicularia</i>	None/SSC	The burrowing owl utilizes abandoned ground squirrel burrows in open habitats and grasslands, also disturbed areas. Diet consists of insects, small mammals, reptiles and amphibians. Commonly uses burrows on levees or mounds where there are unobstructed views of possible predators such as raptors or foxes.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	None/Threatened, FP	California black rail occurs near freshwater marshes along the margins of ponds, lakes, and water impoundments; also herb dominated wetlands on sloped ground associated with springs, canal leaks, seepage from impoundments and agricultural irrigation. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered/Endangered	Least Bell's vireo primarily occupies riverine riparian habitats along water, including dry portions of intermittent streams that typically provide dense cover within 1 to 2 meters (3.3 to 6.6 feet) off the ground, often adjacent to a complex, stratified canopy.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Swainson's hawk	<i>Buteo swainsoni</i>	None/Threatened, SSC	Swainson's hawk spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. Diet consists of small mammals, reptiles and insects.	High potential to occur. Suitable nesting habitat exists for this species within and adjacent to the project area, and suitable foraging habitat occurs in the agricultural areas to the west of the project site and along the Sacramento River to

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
				the north of the project site. There are several Swainson's hawk occurrence records in the vicinity of the project site; the most recent was from 2016 and was located approximately 3 blocks east of the project site.
tricolored blackbird	<i>Agelaius tricolor</i>	None/ SSC	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in the past 6 years due to habitat loss and harvest of grain fields before young have fledged.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Threatened/Endangered	Western yellow-billed cuckoo inhabits woodlands, thickets, orchards, streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, scrubby oak woods. Often in willow groves around marshes. In the west, mostly in streamside trees, including cottonwood-willow groves in arid country. Forages by scaling through shrubs and trees, gleaning insects from foliage and branches.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Mammals				
pallid bat	<i>Antrozous pallidus</i>	None/SSC	Pallid bat occupies a variety of habitats including grassland, shrubland, woodland and forests from sea level up through mixed conifer forest. Roosts in caves, mines, crevices and occasionally hollow trees or buildings. Prefers open habitats for foraging.	Not expected to occur. Although the abandoned buildings within the project area could provide marginal roosting habitat, there are no recent occurrence records for this species in Sacramento County and this species does not typically occur in urban areas.

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	None/SSC	Townsend's big-eared bat is found throughout most of western North America. Hibernates and roosts in caves and mines near entrances, or cave like structures such as buildings or under decks. Forages in forested habitats, along open edges.	Not expected to occur. Potentially suitable roosting habitat exists in the abandoned buildings within the project area, however, this species is highly sensitive to human disturbance and there are no occurrence records for this species in Sacramento County.
Plants				
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	None/None, CRPR 1B.2	Annual herb found in valley and foothill grassland (mesic). Elevation 90-1,000 feet. Blooms Mar-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
bristly sedge	<i>Carex comosa</i>	None/None, CRPR 2B.1	Perennial rhizomatous herb found in coastal prairie, marshes and swamps (lake margins), and valley and foothill grassland. Elevation 0-1,900 feet. Blooms May-Sep.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	None/Endangered, CRPR 1B.2	Annual herb found in marshes and swamps (lake margins), vernal pools. Usually clay soils. Elevation 10-2,375 meters. Blooms Apr-Aug.	Not expected to occur. Suitable habitat for this species is not present within the project area.
dwarf downingia	<i>Downingia pusilla</i>	None/None, CRPR 2B.2	Annual herb found in mesic valley and foothill grassland habitats, vernal pools. Elevation 1-445 meters. Blooms Mar-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Ferris' milk vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	None/None, CRPR 1B.1	Annual herb. Meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats). Elevation 0-225 feet. Blooms Apr-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Heckard's peppergrass	<i>Lepidium latipes</i> var. <i>heckardii</i>	None/None, CRPR 1B.2	Annual herb. Valley and foothill grassland (alkaline flats). Elevation 0-600 feet. Blooms Mar-May.	Not expected to occur. Suitable habitat for this

Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
				species is not present within the project area.
legenere	<i>Legenere limosa</i>	None/None, CRPR 1B.1	Annual herb found in vernal pools. Elevation 0-2,700 feet. Blooms Apr-Jun.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Mason's lilaepsis	<i>Lilaeopsis masonii</i>	None/Rare, CRPR 1B.1	Perennial rhizomatous herb found in marshes and swamps (brackish or freshwater) and riparian scrub. Elevation 0-30 feet. Blooms Apr-Nov.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Northern California black walnut	<i>Juglans hindsii</i>	None/None, CRPR 1B.1	Perennial deciduous tree found in riparian forest and riparian woodland. Elevation 0-1,500 feet. Blooms Apr-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	None/None, CRPR 2B.2	Annual vine (parasitic) found in marshes and swamps (freshwater). Elevation 50-900 feet. Blooms Jul-Oct.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	Endangered/Endangered, CRPR 1B.1	Annual herb found in vernal pools. Elevation 30-100 meters. Blooms Apr-Jul.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	None/None, CRPR 1B.2	Perennial rhizomatous emergent herb found in marshes and swamps. Elevation 0-650 meters. Blooms May-Oct.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Slender Orcutt grass	<i>Orcuttia tenuis</i>	Threatened/Endangered, CRPR 1B.1	Annual herb found in vernal pools (often gravelly). Elevation 35-1,760 meters. Blooms May-Sep.	No potential to occur due to lack of suitable habitat within the site.
Suisun Marsh aster	<i>Symphotrichum lentum</i>	None/None, CRPR 1B.2	Perennial rhizomatous herb. Marshes and swamps (brackish and freshwater). Elevation 0-10 feet. Blooms May-Nov.	Not expected to occur. Suitable habitat for this species is not present within the project area.

**Table 2
Special-status Wildlife and Plant Species Potentially Occurring
or Known to Occur within the Project Area.**

Common Name	Scientific Name	Federal/State Status	Habitat Associations	Potential to Occur in the Project Area
woolly rose mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	None/None, CRPR 1B.2	Perennial rhizomatous herb (emergent). Marshes and swamps (freshwater), often in riprap on sides of levees. Elevation 0-360 feet. Blooms Jun-Sep.	Not expected to occur. Suitable habitat for this species is not present within the project area.

SSC: Species of Special Concern (CDFW)

FP: Fully Protected (CDFW)

CRPR: California Rare Plant Rank (CNPS)

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

3.2.1 Special-Status Plants

None of the special-status plant species are expected to occur within the BSA or the 100-foot buffer. Although Northern California black walnut trees are a CRPR List 1B.1 species, trees planted as ornamentals or along roadsides are not naturally occurring. The CNPS database for this species only lists four USGS quadrangles where naturally occurring plants still occur. None of the nine quads surrounding the Project area are contain naturally occurring Northern California black walnut trees, therefore, it is not considered a special-status species within the BSA.

The remaining plant species listed in Appendix A with the potential to occur in the area are associated with unaltered valley grassland habitat, specific soil types, or seasonal wetlands such as vernal pools. The highly modified and urbanized landscape within the BSA and surrounding area, which lacks seasonal wetlands and clay or alkaline soils, creates a very low probability for the occurrence of these species. No special-status plants or their habitats were observed during the site survey.

3.2.2 Special-Status Wildlife

Mature trees along 16th Street and in the vicinity of the Project area provide suitable nesting habitat for Swainson’s hawk, and/or nesting and foraging habitat for several common avian species such as red-tailed hawk and American robin. Birds-of-prey are protected against take or possession, and the destruction of nests or eggs is prohibited pursuant to Section 3503.5 of the California Fish and Game Code. All native bird nests in California are protected by the federal Migratory Bird Treaty Act. Swainson’s hawk is discussed further below.



East side of 16th Street looking north from D Street



East side of 16th Street looking north from F Street



East side of 16th Street looking south from Dreher Street



East side of 16th Street looking south from F Street

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Looking north along 16th Street from B Street



Looking north along 16th Street from C Street



Looking north along 16th Street from Dreher Street



Looking north along 16th Street from Ford dealership

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Looking south along 16th Street from B Street



Northern end of 16th Street



West side of 16th Street looking north from F Street



West side of 16th Street looking south from F Street

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No other special-status wildlife species are expected to occur within or adjacent to the Project area, due to the developed and urbanized nature of the Project area, and the lack of suitable habitat for these species within and adjacent to the Project area.

Swainson's Hawk. Swainson's hawk (*Buteo swainsoni*) is listed as a threatened species under CESA and is also fully protected against take pursuant to Section 3503.5 of the Fish and Game Code of California. Swainson's hawk is a relatively large raptor that typically nests in large trees in riparian corridors as well as isolated trees remaining in or adjacent to agricultural fields in the Central Valley. However, these hawks also nest in the large trees among buildings, roads, and dwellings in urban areas like Sacramento (CDFW 2018).

This species forages in open grassland habitats and has adjusted to foraging in certain types of agricultural lands, including alfalfa, tomato and irrigated pastureland (Babcock 1993). The value of foraging habitat can be affected by a variety of characteristics, including density and availability of prey, proximity to disturbing features, and distance to nesting territories. Published information indicates these raptors typically forage within a 5-mile radius of nest sites but may range up to 18 miles from a nest site in search of suitable foraging habitat and available prey. Formal studies have shown that Swainson's hawks will spend the majority of foraging time in close proximity to the nest site when high quality foraging habitat (measured by the abundance and availability of prey) is present (Babcock 1993).

The occurrence of the Swainson's hawk in and around the Project area is well-documented, and there are over 250 occurrence records for this species within Sacramento County reported by the California Natural Diversity Database (CNDDDB 2018). Although the mature trees within and adjacent to the Project area provide suitable nesting habitat for this species, no raptors or raptor nests were observed in or adjacent to the BSA during the biological survey.

3.2.3 Habitat Connectivity

Wildlife corridors are landscape features, usually linear in shape, that facilitate the movement of animals (or plants) over time between two or more patches of otherwise disjunct habitat. Corridors can be small and even man made (e.g., highway underpasses, culverts, bridges), narrow linear habitat areas (e.g., riparian strips, hedgerows), or wider landscape-level extensions of habitat that ultimately connect even larger core habitat areas. Depending on the size and extent, wildlife corridors can be used during animal migration, foraging events, and juvenile dispersal, and ultimately serve to facilitate genetic exchange between core populations, provide avenues for plant seed dispersal, enable increased biodiversity and maintenance of ecosystem integrity within habitat patches, and help offset the negative impacts of habitat fragmentation (Hilty et al. 2006).

Natural Environment Survey (Minimal Impact)

The project site does not serve as a wildlife corridor because it does not act as a link between two or more patches of otherwise disjunct habitat, and the site and surrounding area is urban and developed.

4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Sensitive Natural Communities

The Project area occurs in a highly urbanized and disturbed environment that is mostly paved. Vegetation that occurs within the BSA consists of ornamental plantings and street trees, and is regularly maintained within an area that has increased levels of human presence and development. Although this vegetation provides nesting and foraging habitat for common and special-status avian species, it is not considered a natural vegetation community. Thus, there are no habitats or sensitive natural communities within the BSA.

Avoidance and Minimization Efforts/Compensatory Mitigation

No habitats or natural communities of special concern occur within the Project area and no impacts are anticipated to occur.

4.2 Special-Status Plant Species

As described in Section 3.2, there is no potential for special-status plants to occur within the BSA. The developed and disturbed nature of the site precludes the presence of special-status plants due to the absence of suitable soils and/or habitat.

Survey Results

No special-status plant species were noted within the BSA during the biological survey. Habitat along 16th Street is paved and disturbed and does not provide suitable habitat components for special-status plant species. Impacts to special-status plant species are not anticipated to occur as a result of the Project.

Avoidance and Minimization Efforts/Compensatory Mitigation

Impacts to special-status plant species are not anticipated to occur; therefore, no avoidance and minimization measures or compensatory mitigation is proposed.

4.3 Special-Status Wildlife Species

Swainson's hawk is the only special-status wildlife species that has potential to occur within or adjacent to the Project area. A discussion of native migratory birds and Swainson's hawk is provided below.

4.3.1 Discussion of Swainson's Hawk

As described in Section 3.2, there is potential for Swainson's hawk to utilize mature trees along the 16th Street and in the vicinity of the Project area for nesting.

Survey Results

No raptors or raptor nests were observed in the mature trees within and adjacent to the BSA during the biological survey; however, focused protocol-level surveys were not performed as part of the general biological surveys. Due to the presence of several mature trees within the BSA and in the vicinity of the BSA, the presence of suitable foraging habitat within 10 miles of the Project area, and information obtained from the CDFW CNDDDB that shows multiple occurrence records for this species in the vicinity of the Project area, the likelihood of Swainson's hawk nesting in the vicinity of the Project area is high.

Project Impacts

Impacts to Swainson's hawk could occur due to implementation of the project in the form of nest abandonment or take of individual eggs or chicks due to noise, tree removal and increased levels of human disturbance and equipment in the vicinity of the project site. These impacts would be considered significant under CEQA.

Avoidance and Minimization Efforts/Compensatory Mitigation

The following mitigation measure will be implemented to ensure no impacts to Swainson's hawk or other native birds protected by the MBTA occur due to Project construction:

Mitigation Measure BIO-1: If work activities are to be conducted during the nesting bird season (February 1 – August 31), a nesting bird survey will be completed by a qualified biologist no earlier than 2 weeks before construction to determine if any native birds are nesting within or in the vicinity of the Project area (including a 200-foot buffer for raptors and a ½ mile buffer for Swainson's hawk). The survey will include a thorough search of all trees, power poles, cavities, buildings, and vegetation for active nests in the proposed disturbance area, while also noting any incidental avian sightings. Surveys shall not be conducted during periods of excessive or abnormal cold, heat, wind, rain, or other inclement weather that individually or collectively reduces the likelihood of detection. If any passerine or large stick nests are discovered, it will be determined whether they are actively being used or not. The following behaviors are indicators that an active nest may be present:

1. Carrying material to build nests within the BSA or above recommended buffers
2. Copulations
3. Carrying food or feeding young
4. Carrying fecal sacks away from nest
5. Mate-feeding; repeated "bee-line" flying to likely nest site
6. Observation of nest
7. Observation of chicks
8. Females giving call or chip notes alerting their mate that they are off the nest
9. Auditory evidence of chicks

If any active nests are observed during surveys, a suitable avoidance buffer from the nests will be determined by the qualified biologist based on species, location, and extent and type of planned construction activity. These nests will be avoided until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. Should an active Swainson's hawk nest occur in the vicinity of the Project area, consultation with CDFW should occur to determine an appropriate buffer to avoid impacts to the nest.

No additional compensatory mitigation is proposed.

4.3.2 Discussion of Migratory Birds

Native migratory birds have the potential to utilize trees, shrubs, and man-made structures such as buildings and bridges for nesting and foraging. The typical season for nesting birds extends from February 1 through August 31.

Survey Results

A number of birds were observed within the BSA during the site survey, including western scrub jay (*Aphelocoma californica*) and northern mockingbird (*Mimus polyglottos*).

Project Impacts

The Project could potentially impact nesting birds in the form of take of eggs or chicks or destruction of active nests due to tree removal or increased noise in the vicinity of the Project area during construction.

Avoidance and Minimization Efforts/Compensatory Mitigation

As recommended in Section 4.3.1 above, if construction is to occur during the nesting bird season (February 1 through August 31), pre-construction nesting bird surveys shall be performed within and adjacent to the Project area. If active nests are identified within the Project area, avoidance buffers shall be established depending on bird species and in consultation with the CDFW.

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5. Conclusions & Regulatory Determination

5.1 Federal Endangered Species Act Consultation Summary

No species listed under the federal ESA will be impacted by the Project; therefore, no consultation with the USFWS is required.

5.2 Essential Fish Habitat Consultation Summary

No essential fish habitat will be impacted by the Project.

5.3 Wetlands and Other Waters Coordination Summary

No potential waters of the U.S. or state were identified during the biological survey; therefore coordination with CDFW, ACOE and/or RWQCB is not necessary prior to Project construction.

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Appendix A

Database Search Results

APPENDIX A
Special-Status Wildlife and Plant Species with Known or Potential Occurrence in the Vicinity of the North 16th Street Streetscape Project in Sacramento, California

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
<i>Invertebrates</i>				
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Threatened/ None	Vernal pool fairy shrimp is adapted to seasonally inundated features and occur primarily in vernal pools, and also seasonal wetlands that fill with water during fall and winter rains and dry up in spring and summer. Typically the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	Not expected to occur. Suitable aquatic habitat for this species is not present within or adjacent to the project area.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Endangered/ None	Vernal pool tadpole shrimp is associated with low-alkalinity seasonal pools in unplowed grasslands. The vernal pool tadpole shrimp is found only in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone. This species inhabits freshwater habitats containing clear to highly turbid water, with water temperatures ranging from 50 to 84 degrees Fahrenheit and pH ranging from 6.2 to 8.5.	Not expected to occur. Suitable aquatic habitat for this species is not present within or adjacent to the project area.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphis</i>	Threatened/ None	Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (<i>Sambucus nigra</i>), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems. The larval stages last for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the emergence holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	Not expected to occur. No elderberry shrubs are present within or adjacent to the project area.
<i>Fish</i>				
delta smelt	<i>Hypomesus transpacificus</i>	Threatened/ Endangered	Delta smelt are a tolerant of a wide salinity range. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface), where the salinity is	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
			approximately 2 ppt. Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone.	project area.
longfin smelt	<i>Spirinchus thaleichthys</i>	Threatened/ Threatened, SSC	The longfin smelt is a pelagic estuarine fish. Longfin smelt generally spawn in freshwater and then move downstream to brackish water to mature. The life cycle of most longfin smelt generally requires estuarine conditions. Juvenile and adult longfin smelt have been found throughout the year in salinities ranging from pure freshwater to pure seawater, although once past the juvenile stage, they are typically collected in waters with salinities ranging from 14 to 28 parts per thousand. Longfin smelt are thought to be restricted by high water temperatures, generally greater than 22 degrees Celsius (°C). Most longfin smelt in the San Francisco Bay are believed to breed in the lower reaches of the Sacramento and San Joaquin Rivers.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Central Valley steelhead	<i>Oncorhynchus mykiss irideus</i> (NMFS)	Threatened/ None	Central Valley steelhead spawn downstream of dams on every major tributary within the Sacramento and San Joaquin River systems. Regardless of life history strategy, for the first year or two of life rainbow trout and steelhead are found in cool, clear, fast-flowing permanent streams and rivers where riffles predominate over pools, there is ample cover from riparian vegetation or undercut banks, and invertebrate life is diverse and abundant.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	Sacramento River Winter Run - Endangered/ Endangered Central Valley Spring Run- Threatened/ Threatened	Adult winter-run Chinook salmon immigration and holding (upstream spawning migration) through the Delta and into the lower Sacramento River occurs from December through July, with a peak during the period extending from January through April. Winter-run Chinook salmon are sexually immature when upstream migration begins, and they must hold for several months in suitable habitat prior to spawning. Adult Central Valley spring-run Chinook salmon leave the ocean to begin their upstream migration in late January and early February, and enter the Sacramento River between March and September, primarily in May and June. Spring-run Chinook salmon generally enter rivers as sexually immature fish and must	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
			hold in freshwater for up to several months before spawning. While maturing, adults hold in deep pools with cold water. Spawning normally occurs between mid-August and early October, peaking in September.	
<i>Amphibians and Reptile</i>				
California tiger salamander	<i>Ambystoma californiense</i>	Threatened/None	California tiger salamander (CTS) may be found in riparian and wet meadow habitats, but is more common in grasslands. CTS spends most of its life cycle underground in adjacent valley oak woodland or grassland habitat, primarily in rodent burrows. Breeding takes place following the first heavy winter rains. Temporary or permanent freshwater pools or slowly flowing streams are required for egg-laying and larval development. They appear to be absent in waters containing predatory game fish.	Not expected to occur. Suitable aquatic and upland habitat for this species is not present within or adjacent to the project area.
California red-legged frog	<i>Rana draytonii</i>	Threatened/ SSC	California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. These frogs also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (<i>Salix</i> spp.) are preferred, although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy. Adult frogs prefer dense, shrubby or emergent riparian vegetation near deep [≥ 2 to 3 feet (0.6 to 0.9 m)], still or slow moving water, especially where dense stands of overhanging willow and an intermixed fringe of cattail (<i>Typha</i> sp.) occur adjacent to open water.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
giant gartersnake	<i>Thamnophis gigas</i>	Threatened/ Threatened	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marsh and wetlands, irrigation ditches, low gradient streams and rice fields containing emergent vegetation. Adjacent upland habitat is necessary for cover and aestivation.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
western pond turtle	<i>Emys marmorata</i>	None/SSC	Western pond turtles use both aquatic and terrestrial habitats. They are found in rivers, lakes, streams, ponds, wetlands, vernal pools, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Western pond turtles prefer areas that provide	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
			cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Terrestrial habitats are used for wintering and consist usually of burrows in leaves and soil. Western pond turtles also lay their eggs in terrestrial habitats. They are rarely found at altitudes above 1,500 meters.	
<i>Birds</i>				
bank swallow	<i>Riparia riparia</i>	None/ Threatened	Restricted to riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils, into which it digs nesting holes. Feeds predominantly over open riparian areas, but also over brushland, grassland, wetlands, water, and cropland.	Not expected to occur. Suitable cliff habitat for this species is not present within or adjacent to the project area.
burrowing owl	<i>Athene cunicularia</i>	None/SSC	The burrowing owl utilizes abandoned ground squirrel burrows in open habitats and grasslands, also disturbed areas. Diet consists of insects, small mammals, reptiles and amphibians. Commonly uses burrows on levees or mounds where there are unobstructed views of possible predators such as raptors or foxes.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	None/Threatened, FP	California black rail occurs near freshwater marshes along the margins of ponds, lakes, and water impoundments; also herb dominated wetlands on sloped ground associated with springs, canal leaks, seepage from impoundments and agricultural irrigation. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
least Bell's vireo	<i>Vireo bellii pusillus</i>	Endangered/ Endangered	Least Bell's vireo primarily occupies riverine riparian habitats along water, including dry portions of intermittent streams that typically provide dense cover within 1 to 2 meters (3.3 to 6.6 feet) off the ground, often adjacent to a complex, stratified canopy.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
Swainson's hawk	<i>Buteo swainsoni</i>	None/Threatened, SSC	Swainson's hawk spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. Diet consists of small mammals, reptiles and insects.	High potential to occur. Suitable nesting habitat exists for this species within and adjacent to the project area, and suitable foraging habitat occurs in the agricultural areas to the west of the project site and along the Sacramento

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
				River to the north of the project site. There are several Swainson's hawk occurrence records in the vicinity of the project site; the most recent was from 2016 and was located approximately 3 blocks east of the project site.
tricolored blackbird	<i>Agelaius tricolor</i>	None/ SSC	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in the past 6 years due to habitat loss and harvest of grain fields before young have fledged.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	Threatened/ Endangered	Western yellow-billed cuckoo inhabits woodlands, thickets, orchards, streamside groves. Breeds mostly in dense deciduous stands, including forest edges, tall thickets, dense second growth, overgrown orchards, scrubby oak woods. Often in willow groves around marshes. In the west, mostly in streamside trees, including cottonwood-willow groves in arid country. Forages by scaling through shrubs and trees, gleaning insects from foliage and branches.	Not expected to occur. Suitable habitat for this species is not present within or adjacent to the project area.
<i>Mammals</i>				
pallid bat	<i>Antrozous pallidus</i>	None/ SSC	Pallid bat occupies a variety of habitats including grassland, shrubland, woodland and forests from sea level up through mixed conifer forest. Roosts in caves, mines, crevices and occasionally hollow trees or buildings. Prefers open habitats for foraging.	Not expected to occur. Although the abandoned buildings within the project area could provide marginal roosting habitat, there are no recent occurrence records for this species in Sacramento County and this species does not typically occur in urban areas.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	None/SSC	Townsend's big-eared bat is found throughout most of western North America. Hibernates and roosts in caves and mines near entrances, or cave like structures such as buildings or under decks. Forages in forested habitats, along open edges.	Not expected to occur. Potentially suitable roosting habitat exists in the abandoned buildings within the project

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
				area, however, this species is highly sensitive to human disturbance and there are no occurrence records for this species in Sacramento County.
<i>Plants</i>				
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	None/ None, CRPR 1B.2	Annual herb found in valley and foothill grassland (mesic). Elevation 90-1,000 feet. Blooms Mar-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
bristly sedge	<i>Carex comosa</i>	None/ None, CRPR 2B.1	Perennial rhizomatous herb found in coastal prairie, marshes and swamps (lake margins), and valley and foothill grassland. Elevation 0-1,900 feet. Blooms May-Sep.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	None/ Endangered, CRPR 1B.2	Annual herb found in marshes and swamps (lake margins), vernal pools. Usually clay soils. Elevation 10-2,375 meters. Blooms Apr-Aug.	Not expected to occur. Suitable habitat for this species is not present within the project area.
dwarf downingia	<i>Downingia pusilla</i>	None/None, CRPR 2B.2	Annual herb found in mesic valley and foothill grassland habitats, vernal pools. Elevation 1-445 meters. Blooms Mar-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Ferris' milk vetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	None/ None, CRPR 1B.1	Annual herb. Meadows and seeps (vernally mesic), valley and foothill grassland (subalkaline flats). Elevation 0-225 feet. Blooms Apr-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Heckard's peppergrass	<i>Lepidium latipes</i> var. <i>heckardii</i>	None/ None, CRPR 1B.2	Annual herb. Valley and foothill grassland (alkaline flats). Elevation 0-600 feet. Blooms Mar-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.
legenere	<i>Legenere limosa</i>	None/ None, CRPR 1B.1	Annual herb found in vernal pools. Elevation 0-2,700 feet. Blooms Apr-Jun.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Mason's lilaepsis	<i>Lilaepsis masonii</i>	None/ Rare, CRPR 1B.1	Perennial rhizomatous herb found in marshes and swamps (brackish or freshwater) and riparian scrub. Elevation 0-30 feet. Blooms Apr-Nov.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Northern California black walnut	<i>Juglans hindsii</i>	None/ None, CRPR 1B.1	Perennial deciduous tree found in riparian forest and riparian woodland. Elevation 0-1,500 feet. Blooms Apr-May.	Not expected to occur. Suitable habitat for this species is not present within the project area.

APPENDIX A (Continued)

Common Name	Scientific Name	Federal/ State Status	Habitat Associations	Potential to Occur in the Project Area
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	None/ None, CRPR 2B.2	Annual vine (parasitic) found in marshes and swamps (freshwater). Elevation 50-900 feet. Blooms Jul-Oct.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Sacramento Orcutt grass	<i>Orcuttia viscida</i>	Endangered/ Endangered, CRPR 1B.1	Annual herb found in vernal pools. Elevation 30-100 meters. Blooms Apr-Jul.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Sanford's arrowhead	<i>Sagittaria sanfordii</i>	None/ None, CRPR 1B.2	Perennial rhizomatous emergent herb found in marshes and swamps. Elevation 0-650 meters. Blooms May-Oct.	Not expected to occur. Suitable habitat for this species is not present within the project area.
Slender Orcutt grass	<i>Orcuttia tenuis</i>	Threatened/ Endangered, CRPR 1B.1	Annual herb found in vernal pools (often gravelly). Elevation 35-1,760 meters. Blooms May-Sep.	No potential to occur due to lack of suitable habitat within the site.
Suisun Marsh aster	<i>Symphotrichum lentum</i>	None/ None, CRPR 1B.2	Perennial rhizomatous herb. Marshes and swamps (brackish and freshwater). Elevation 0-10 feet. Blooms May-Nov.	Not expected to occur. Suitable habitat for this species is not present within the project area.
woolly rose mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	None/ None, CRPR 1B.2	Perennial rhizomatous herb (emergent). Marshes and swamps (freshwater), often in riprap on sides of levees. Elevation 0-360 feet. Blooms Jun-Sep.	Not expected to occur. Suitable habitat for this species is not present within the project area.

SSC: Species of Special Concern (CDFW)

FP: Fully Protected (CDFW)

CRPR: California Rare Plant Rank (CNPS)

CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere

CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere

CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

APPENDIX A (Continued)

Sources:

California Native Plant Society (CNPS). 2018. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, California. Accessed May 2018.

California Department of Fish and Wildlife (CDFW). 2018. California Natural Diversity Database (CNDDDB). Rarefind, Version 5 (Commercial Subscription). September 2017. Accessed May 2018. Sacramento, California. Website <https://map.dfg.ca.gov/rarefind/Login.aspx?ReturnUrl=%2frarefind%2fview%2fRareFind.aspx>.

APPENDIX C
Cultural Resources Reports

Draft Archaeological Survey Report

North 16th Street Streetscape Project, City of Sacramento
City of Sacramento
Department of Public Works
915 I Street, Room 2000
Sacramento, California 95815
Federal Project Number T15165400

April 2019

STATE OF CALIFORNIA
Department of Transportation

Prepared by: Adam Giacinto Date: _____
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PQS [Caltrans to provide contact]

Approved by: _____ Date: _____
[Caltrans to provide contact]
California Department of Transportation, District 3



Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location. This document contains sensitive information regarding the nature and location of archaeological sites that should not be disclosed to the general public or unauthorized persons.

Information regarding the location, character, or ownership of a cultural resource is exempt from the Freedom of Information Act pursuant to 16 U.S.C. 470w-3 (National Historic Preservation Act) and 16 U.S.C. Section 470(h) (Archaeological Resources Protections Act).

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SUMMARY OF FINDINGS

Proposed Undertaking:

The City of Sacramento's (the City) proposed North 16th Street Streetscape Improvement Project (Project #: T15165400) is a local project overseen by the California Department of Transportation (Caltrans) District 3 and requires compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA), as well as California Environmental Quality Act (CEQA) requirements. The City, in cooperation with the Federal Highway Administration (FHWA), proposes to implement street-grade pedestrian and bicycle circulation improvements to the approximately 1-mile long 16th/North 16th Street corridor between H Street and Richards Boulevard. Pedestrian safety improvements and aesthetic enhancements include standardized sidewalks, gutters, and lighting to encourage positive visual character of the neighborhood. The project will also include the addition of clearly defined east-west bicycle lanes creating a consistent route through the River District connecting the Sacramento Northern Bike Trail to North 12th Street.

Purpose and Scope of the Survey: This Archaeological Survey Report (ASR) presents the results of Archaeological Inventory efforts conducted by Dudek in support of the proposed North 16th Street Streetscape Improvement Project (Project #: T15165400). No survey was required due to the urbanized conditions of the project area. The intent of this report is to comply with Section 106 of the National Historic Preservation Act and the California Environmental Quality Act requirements, initiating cultural resources clearance for the Project as it relates to applicable legislation and regulation. This ASR was prepared in accordance with the Caltrans Programmatic Agreement (PA) and most recent edition of *Standard Environmental Reference, Volume 2, Cultural Resources* (2015) requirements. The California Department of Transportation (Caltrans), as acting as the lead agency under the delegated authority of the Federal Highway Administration, is providing the Project oversight as federal funds are involved. The studies conducted for this Project are consistent with the Caltrans responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act as it Pertains to the Administration of the Federal-Aid Highway Program in California* for compliance with Section 106 of the NHPA of 1966, as amended.

Investigation Constraints: Investigation constraints included restricted ground surface visibility resulting from the presence of infrastructure, such as paved North 16th Street. As such, no pedestrian survey of the APE was warranted.

Number and Types of Identified Archaeological Resources:

No previously recorded archaeological resources were identified within APE as a result of the California Historical Information System (CHRIS) records search conducted at the North Central Information Center (NCIC). While the Native American Heritage Commission (NAHC) NAHC Sacred Lands File search indicated sacred sites may exist within the project area or surrounding vicinity, no additional information concerning a possible resource of Native American origin or affiliation has been relayed to Dudek by agencies consulting directly with NAHC-listed California Native American tribes.

Policy Statement: It is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if the sites cannot be avoided by the Project. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

1 INTRODUCTION

1.1 Project Overview

Location of the Survey: The North 16th Street Streetscape Project (proposed project) is located in the historic ‘grid’ of streets within the City of Sacramento’s downtown (Figure 1 & Figure 2). The project study area limits extend northward from the intersection of 16th and H Streets to North 16th Street and Richards Boulevard, where Highway 160 begins its northeasterly alignment. The general topography of the study area is characterized by relatively flat terrain at roughly 25’ above sea level. The project area falls within Townships 8 North and 9 North, Range 5 East, and Sections 6 and 31 of the Sacramento East, California 1:24,000 U.S. Geological Survey 7.5-Minute Quadrangle Map.

Maps: All maps are located in the Maps section of this report. Figure 1 is a Project vicinity map depicting the general vicinity of the Project. Figure 2 is a topographic map identifying the location of the Project area. Figure 3 presents the Area of Potential Effects (APE) for the project.

Project Personnel: All Dudek Project personnel meet the Caltrans Professionally Qualified Staff (PQS) Standards. This report was authored by Dudek Archaeological Principal Investigator Adam Giacinto, M.A., RPA, who received his M.A. in Anthropology from San Diego State University; Kathryn Haley, MA in Public History from Sacramento State University; and Dudek Archaeologist William Burns, M.Sc., RPA, who received his M.Sc. in Coastal and Marine Archaeology from University of York, UK.

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2 PROJECT LOCATION AND DESCRIPTION

2.1 Project Location

The North 16th Street Streetscape Project (proposed project) is located in the historic ‘grid’ of streets within the City of Sacramento’s downtown (Figure 1 & Figure 2). The project study area limits extend northward from the intersection of 16th and H Streets to North 16th Street and Richards Boulevard, where Highway 160 begins its northeasterly alignment. The general topography of the study area is characterized by relatively flat terrain at roughly 25’ above sea level. The project area falls within Townships 8 North and 9 North, Range 5 East, and Sections 6 and 31 of the Sacramento East, California 1:24,000 U.S. Geological Survey 7.5-Minute Quadrangle Map.

2.2 Scope of Project

This Archaeological Survey Report (ASR) presents the results of a CHRIS records search and Native American Heritage Commission Sacred Lands File Search conducted by Dudek in support of the proposed Project. The intent of this report is to comply with Section 106 of the National Historic Preservation Act (NHPA) and the California Environmental Quality Act (CEQA) requirements, initiating cultural resources clearance for the Project as it relates to applicable legislation and regulation. This ASR was prepared in accordance with the Caltrans Programmatic Agreement (PA) and most recent edition of *Standard Environmental Reference, Volume 2, Cultural Resources* (2015) requirements.

The City of Sacramento’s (City’s) proposed project is being overseen by the California Department of Transportation (Caltrans) District 3 and requires compliance with the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA). The intent of this report is to comply with these federal regulatory requirements as well as California Environmental Quality Act (CEQA) requirements, initiating cultural resources clearance for the project as it relates to applicable legislation and regulation. This Archaeological Survey Report was prepared in accordance with Caltrans’ most recent edition of *Standard Environmental Reference, Volume 2, Cultural Resources* requirements, and Caltrans’ Section 106 Programmatic Agreement (PA).

The proposed project consists of improvements to pedestrian and bicycle circulation areas of 16th and North 16th Streets from H Street to Richards Boulevard, as well as improvements to overall streetscape visual quality. This would include improvements to sidewalks, curbs, drainage features, safety-related design features, identification of bike routes, and landscaping. The City proposes to

focus improvements on the pedestrian facilities of 16th and North 16th Streets from H Street to Richards Boulevard. Key aspects of the project include the following:

- Installing new curb, gutter, and sidewalks at several locations along the corridor;
- Potential pavement modifications to accommodate proposed vertical curb, gutter, and sidewalk.
- Signing and/or striping to identify east-west bike routes through the River District from Sacramento Northern Bike Trail to North 12th Street;
- Modifying existing traffic signals throughout the Plan area;
- Installing drainage improvements along the roadway corridor;
- Installing consistently spaced street trees;
- Re-striping to accommodate on-street parking where feasible and appropriate;
- Installation of LED street lighting and ‘smart’ poles; and
- Improving access and safety at existing pedestrian tunnels below the Union Pacific tracks.

The following text provides a detailed project description.

2.3 Project Setting and Surrounding Land Uses

The 16th/North 16th Street corridor (“North 16th Street” for purposes of this description) is a northbound, four lane arterial connecting Downtown with northern Sacramento, located within a federally designated Promise Zone.¹ The portion of the corridor covered under this project, from H Street to Richards Boulevard, cuts through two distinct districts separated by the Union Pacific Railroad (UPRR) underpass.

The North 16th Street corridor was part of the historic Lincoln Highway, and in addition to being the primary connection to Highway 160, is one of the few roadway crossings of the UPRR tracks in the central City. Accordingly, the street serves as a major commuter route with an average daily

¹ A federally designated Promise Zone is an area where the federal government partners with local leaders to increase economic activity, improve educational opportunities, leverage private investment, reduce violent crime, enhance public health and address other priorities identified by the community.

traffic (ADT) of over 25,000 vehicles.² The street carries four vehicle travel lanes, with no bike lanes due to insufficient width (the pavement section is typically 48 feet wide).

The portion of the street in the Mansion Flats and Washington neighborhoods consists of many auto-related uses, such as motels and auto repair shops, which originated in the street's history as a main artery early in the development of the city. This section of 16th Street has served as a primary access point to Downtown Sacramento from 1851, to its designation as part of the Lincoln Highway and subsequently as a portion of U.S. Highway Routes 40 and 99. A number of vacant parcels currently line the street and many have sat vacant for years, with no active plans for redevelopment.

The pedestrian connection between the Mansion Flat /Washington neighborhood to the south and the River District to the north requires crossing through narrow tunnels beneath the UPRR underpass. The tunnels are dark and confining and although the City cleans them twice weekly and attempts to keep the lighting functioning, the tunnels are perceived as unwelcoming and serve as a major barrier for walkability. Even though long term improvements are likely to be expensive, the tunnels are the number one challenge for the corridor.

North of the UPRR tracks, the corridor passes through the North 16th Street Historic District, lined with brick warehouses and home to a mix of businesses. The River District streetscape is a mix of redeveloped and run-down stretches with few street trees and a saw-tooth pattern of sidewalks. With no or little on-street or off-street parking, a stretch of unarticulated sidewalk often serves as parking in front of retail establishments.

A major redevelopment project is slated for North 16th Street. In 2015, the Twin Rivers Public Housing Project was awarded \$30 million through the Choice Neighborhood grant, administered by the U.S. Department of Housing and Urban Development. This project proposes constructing housing on the triangular vacant property located at the confluence of North 12th and North 16th Streets, adjacent to the future Dos Rios Light Rail Station near the north end of the North 16th Street Streetscape Project.

Neighborhoods surrounding the project area include Mansion Flats, New Era Park, and The River District. Travelling east and west from 16th and North 16th Streets, surrounding land uses transition to urban-scaled residential uses (single and multi-family structures) combined with various commercial, limited industrial and social service uses. The UPRR tracks bisect the area, serving as a barrier between the River District and other neighborhoods to the south. The closest residential

² Average Daily Traffic is the average 24 hour volume of vehicles, being the total volume during a stated period divided by the number of days in that period. Normally, this would be periodic daily traffic volumes over several days, not adjusted for days of the week or seasons of the year.

neighborhoods to the project site are located approximately 200 feet to the east and west of the project site, and Sutter Middle School is located approximately 380 feet southwest of the project site, near the intersection of 15th Street and Terminal Way.

Land uses directly adjacent to 16th and North 16th Streets are zoned Medium Density Residential, Public, Industrial and Commercial. The project area overlaps two historic districts, the North 16th Street Historic District and the C Street Industrial Historic District, and is near two other historic districts, the Washington Historic District and the Washington School Historic.

2.4 Project Objectives

The project is needed to address the existing barriers to walkability on North 16th Street, including inadequate and potentially unsafe pedestrian facilities.

The project purpose is to:

- Improve safety and security for all travel modes;
- Improve pedestrian and bicycle circulation;
- Improve accessibility;
- Create an organized and consistent streetscape;
- Provide on-street parking where appropriate; and
- Through investment in public spaces, encourage private investment to upgrade buildings and sites as appropriate.

Consistent with the project purpose and need, the following objectives have been identified:

- To transform the North 16th Street corridor to a safe, functional, and welcoming pedestrian corridor, encouraging walkability and providing connectivity to other neighborhoods in the Central City;
- Improve pedestrian/bicycle connectivity at the 16th Street underpass tunnels by enhancing visibility and safety;
- Rebuild sidewalks to a consistent width and style;
- Rebuild curb and gutter to provide for a vertical curb, thereby making it safer for pedestrians as well as improving drainage;
- Improve safety-related design features along the corridor, with an emphasis on lighting, signage/wayfinding;

- Identify east-west bike routes as appropriate;
- Remove dying/disfigured and/or unsafe trees and replant with appropriate species, creating consistent block-by-block plantings in coordination with the City Arborist and Urban Forestry Division;
- Re-striping to accommodate on-street parking, where feasible and appropriate;
- Create an urban ‘brand’ for the corridor by means of aesthetic improvements; and
- Work with stakeholders to ascertain and prioritize improvements.

2.5 Project Components

The City proposes to focus improvements on the pedestrian facilities of 16th and North 16th Streets from H Street to Richards Boulevard. The project corridor is shown in. Key aspects of the project include the following:

- Installing new curb, gutter, and sidewalk along the corridor;
- Potential pavement modifications to accommodate proposed vertical curb and sidewalk;
- Installing drainage improvements along the roadway corridor, including Low Impact Development (LID) features such as planters and swales;
- Installing consistently spaced street trees;
- Re-striping to accommodate on-street parking where feasible and appropriate
- Installation of LED pedestrian-scale lighting and ‘smart’ poles;
- Widen sidewalk approach at existing pedestrian tunnels at the 16th Street underpass
- Improve lighting within the 16th Street underpass pedestrian tunnels, implement vandal resistant treatments; and
- Improve bicycle connectivity to the River District.

2.5.1 Curb, Gutter, and Sidewalk

The project would remove inconsistent (or missing) curb, gutter, and sidewalk, and construct new vertical curb, gutter, and sidewalk consistent with City standards, with a planter strip between the curb and sidewalk. New sidewalk sections would be consistent with American with Disabilities Act (ADA) accessibility standards. The sidewalk approaches along the east side of the North 16th Street underpass would be widened and would require the reconstruction of retaining walls.

2.5.2 Utilities

The project may require minor relocation of underground utilities to accommodate construction, including water and storm drain lines. No new utility main lines are proposed.

2.5.3 Drainage Improvements

Streetscape improvements would include drainage improvements at some intersections as well as ADA improvements to drain inlets. At certain locations, LID strategies may be implemented to reduce stormwater runoff and improve water quality.

2.5.4 Landscaping and Lighting

New landscaping would be planted in the planter areas, consistent with the project design palette. Where LID features (such as drainage swales) are introduced, the area would be excavated to allow preparation of soil, and placement of sub-base and filter fabric (if used).

The project design would include a tree plan that identifies the type and spacing of trees for each block. This plan would guide future tree plantings and replacements. No healthy, mature trees would be removed as part of this project. Dead or hazardous trees may be removed and replaced during project construction.

New pedestrian-scale lighting would be installed along the corridor. Existing lighting, consisting of the “cobra-head” street lights is concentrated at intersections, leaving mid-block sidewalks under-illuminated. New lighting would also be installed in the North 16th Street underpass pedestrian tunnels.

2.5.5 Right-of-Way

The project would require some partial right-of-way (ROW) acquisition, or “sliver takes”, to complete construction of City standard sidewalks. Additional ROW would be required for sidewalks approaching the UPRR underpass to allow for a shared use path and construction of retaining walls. No structures would be affected by ROW acquisition.

2.5.6 Construction Approach and Staging Areas

Overall, project construction activities are anticipated to occur as funding is identified and improvement plans are prepared. Phased construction would occur during traditionally non-rainy months (typically April – October), with durations dependent on the scope of work contained in the construction documents. Construction work hours are anticipated to occur Monday through

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Saturday between the hours of 7 a.m. and 3 p.m., with weekday commute traffic taken into consideration. Construction staging areas may be located on privately owned parcels after gaining temporary construction easements/permission from property owners.

The normal depth of disturbance for curb, gutter, and sidewalk replacement would be 1 to 2 feet. Installation of LID features may require an extra 1 to 2 feet of excavation. Utility connections (such as storm drain) and light pole foundations may be deeper (up to 6 feet).

The curb, gutter, landscaping strip, and sidewalk may up to 12 feet wide. A narrow section of new asphalt concrete paving would be necessary between the travel lanes and the new concrete curb and gutter.

It is anticipated that excavators, dozers, cranes, pavers, dump trucks, concrete trucks, concrete pumps, and water trucks may be required to construct the proposed project (see **Table 1**).

Table 1
Anticipated Construction Equipment

Equipment	Construction Purpose
Asphalt Concrete Paver	Re-paving roadway (possible)
Backhoe	Soil manipulation and drainage work
Bobcat	Sidewalk and parkway strip excavation
Bulldozer/Loader	Earthwork construction, clearing and grubbing
Dump Truck	Fill material delivery/surplus removal
Excavator	Soil manipulation
Front-end Loader	Dirt or gravel manipulation
Haul Truck	Earthwork construction; clearing and grubbing
Paver	Roadway paving
Roller	Earthwork and compacting
Scraper	Earthwork construction; clearing and grubbing
Water Truck	Earthwork construction; clearing and grubbing

To minimize construction-related impacts to surrounding land uses, several best management practices would be implemented during the construction phase of the proposed project. For example, where ground disturbing or grading activities are necessary, fugitive dust would be minimized by onsite watering. Standard Best Management Practices (BMPs) would also be undertaken as part of the project to ensure erosion control, with a Stormwater Pollution Prevention

Plan (SWPPP) to be prepared and implemented by the construction contractor to achieve this purpose.

Construction staging will occur primarily within public right-of-way to the extent feasible, which could include temporary sidewalk or road shoulder closures. The contractor will have the option of negotiating a staging area within the project vicinity. There are several underutilized commercial and industrial sites that could serve this purpose.

2.5.7 Traffic Controls

Traffic controls would be implemented during construction activities, although minimal traffic restrictions are anticipated. Temporary lane and sidewalk closures would be necessary. The project contractor would prepare a traffic control plan that would be reviewed and approved by the City prior to construction commencement.

2.5.8 Operation and Maintenance

New streetscape improvements would require ongoing maintenance. Activities such as graffiti removal, landscape and irrigation maintenance, aggressive tunnel cleaning and monitoring, and street light repair would need to be accounted for once improvements are installed.

2.6 Area of Potential Effects

The APE for the project was established in consultation with Caltrans District 3 Cultural Resources Professional Qualified Staff (PQS). The APE is shown in **Figure 3**.

The APE extends northward approximately 1 mile from the intersection of 16th and H Streets to North 16th Street and Richards Boulevard, where Highway 160 begins its northeasterly alignment. The APE map depicts the areas of direct and indirect impacts in consideration of the proposed construction, and staging is assumed within the existing 16th Street right-of-way.

The APE for archaeology is limited to the area of direct impact. The direct APE includes the maximum project footprint. The vertical APE, as represented by the maximum depth of excavation, will vary by construction need. Ground disturbance will be less than 2 feet in depth for replacement of existing utilities, 3-4 feet in depth for construction of swales, 6 feet in depth for streetlights, and up to 9 feet below the surface for installation of traffic signals. All work will occur in areas occupied by existing roads or in adjacent areas that have otherwise been previously developed. The APE for built environment resources includes the direct APE and the area of indirect impact resulting from the proposed project. The areas of indirect impact take into consideration the maximum extent of visual and noise-related effects that the project could have

on historic architectural and built resources (e.g., changes to the setting of resources located within or adjacent to the proposed new construction). The indirect APE delineates the maximum possible area of direct impact from project-related activities, including all new construction related to the proposed streetscape modifications.

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3 SOURCES CONSULTED

3.1 Records Search

On February 16, 2018, Dudek Senior Architectural Historian Samantha Murray, conducted a CHRIS records search at the NCIC for an unrelated project on a property which is located within the North 16th Street Streetscape project APE. On April 14, 2017, Dudek Archaeologist Adam Giacinto, conducted a supplementary CHRIS records search at the NCIC enlarging the original 0.5-mile radius by a 0.25-mile segment at each end of the corridor, encompassing the whole project APE. The complete results of the CHRIS records searches are provided in Confidential Appendix A. The search included any previously recorded cultural resources (including archaeological and historic built environment resources) and investigations within the project APE, and a 0.25-mile radius buffer. In addition to official maps and records, the following sources of information were consulted as part of the records search:

- National Register of Historic Places
- California State Historic Property Data Files
- California State Historical Landmarks
- California Points of Historical Interest
- Office of Historic Preservation Archaeological Determinations of Eligibility
- Caltrans State and Local Bridge Surveys
- Historical Maps (1901-1967)

3.1.1 Previous Cultural Resources Studies within 0.25-Mile of the APE

The records search results identified one previous cultural resources study (000616) within the project APE, and an additional 25 previous cultural resources studies within the 0.25-mile radius that do not overlap the project site (Table 1). These previous studies include archaeological monitoring reports, historic properties survey reports, cultural resources inventory reports, and a Discovery Plan. The study that intersects the project site is a historic properties inventory and is discussed below.

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Table 1
Previously Conducted Cultural Resources Studies Within 0.25 Miles of Project Site

NCIC Report No.	Title of Study	Author(s) and Date
Studies Within the Project Site		
000616	Addendum to the Revised Historical Resources Compliance Report for the Relinquishment of State Route 160 to the City of Sacramento; Negative Archaeological Survey Report	Hupp, Jill; Raymond Benson; and Kelly Heidecker (2001)
Studies Outside of the Project Site		
000340	Cultural Resource Assessment of the Proposed Self Storage Units Project, Sacramento County, California	Peak & Associates Inc. (1984)
002008	Pacific Bell Mobile Services: 1713 J Street, Sacramento, Sacramento County: Site # SA-009-02.	Derr, Eleanor (1998)
002021	Archaeological Field Inspection of the Proposed Community Center Expansion Areas A, B, and C, Sacramento, Sacramento County, California.	Holman, Miley Paul (1987)
002690	Cultural Resource Inventory of the Proposed Worldcom Fiber Optics Project, Sacramento	Baker, Cindy, and John Dougherty (2001)
002764	Historic Property Survey Report and Finding of No Adverse Effect for the Proposed American River Parkway Bike Trail Improvement Project, City and County of Sacramento, California	Peak, Melinda (2001)
002935	Cultural Resources Inventory Report for Williams Fiber Optic Cable System: Sacramento to CA/NV State Border	Jones and Stokes Associates Inc. (1999)
003322	Dos Rios Construction Project Site Review (Par Ref No. 98-621)	Lewiston, Pamela (1998)
003366	Archaeological Test Excavations on the J-K-14-15 Block Sacramento Community/Convention Center Expansion Project; Beneath Mrs. Hudson's House: Archaeological and Historical Studies of 1408 J Street Sacramento California	Praetzellis, Adrian (1991)
003389	Non-Residential Building Survey Project Report	Boghosian, Paula (1981)
003400	Blue Diamond Almond Growers Complex Upgrade; C Street Properties Redevelopment Extension Area	Derr, Eleanor (1995)
003407	Preliminary Literature Review Prehistoric and Historic Archaeological Resources Environmental Impact Report City Of Sacramento	Lindstrom, Susan (1991)
003443	Archeological Assessment of the Sacramento City Filtration System Expansion	Peak, Ann S. (1974)
003490	DACW0597P0771; Archeological field survey of American River Watershed project Lower American River Slurry Wall Staging Areas G, P, Q, and KK	Windmiller, Ric (1998)
003491	Cultural Resources Inventory of Staging Areas and Flood Warning System for the Lower American River Slurry Wall South Bank	Johnson, Patti (1999)
003853	Cultural Resources Survey for the Level (3) Communications Long Haul Fiber Optics Project	Nelson, Wendy (2000)
004421	Section 106 Consultation for one Enhanced Specialized Mobile Radio Antenna Site in Sacramento County	Coffey, Jennifer (2001)

Table 1
Previously Conducted Cultural Resources Studies Within 0.25 Miles of Project Site

NCIC Report No.	Title of Study	Author(s) and Date
006164	Historical Research and Archaeological Surface Survey Northgate Site for the Proposed California Indian Heritage Center, Sacramento County, California	Wulzen, Warren; Dan Osanna; and Monica Aleman (2005)
006675	Caltrans Historic Bridges Inventory Update	Feldman, Jessica B. (2003)
007061	Sacramento River Bank Protection Project, (Second Phase-Separable Element 42: Lower American River) Sacramento, California Cultural Resources Survey and Investigations	Dames & Moore (1995)
008211	Historic Resources Evaluation Report for the Proposed Bridge Deck Rehabilitation of Twenty-one Bridges in Sacramento County	St. John, Gail (2006)
008619	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California	Cindy Arrington et al. (2006)
009486	Washington Park/SAC-432A	Lorna Billat (2008)
010359	Archaeological Monitoring Report for Geotechnical Borings for the Water Resource Development Act 1996, Remaining Sites Study, along the American River, Sacramento, California	Zelazo, Emilie (2008)
011237	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SC06971A (Hwy 160 & C St), 300 16th Street, Sacramento, Sacramento County, California	Carrie D. Wills (2012)
012473	Historic Property Survey Report for the North 12th Complete Streets Project, Sacramento, Sacramento County, California	Heidi Koenig (2017)

000616

Following the completion of the full report in April 2001, this addendum was added to the *Revised Historical Resources Compliance Report for the Relinquishment of State Route 160 to the City of Sacramento* (April, 2001) by Parsons Harland Bartholomew & Associates, Inc. to clarify the continued Negative Declaration of impact following a reduction of the highway relinquishment area from 11 to 9 miles. The addendum determines that the reduction in the size of the project area only served to decrease the quantity of cultural and historic resources located within or adjacent to the project area, thusly upholding the previously determined Negative Declaration of the initial study. The identified resources in this study area (which extended outside of our present APE) included two historic levees located within the American River Flood Control district, two historic railroad segments of the Union Pacific Railroad, six non-eligible historic bridges, and the post-WWI Victory Trees that line the SR 160/Freeport Boulevard.

3.1.2 Previously Recorded Cultural Resources with 0.25-Mile of the APE

A total of 188 previously recorded resources were identified within 0.25 miles of the project area. This number includes four archaeological resources, all of which are comprised of historic-era refuse deposits. No prehistoric archaeological resources were identified within the project site or the surrounding records search area. Two previously recorded built environment properties intersect the APE. A brief description of these previously recorded resources is presented below Table 2.

**Table 2
Previously Recorded Cultural Resources Within 0.25-Mile of the Project APE**

Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-000505	Central Pacific Railroad, Southern Pacific Railroad, Union Pacific Railroad (Transcontinental Railroad)	2006 (Hope A.)	NRHP Criterion A	Yes
P-34-000725	Historic: "Small trash pit filled with a single, homogenous layer of brown sandy clay mixed with wood ash"	1992 (Praetzellis, A.)	Undetermined	No
P-34-000726	Historic: Backfilled privy with partial wood lining associated with the Cook family.	1992 (Praetzellis, A.)	Undetermined	No
P-34-000727	Historic: Site consists of a series of soil layers containing domestic artifacts from a mid-19 th century site leveling.	1991 (Praetzellis, A.)	Undetermined	No
P-34-000746	Historic: Sacramento Northern Railroad – built in 1907, berm transformed into a paved hiking/biking path.	2010 (Baxter, R. Scott)	Not Eligible	Yes (no longer extant)
P-34-001378	Historic: Dos Rios Trash Deposit Update – trash deposit containing late-19 th century to early-2 th century glass and ceramics.	2017 (Hoffman, Robin; Douglas Alexander)	Not Eligible	No
P-34-002329	Historic: Del Monte Corporation, Plant No. 11 – Brick Cannery building designed by P. Bush and built in 1925.	1983 (Boghossian, Paula)	Eligible	No
P-34-002343	Historic: Governor’s Mansion – Mansard styled Victorian house built in 1877 served 13 governors in 64 years.	1979 (Arbuckle, Jim)	Eligible	No
P-34-002355	Historic: Charles Lais House – 1986 Queen Anne Style building.	1984 (Berglund, M.F.)	Eligible	No
P-34-002374	Historic: Sacramento Memorial Auditorium – Byzantine/Italian Romanesque Revival public auditorium built 1925-27.	1977 (Taloff, Chritopher P.; Robert R. Selway)	Eligible (Local)	No
P-34-002400	Historic: 1905 "Delta Type Colonial Revival" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No

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Table 2
Previously Recorded Cultural Resources Within 0.25-Mile of the Project APE

Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002472	Historic: 1880-1885 "Delta Type Italianate/ Stick-Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002476	Historic: 1885-1900 "Delta Type Queen Anne/ Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002479	Historic: 1891-1900 "Delta Type Colonial Revival/ Queen Anne" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002491	Historic: 1880 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002492	Historic: 1905-1910 "Delta Type Colonial Revival Apartment" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002493	Historic: 1890 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002494	Historic: 1900 "Craftsman Chalet Apartment House" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002495	Historic: 1875-1880 "Remodeled Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002496	Historic: 1887 "Italianate with colonial Revival additions" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002497	Historic: 1885-1900 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002498	Historic: 1913 "Craftsman Bungalow" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002499	Historic: 1871 "Delta Type Italianate/ Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002500	Historic: 1887 "Stick-Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002516	Historic: 1870-80 "Simple Delta Type" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002517	Historic: 1880 "Delta Type Italianate" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No

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Table 2
Previously Recorded Cultural Resources Within 0.25-Mile of the Project APE

Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002518	Historic: 1890 "Delta Type Italianate/ Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002519	Historic: 1880-90 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002522	Historic: 1890-1895 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002523	Historic: 1890-1895 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002524	Historic: 1887 "Simple Delta Type" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002525	Historic: 1885 "Stick-Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002527	Historic: possibly c. 1880-85 "Delta Type Vernacular" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002528	Historic: possibly c. 1880-85 "Delta Type Vernacular" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002531	Historic: c.1875 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002532	Historic: 1895-1900 "Delta Type Colonial Revival" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002533	Historic: 1885-1890 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002534	Historic: 1885-1890 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002535	Historic: pre-1881 "Simple Vernacular with Saltbox" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002536	Historic: 1890-1895 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002537	Historic: 1890-1895 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No

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Table 2
Previously Recorded Cultural Resources Within 0.25-Mile of the Project APE

Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002538	Historic: 1890-1895 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002539	Historic: likely 1890's "Delta Type Queen Anne/ Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002540	Historic: 1880-1885 "Simple Delta Type with Stick Style Influences" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002541	Historic: post-1880 "Simple Delta Type with Italianate Influences" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002542	Historic: 1880 "Simple Delta Type" building.	1976 (EL/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002543	Historic: 1885 "Delta Type Vernacular" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002545	Historic: 1900-1905 "Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002546	Historic: 1910-1915 "Neo-Classical/ Prairie Style" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002549	Historic: likely c. 1885 "Queen Anne/ Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002550	Historic: 1891 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002551	Historic: 1901 "Queen Anne" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002552	Historic: 1906 "Colonial Revival" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002553	Historic: 1897 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002554	Historic: post-1890 "Delta Type Queen Anne" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002555	Historic: 1890 "Delta Type Queen Anne" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No

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Table 2
Previously Recorded Cultural Resources Within 0.25-Mile of the Project APE

Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002556	Historic: 1885 "Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002557	Historic: 1900-1905 "Delta Type Eastlake/ Queen Anne" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002558	Historic: 1896 "Delta Type Queen Anne" building.	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002559	Historic: 1875-1880 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002560	Historic: 1895-1900 "Cube Type Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002561	Historic: 1895 "Delta Type Eastlake" building.	1975 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002562	Historic: 1861 building with 1890's addition "Originally Italianate with Queen Anne bay added."	1976 (MW/ MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002563	Historic: Maydestone Apartments – Mission/ Spanish Colonial Revival building.	2012 (Boghosian, Paula)	Eligible	No
P-34-002569	Historic: 1900 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002570	Historic: 1885-1900 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002571	Historic: 1909 "Colonial Revival/Shingle/Craftsman" apartment building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002572	Historic: 1910 "Colonial Revival/Shingle/Craftsman" apartment building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002579	Historic: 1891 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002580	Historic: 1891 "Remodeled Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002581	Historic: 1885 "Simple Delta Type" building.	1976 (EL/ MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002582	Historic: 1898 "Delta Type Queen Anne/ Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002583	Historic: 1895-1900 "Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002584	Historic: Likely 1900-1905 "Delta Type Shingle/Colonial Revival" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002585	Historic: Likely 1900-1905 "Delta Type Shingle/Colonial Revival" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002586	Historic: 1905 "Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002587	Historic: 1905-1910 "Colonial Revival/ Shingle" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002601	Historic: 1875 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002602	Historic: 1904 "Delta Type Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002603	Historic: 1904 "Delta Type Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002604	Historic: 1904 "Delta Type Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002728	Historic: 1880 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002729	Historic: 1870-1875 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002730	Historic: 1870 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002731	Historic: 1893 "Delta Type Italianate/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002732	Historic: 1875-80 "Simple Delta Type" building.	1976 (EL/ MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002733	Historic: 1891 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002734	Historic: c.1895 "Simple vernacular cottage" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002735	Historic: 1890-1895 "Delta Type Queen Anne/ Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002736	Historic: 1905 "Delta Type Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002737	Historic: 1905-1910 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002738	Historic: 1890-1895 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002739	Historic: 1880 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002747	Historic: 1893 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002748	Historic: Likely c. 1892-1895 "Delta Type Queen Anne" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002749	Historic: 1890 "Delta Type Eastlake/ Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002750	Historic: 1885-1890 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002751	Historic: 1889 "Delta Type Italianate/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002752	Historic: Estimated 1870s "Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002753	Historic: 1895-1900 "Delta type Vernacular with Stick-Eastlake details" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002754	Historic: c. 1890-1895 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002755	Historic: 1880 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002756	Historic: c. 1890 "Delta Type Vernacular" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002757	Historic: c. 1890 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002777	Historic: c. 1890 "Remodeled Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002778	Historic: c.1885 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002779	Historic: c. 1875 "Vernacular with Stick-Eastlake details" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002780	Historic: 1885-1890 "Delta Type Italianate w/ Stick Style influences" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002781	Historic: c. 1890 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002782	Historic: 1880 "Simple Delta Type" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002783	Historic: c. 1885 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002784	Historic: c. 1875 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002785	Historic: 1900 "Delta Type Colonial Revival" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002786	Historic: c. 1878 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002787	Historic: 1892 "Italianate/ Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002788	Historic: 1883 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002789	Historic: 1883 "Simple Delta Type" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002790	Historic: 1894 "Delta Type Italianate/ Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002791	Historic: 1895 "Delta Type Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002792	Historic: c. 1895 "Remodeled Delta Type Eastlake" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002793	Historic: 1900 "Delta Type Queen Anne" building.	1975 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002794	Historic: 1893 "Delta Type Stick-Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002795	Historic: 1895 "Delta Type Eastlake/ Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002796	Historic: c. 1895 "Delta Type Eastlake/ Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002797	Historic: 1896 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002798	Historic: 1898 "Delta Type Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002799	Historic: 1898 "Delta Type Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002800	Historic: c. 1890 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002801	Historic: c. 1890 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002802	Historic: 1885-1890 "Simple Delta Type" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002803	Historic: c. 1885-1890 "Remodeled Delta Type Cottage" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002804	Historic: c. 1880-1885 "Delta Type Vernacular" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002805	Historic: 1906 "Craftsman Bungalow" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002806	Historic: 1911 "Delta Type Colonial Revival/ Craftsman apartment" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002807	Historic: 1913 "Delta Type Colonial Revival apartment" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002808	Historic: 1905-1910 "Craftsman" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002809	Historic: 1887 "Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002810	Historic: 1885 "Delta Type Italianate" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002811	Historic: 1885 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002812	Historic: c. 1898 "Delta Type Queen Anne/ Eastlake" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002825	Historic: c. 1875 "Delta Type vernacular with Italianate details and Craftsman porch" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002826	Historic: 1894 "Queen Anne/ Colonial Revival/ Shingle" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002827	Historic: Pre-1865 "Greek Revival" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No
P-34-002828	Historic: c. 1878 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002829	Historic: 1878 "Second Empire Style" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002830	Historic: c. 1905-1910 "Craftsman" building.	1976 (MC; Charles Hall Page & Associates)	Undetermined	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-002831	Historic: 1900 "Colonial Revival/ Queen Anne" building	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002832	Historic: 1880 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002833	Historic: 1910 "Cube Type Mission Revival" apartment building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002834	Historic: Pre-1875 "Delta Type Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002835	Historic: 1910 "Cube Type Mission Revival" apartment building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002836	Historic: 1883 "Queen Anne" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002837	Historic: c. 1880 "Simple Delta Type with Italianate details" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002879	Historic: 1920 "Prairie Style/ Colonial Revival" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-002905	Historic: 1873 "Italianate" building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-003182	Historic: California Almond Growers Exchange: Main Offices- "Moderne Style" brick building, 1938.	1981 (HEC; [prepared by] S.C.P1. D.)	Appears Eligible	No
P-34-003183	Historic: California Almond Growers Exchange processing facility complex.	1985 (Boghosian, Paula)	Eligible	No
P-34-003184	Historic: Diamond "G" Coffee – Vernacular Utilitarian style brick building constructed c. 1928.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003186	Historic: Crystal Cream & Butter Company – Vernacular Moderne style stuccoed brick building constructed in 1913.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003190	Historic: Tootsie's Barber Shop – small, one-story vernacular style, clapboard building constructed in 1925.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003192	Historic: Giachino Matranga – Groceries – Vernacular, Colonial Revival & Craftsman influenced building constructed in 1922.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-003195	Historic: Shopper's Market - Vernacular, Colonial Revival & Craftsman influenced building constructed c. 1894.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003202	Historic: Sacramento Auto Supply – Vernacular Commercial style brick building featuring period revival influences. Built c. 1925.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003203	Historic: Russel & Logan Battery Service – Vernacular Moderne style building with Classical Influences. Constructed in 1924.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003204	Historic: Winter Datsun Showroom – Vernacular, Classical Revival brick building with Spanish Colonial Revival influences. Built 1928.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003205	Historic: Clauss & Kraus, Inc. – Queen Ann/ Colonial Revival style building constructed in 1888.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003208	Historic: Security Pacific National Bank – Neo-classical bank building designed by Wm. Polk and constructed in 1912.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003219	Historic: Schmid and Parker Packing Company – Vernacular, altered Italianate brick building constructed c. 1891.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003220	Historic: Beers Book Store – Commercial brick building in the Mission Revival Style. Built 1909.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003221	Historic: winter Volvo Inc. – Three story brick building in the Eclectic style with classical and Bauhaus influences, built 1922.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003222	Historic: Hull Hotel – Two story brick building in the Prairie School style, constructed c. 1912.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003224	Historic: Kost Building – Two story mixed commercial/residential, stucco building in the vernacular style with Craftsman and classical Influences. Completed 1910.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003225	Historic: Newbert Hardware Company – Vernacular Commercial brick building with Chicago School influences completed in 1926.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No

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Designation	Resource Description	Recording Events	NRHP Eligibility	Intersects APE?
P-34-003250	Historic: Juliana's Kitchen – Two-story craftsman style commercial/residential building completed c. 1909.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003369	Historic: St. Paul's Episcopal Church – Gothic style Episcopal Church building completed in 1909.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003370	Historic: A.C. Westergaard Auto Repair – Commercial brick example of Mission Revival style, constructed c. 1927.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003371	Historic: Specialized Clutch and Brake Shop – One story commercial brick vernacular building, completed 1923.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003372	Historic: Sixteenth Street Garage – One story vernacular brick building in the Mission Revival Style, completed c. 1926.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003380	Historic: Northern California Milk Producers Assoc. – Vernacular Industrial/ Moderne style building completed in 1918.	1981 ((HEC; [prepared by] S.C.P1. D.)	Eligible	No
P-34-003563	Historic: Triangle Produce Building, Polly distributing – Two-story brick vernacular warehouse building completed in 1926.	1998 (Boghosian, Paula)	Eligible	No
P-34-003564	Historic: Triangle Produce Company – One and one-half story brick vernacular warehouse building completed c. 1926.	1998 (Boghosian, Paula)	Eligible	No
P-34-003565	Historic: Historic: Triangle Produce Company, Admail west – Two story brick vernacular warehouse building completed 1929.	1998 (Boghosian, Paula)	Eligible	No
P-34-003566	Historic: Pacific flooring Supply/ Acme Beverage Co. - - One and one-half story brick vernacular warehouse building completed c. 1939.	1998 (Boghosian, Paula)	Eligible	No
P-34-003567	Historic: Sacramento Pipe Works – Two story brick warehouse building with Beaux Arts styling. Completed 1923.	1998 (Boghosian, Paula)	Eligible and Listed	No
P-34-003568	Historic: Sacramento Produce Terminal Building – Large brick, u-shaped warehouse building completed in 1926.	1998 (Boghosian, Paula)	Eligible	No

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P-34-003570	Historic: Russel Brothers Company – One story vernacular style building. Built in 1937.	1998 (Boghosian, Paula)	Eligible	No
P-34-003571	Historic: Mack Truck International Corp., Crest Carpet Co. – Two-story brick warehouse/commercial building with Mediterranean revival influence. Built 1929.	1998 (Boghosian, Paula)	Eligible	No
P-34-003665	Historic: c. 1907 “Delta Type Vernacular” building.	1976 (MW; Charles Hall Page & Associates)	Undetermined	No
P-34-004229	Historic: “Reinforced concrete, earth-filled elliptical bridge with 5 arch spans”, built in 1915 and altered in 1934 & 1960s.	AB/ SH	Not Eligible	No

P-34-000746 – Sacramento Northern Railroad

Previous site recordation of the Sacramento Northern Railroad was identified through the records search. The previous record recommended that the rail segment was ineligible. Furthermore, research revealed that all rail line features in the proposed project area have been removed. As a resource that is no longer extant, no further consideration for inclusion in the APE was necessary.

P-34-000505 – Transcontinental Railroad

A previously recorded segment of the Transcontinental Railroad was identified through the records search results. The Transcontinental Railroad alignment has been previously determined eligible for listing under NRHP/CRHR Criterion A/1 and it is considered a California Historical Landmark. The resource is significant as one of the most important engineering and construction accomplishments in the 1860s, and for the role the rail line played in uniting the Nation coast to coast through transportation. The period of significance extends from 1863 to 1945 in order to account for the noteworthy role the line played in settlement of the West and in the transportation of soldiers and supplies during World War II. The rail alignment directly intersects the APE. As a built environment structure, this resource is address in the Historic Property Survey Report (HPSR) prepared for this project.

3.1.3 Historic Aerial Photography and Historic Map Review

Historic aerial photographs were reviewed from 1928, 1937, 1947, 1952, 1954, 1957, 1964, 1966, 1971, 1972, 1993, 1998, 1999, 2002, 2005, 2009, 2010, 2012, and 2014. Historic topographic maps were reviewed from 1902, 1910, 1911, 1947, 1949, 1956, 1957, 1965, 1965, 1969, 1977, 1980, 1997, 2012, and 2015. The results of the historic aerial photograph and historic topographic map review were used in the preparation of the historic context for this report.

The earliest aerial photograph of this section of the 16th street dates from 1928. During this period, the northern section of the corridor already contains many of the large industrial brick building that front the street today. These buildings are surrounded by empty expanses of land with smaller structures at random locations and several unpaved roads. The land to the immediate east and west are agricultural and the American River lies to the north. To the south of the B Street train tracks, already in place at this time, the gridded city blocks are densely settled, featuring a mix of residential and commercial structures. By 1937, the north section has become more compactly developed with other large industrial structures and complexes and there is tree coverage along North 16th Street. To the west, a small residential community has been established to the south of the agricultural lands. To the south of the tracks, the tree coverage has generously increased along 16th Street. Although the foliage makes it difficult to see, the buildings fronting the street remain similar in size and configuration to the 1928 aerial image along this stretch. By 1952, the street has been converted to a one-way street, evident by the set of white striped lines creating three lanes. Tree coverage has decreased, making it easier to discern the modest structures that front the street. The 1964 aerial image shows that many of the small structures along the corridor have been demolished and replaced by larger buildings. On the whole, these new buildings feature deeper setbacks with substantial parking areas around and beside them when compared with their predecessors. The large industrial building along North 16th street persist at this time, but the small auxiliary streets have filled in with lesser buildings of various shapes and indiscernible use. The residential community to the west has expanded north into the much of the farmlands that once utilized the area. The aerial photographs from 1971 and 1972 confirm that the buildings fronting the section of 16th Street south of the B Street underpass in the 1928 photographs have been replaced for the most part with new, mid-century designs. In the 1993, 1998 and 1999 aerial images, the corridor retains the majority of the built fabric established during the initial periods of growth: pre-1928 for the north 16th street section and post-1952 for the southerly section (Historicaerials.com).

3.2 Summary of Native American Coordination

Dudek contacted the California NAHC to request a review of the Sacred Lands File on April 18, 2018. The NAHC responded on April 30, 2018, and stated that sacred Native American cultural

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resources may lie within the immediate Project area. The NAHC also provided a list of ten Native American groups and individual contacts that may have additional knowledge of cultural resources in the vicinity of the APE. Tribal consultation is pending government-to-government discussions, and will be completed by the lead agency. A copy of the NAHC Sacred Lands File search results letter is provided in Appendix B.

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4 BACKGROUND

4.1 Environment

The project alignment is located on paved North 16th Street in an urban environment. The north extent of the project APE is approximately 0.1-mile from the American River. Disturbances include residential and commercial development, road paving, utility installation, and landscaping. The Project vegetation includes planted trees and lawn grass, and disturbed area community plants. The geologic units within the alignment and surrounding vicinity have been mapped as Quaternary alluvium and marine deposits (US Geological Survey 2008). Geologic material includes sand and gravel (US Geological Survey 2010).

4.2 Cultural Context

4.2.1 Prehistory (10,000 B.C.–A.D. 1,750)

Various attempts to parse out information provided through recorded archaeological assemblages from throughout California for the past 12,000 years have led to the development of several cultural chronologies. Some of these are based on geologic time, most are interpreted through temporal trends derived from archaeological assemblages, and others are interpretive reconstructions (Dillon 2002). Each of these chronologies describe essentially similar trends in assemblage composition in more or less detail. Fredrickson (1974, 1994) developed a prehistoric chronology for human history in this region that used sociopolitical complexity, trade networks, population, and the introduction and variation of artifact types to differentiate between cultural groups. Three periods are presented in Fredrickson's prehistoric sequence: Paleoindian, Archaic, and Emergent. Fredrickson's Paleoindian period marked the initial human migration (10,000–6,000 BC) into California with most known sites found on the edge of former lakeshores and waterways. Groups were small and highly mobile, occupying broad geographic areas. Although Paleoindian sites exist in northwest California, a lack of well-defined Paleoindian assemblages associated with these sites prohibits the full understanding of the adaptive system of these early peoples.

Occupation of the area is likely to have occurred at least 10,000 years ago, however, only a handful of Paleoindian Period lithic bifacial points have been recorded. The nearest sites dating to this period may be CA-SAC-370 and CA-SAC-379, located near Rancho Murieta, which contains bifaces, cores, and raw materials indicating patterns consistent with Paleoindian use (Moratto 1984). Fluted points from the larger region have generally been recorded as isolated finds, or recovered from contexts of mixed provenience. The primary examples of the PaleoIndian pattern, to which such fluted and stemmed points are generally assigned, have been recorded east of the Sierra

Nevada. The typical assemblage includes large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Some of the most pertinent of such sites were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station, near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (MNO-679)—a multicomponent fluted point site, and MNO-680—a single component Great Basined Stemmed point site (Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare while finely made projectile points were common.

Fredrickson's Archaic period (6000 BC- AD 1000) was characterized by three subdivisions based on developmental trends in subsistence strategies, settlement, technology, and social organization. A more diverse range of resources for groups to exploit proliferated during the Archaic period's substantial climate change to warmer and drier conditions. The diversification of the food base required more complex geographic mobility and expansion into surrounding environments, and the settlement strategies increased correspondingly. Archaic period social organization consisted of small-scale, semi-nomadic, socially egalitarian societies shifting from a foraging to a collecting way of life.

In the Emergent period (Fredrickson 1974, 1994), which lasted from the end of the Upper Archaic (ca. AD 1000 +/- 500 years) until European contact, there was an increase in the use of plant food resources in addition to an increase in terrestrial and fish game. There was a concurrent increase in the diversity and complexity of material culture during the Emergent period, as demonstrated by more classes of artifacts, higher frequencies of artifacts, and more formal or ornate artifacts. The recovery of a greater number of small, finely chipped projectile points, often stemless with convex or concave bases, suggests an increased usage of the bow and arrow rather than the atlatl (spear throwing technology) and dart for hunting. A reduction in size and weight of projectile points corresponded with adoption of bow and arrow technology. Typical point forms within this region included Desert Side-notched, Cottonwood, and Rosegate series (CRM 2011). Obsidian and chert replaced volcanic materials such as basalt as the preferred materials for the manufacture of lithic tools. As both high quality cherts and obsidian are not local, the greater presence of such exotic materials suggests that there was an increase in trade with neighboring tribes during this period.

During this period, there was an increase in population size accompanied by the advent of larger, more permanent villages. This period also demonstrated a greater reliance on exploitation of acorns. This trend is exemplified by the increased presence of bedrock mortars and pestles formed from local cobbles. It should be noted that while bedrock mortars were predominantly used for crushing and grinding acorns, they were also employed for the processing of a variety of other foods, including

deer meat, camas roots and seeds (CRM 2011). While the creation of mortars indicated a relatively high investment of time and energy, such bedrock milling features are just as frequently found at sites with limited-to-no subsurface cultural deposits as at intensive use occupation areas with well-developed midden soils.

4.2.2 Ethnohistoric (post-AD 1750)

The region surrounding the project area would have been near the eastern limits of Nisenan (also known as the southern Maidu) tribal territory during the ethnohistoric period (Wilson and Towne 1978). This group inhabited the Yuba, Bear, and American river watersheds, extending from the Sierra Nevada summit to the Sacramento River. Ethnographic work, most prominently conducted by Stephen Powers in the 1870s, writes of a relatively high population of indigenous inhabitation in this region (1877). Notably, Powers identified 18 named villages alone along the Bear River, further suggesting that there may have been a larger portion of villages that he had no knowledge of. This was substantiated by interviews conducted by Hugh Littlejohn in 1928, who recorded a number of additional named habitation areas (Carlson 1986).

Nisenan habitation areas were most commonly situated near primary drainages, along ridgelines with mild slopes and south-facing exposures (Wilson and Towne 1978). Traditional village features included bedrock milling stations, granaries, conical house structures, as well as sweat and ceremonial houses. The dead were typically cremated and buried within the boundaries of the habitation area. Tribal groups included extended and unmarried relatives. Groups of Nisenan did not have defined chiefs, however, these individuals were chosen based on wealth and popularity rather than hereditary descent (Kroeber 1925). Intra-tribal boundaries overlapped, with natural resources being shared relatively freely between tribes (Carlson 1986). Inter-tribal conflict did occur over resources, and the Nisenan would attack small hunting parties of neighboring tribes that encroached too far into their territory.

The Nisenan subsistence strategy was centered on fishing, hunting, and collecting vegetative resources. This group was highly mobile, with larger central habitation areas and surrounding satellite sites used during hunting excursions and for pre-processing of collected plant resources such as acorns. Common food items included deer, rabbits, birds, bear, rodents, other mammals of small and moderate size, as well as various insects. Deer were sometimes partially processed using mortar and pestle (Kroeber 1925). A ceremony among the Nisenan involved the hunting of a bear during hibernation season. Common tools included the bows and arrow, traps, harpoons, hooks, nets, portable and stationary grinding implements, and pestles and handstones. A number of goods were made using fibrous plants, including canoes constructed of tule balsa or logs. Imported items included shell ornaments and beads (particularly disk beads as a monetary unit), green pigment, tobacco, steatite

items, and obsidian (Wilson and Towne 1978). Exported items included bows and arrows, animal skins, pine nuts, and other local resources (Kroeber 1925).

Central California indigenous populations derived their linguistic roots from a common Penutian stock. The degree of internal variation among these three decedent language groups (Yokutian, Maiduan, and Wintuan) is similar to Indo-European, suggesting a time depth of approximately 6,500 years (Golla 2007). The Nisenan spoke one of four closely related Maiduan languages, including Konkow, Chico Maidu, Mountain Maidu, and Nisenan. Shared Hokan phonological and morphological substratal components identified within all Miduan languages indicate past interactions between these two language populations (Hokan time depth is approximately 8,000 years). Miduan language structure suggests that all four Miduan languages were descended from the same proto-Maiduan speaking population to the north. The most likely scenario is that these populations spread southward in the last 1,200 years, with the Nisenan encroaching into area previously occupied by Miwok tribal groups sometime in the past few centuries (Golla 2007). This later population movement is further substantiated by the high frequency of Miwok loan words found within Nisenan vocabulary, a trait that is not shared with the other three Maiduan languages.

4.2.3 The Historic Period

Spanish Period (1769–1822)

Gaspar de Portolá entered the San Francisco bay in 1769. Additional explorations of the San Francisco bay and the plains to the east were conducted by father Pedro Fages in 1772 and Juan Bautista De Anza in 1776 (Grunsky 1989). In 1808, Lieutenant Gabriel Moragain led the first Spanish expedition into the Sacramento Valley. This group traveled explored areas along the American, Calaveras, Cosumnes, Feather, Merced, Mokelumne, Sacramento, and Stanislaus river watersheds. The most recent Spanish expedition into this region was conducted by Luis Arguello in 1817. This group traveled up the Sacramento River to the mouth of the Feather River (Grunsky 1989).

Spanish missionization of Alta California was initiated in San Diego (1769). A total of 21 missions were constructed by the Dominican and Franciscan orders between 1769 and 1823. Missions in the region included San Francisco de Asís (1776), Santa Clara de Asís (1776), San José de Guadalupe (1797 in Alameda County), San Rafael Arcángel (1817 in Marin County), and San Francisco Solano (1823 in Sonoma County; Grunsky 1989)). While missionization had a detrimental effect on tribes throughout the region, there is no record of forcible transport of Nisenan communities by the Spanish to the missions (Wilson and Towne 1978).

Mexican Period (1822–1848)

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations. Following the establishment of the Mexican republic, the government seized many of the lands belonging to Native Americans, providing them as parts of larger Land Grants to affluent Mexican citizens and rancheros. Captain John Sutter was granted the two largest areas of land in the Sacramento Valley area. Sutter founded New Helvetia, a trading and agricultural empire, in 1839. The headquarters was located within Valley Nisenan territory at the confluence of the Sacramento and American rivers. The 1833 Secularization Act passed by the Mexican Congress ordered half of all mission lands to be transferred to the Indians, and the other half to remain in trust and managed by an appointed administrator. These orders were never implemented due to several factors that conspired to prevent the Indians from regaining their patrimony.

American fur trappers and traders conducted a number of exploratory intrusions into west Sierra Nevada Mexican territory. Notably, in 1826, Jedediah Smith led a small party of trappers in an expedition along the Sierra Nevada range, eventually entering the Sacramento Valley in 1827. This group covered the area along the American and Cosumnes rivers. From these travels, maps of this inhospitable terrain were created and disseminated, providing for the waves of European prospectors, ranchers and settlers that would come in the following decades (Grunsky 1989).

Historical Overview of Sacramento

John Sutter arrived on the shore of the American River near its confluence with the Sacramento River in 1839. Sutter and his landing party established Sutter's Fort, with the promise of a Mexican land grant. The settlement's growth and permanency attracted other business prospectors seeking opportunities. Sutter and these other business people created a commercial center in the area, but it was not until the Gold Rush in 1848 that the City of Sacramento was created. The gold was discovered by James Marshall in the nearby foothills. Eager to take advantage of the convenient waterfront location, local merchant Sam Brannan rushed to open a store near the Sacramento River. The area originally called Sutter's Embarcadero was soon known as the City of Sacramento. Sacramento swiftly grew into a trading center for miners supplying themselves for the gold fields (Legends of America 2003; Sacramento History Online 2004).

The City of Sacramento was incorporated in 1850, and the name was taken from a nearby river, meaning "Holy Sacrament" (City-Data 2018). The waterfront location of early Sacramento made it a prime commercial town; however, severe flooding and repeated fires presented real threats to the area. The first devastating flood hit the newly built city in 1850, and a second hit in 1852 when high water wiped out the area. Around the same time, fires engulfed the city's rapidly constructed

buildings composed mainly of wood and canvas. It was apparent that extreme measures had to be taken to save Sacramento. A mammoth project was proposed in 1853 to raise the city above the flood level. This proposal was expensive and was ultimately declined. Nonetheless, the city survived and became the capital of California in 1854. Construction of the Sacramento Valley Railroad began during the mid-1850s, with the financial backing of businessmen known as the Big Four: Collis P. Huntington, Mark Hopkins, Charles Crocker, and Leland Stanford. Soon after, Sacramento became the terminus of California's first railroad. The Pony Express and the transcontinental telegraph followed. With another devastating flood that swept the area in 1862, the previously proposed project of raising the city above flood level resurfaced. For the next few years, thousands of cubic yards of earth were brought into Sacramento on wagons, and the process of raising the street level began. In addition, with the Central Pacific Railroad joining the east and west coasts in 1869, Sacramento farmers began shipping their produce to the east (City-Data 2018; City of Sacramento 2018; Legends of America 2003; WPA 1939).

As the Gold Rush era came to an end, Sacramento became the center for development of a commercial agriculture industry (Legends of America 2003). Throughout the late 19th and early 20th centuries, agriculture was a key component of the economic system in Sacramento. Typical crops throughout the Sacramento Valley included rice and grain, but there were 130,000 vegetable crops and numerous orchards by the end of the 1920s. In addition to the crops and orchards, support services like mills, canning, drying, and packaging facilities grew during this time (Sacramento History Online 2004).

Early in the 20th century, agriculture began to shift from small farmers to a heavy agribusiness model with state and federal government backing. During this time, private investors began a land reclamation process to take over land throughout the Sacramento Valley. This reclamation combined with improvements in flood control and irrigation allowed for specialized crop farming (Sacramento History Online 2004).

One such example of specialized farming was almonds, which predicated the founding of the California Almond Growers Exchange (CAGE). Founded in 1910, CAGE became one of the largest almond grower cooperatives in the United States. Numerous innovations in growing, harvesting, and processing of almonds were put into practice and developed by CAGE throughout the 20th century. Sacramento became the hub for CAGE by 1914, and the name Blue Diamond was selected for the cooperative's branding. CAGE continued to grow and prosper with its brand of Blue Diamond Almonds throughout the 20th century, and by 1987, CAGE officially changes its name to Blue Diamond Growers (BDG) (Blue Diamond 2018; CRU and HEC 1995).

Although California had a strong agricultural base and numerous canning facilities throughout the state, it was not until the opening of the Panama Canal in 1914 that California began to emerge as a strong competitor in the national canning market. The opening of the canal provided a reliable transportation alternative that helped lower costs and improve sea trade routes to and from California (NPS 1984).

Like in many areas throughout California, World War I and World War II significantly impacted growth and development patterns. For instance, Sacramento saw a post-war housing and population boom following World War I. By the start of World War II, Sacramento had built Mather Field (1937), and the city became an important base of operations during World War II. The military installations during both wars brought an influx of people to the area, many of whom stayed after World War II and prompted development of the private sector (City-Data 2018; City of Sacramento 2018).

Following World War II, the city expanded and annexed sections of county land to triple the size of the city by 1965. As automobile-oriented, suburban development soared, much of the downtown core of the city fell into decay by the 1950s. By the 1960s, the W-X (Highway 50) and Highway 99 were built and the city began a plan of redevelopment, starting with “Old Sacramento” (City-Data 2018; City of Sacramento 2018).

Starting in 1974, the City of Sacramento officially began its historic preservation program, and by 1975 created a Preservation Board. Preservation activities continue in the city, which has multiple historic districts.

Historical Overview of the Project Corridor

The project APE begins in Midtown at the intersection of H and 16th streets and continues along 16th street until just past Richards Boulevard. The APE encompasses all lanes of the three-lane, one-way, north-bound thoroughfare, as well as the narrow on-street parking areas, curbs, gutters and public sidewalks of this section of 16th and North 16th Streets.

The 16th Street corridor has historically functioned as an important thoroughfare across the city of Sacramento. It cuts through the geographical center of the City, equally dividing the square-shaped grid of municipal streets that form the Downtown and Midtown areas prior to crossing the lower American River into present-day North Sacramento. The first drawbridge in the Delta region, Lisle’s Bridge, was constructed in 1851 at the site of this modern crossing (Nayyar et al. 2011), suggesting that 16th Street was identified as a main artery early in the development of the City.

In 1913, the Lincoln Highway Association completed a survey of existing over-land routes in the U.S. in order to establish the most direct route between New York City and San Francisco (Weingroff 2017). The selected path for the Lincoln Highway included a route along 16th Street, through the municipal center of Sacramento, encouraging increased commercial and leisure traffic to the corridor. In 1915, a new bridge was constructed on the historic site of Lisle's Bridge, to accommodate the amplified motor traffic into the city resultant from the Lincoln Highway (HEC 2009). Development at the north-most end of 16th Street gradually pushed past the mapped limits of the city (Sanborn 1915) and into the low-lying region between the American and Sacramento Rivers. This expanse of land, dubbed 'No Man's Land' (TSB 1942) was prone to flooding, but following the completion of a "drainage system [with] 125 miles of ditches and canals and two large pumping plants..." it was subdivided and sold starting in 1918 (HEC 2009, 7). The modern use of properties in this area still reflects the pattern of industrial use established during this initial period.

Use of this corridor as a thoroughfare continued to increase over time. In 1935, the bridge leading from 16th Street over the American River was widened to accommodate an increased level of automobile traffic (HEC 2009). In 1940, at the request of the Sacramento City Council, the State Highway Commission relinquished 16th Street and rerouted state highways 3, 4, 6, 11, and 50 to utilize the cross-city corridor to relieve heavy congestion (TSB 1940).

In addition to the junction of state highways already routed through the core of the city by the late-1940s, the same stretch of 16th Street was routed as a portion of U.S. Highway Routes 40 and 99, and traffic congestion was became an even more acute problem (Kelly 1953). In 1947, the City began converting streets and alleyways with two-way directional traffic to one-way streets in several key areas of the City to alleviate the bottlenecks that formed during morning and evening traffic cycles. 16th Street was identified as one of the key through-streets that would benefit from this type of conversion, and in August of 1948, 16th Street between C and P Streets was converted to carry north-bound traffic only (TSB 1948). By 1953, there were fifteen major one-way street conversions in the municipal center of Sacramento, and overall, the conversions had a positive effect on the general traffic congestion, but also kept the traveling public moving quickly enough that the small businesses and retail centers that lined the street were compelled to adapt in order to retain customers (Kelly 1953).

The conversion of 16th Street to a one-way street and the increased speed, at which motorists now moved through the corridor, had an effect on the types of businesses that could thrive in the area. While the North 16th Street was already characterized by industrial use, the southerly section of the street was a mixed use area containing small businesses and residential buildings. By 1956 "For the first time in Sacramento's History, motels [were] being constructed in the downtown area" and they first began appearing along 16th Street in this mixed-use area. (TSB 1956; 67). The motels realized

along this passage between 1956 and 1968 share similarities to mid-century motels established beside federal and state highways across the state. In addition, due to increased vehicular traffic, this stretch also became a popular location for service stations, auto mechanics and auto dealerships during the same period.

In 1964, Senate Bill 64 was signed into law and provided a system for consolidating and streamlining the numbering structure of the state highway system (CADOT 2018). 16th Street was renumbered under this new system and was henceforth known as the north section of State Route 160 (Heidecker 2001). Today, following the relinquishment of a nine-mile segment of state highway back to the City of Sacramento in 2001, this section of 16th Street is considered a section of the North Sacramento Freeway.

At present, the section of the 16th Street corridor within the APE abuts two adjacent historic districts before passing directly through two additional historic districts. The Washington School Historic District is the first adjacent district, located to the east, followed shortly thereafter by the Washington Historic District to the west. 16th Street continues north towards the American River, passing directly through the C Street Industrial Historic District, followed by the North 16th Street Historic District. Despite their close proximity, each of these areas has been identified as a unique region in an effort to conserve the differences in historic style and notable use of each concentrated area. The following section discusses the distinctive qualities of each district respectively.

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5 FIELD METHODS

5.1 Methods

No pedestrian survey was considered necessary due to the urbanized, entirely obscured, and highly disturbed nature of the APE. The present Inventory was restricted to a NCIC records search, NAHC Sacred Lands File check, desktop review of soils information and present context to assess potential for unanticipated buried deposits, and additional archival information review.

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6 STUDY FINDINGS AND CONCLUSIONS

6.1 Findings

Because the APE is located along an existing paved roadway and within extensively graded and disturbed sidewalks, no archaeological pedestrian survey was required. The entire APE shows considerable disturbance from urbanization. Related disturbances include but are not limited to road paving, residential and commercial structures, and landscaping of green areas. Such high levels of disturbance would very likely leave no subsurface archaeological resources intact.

6.2 Conclusions

This archaeological survey report was completed to satisfy the requirements of CEQA and Section 106 of the NHPA. The study of the project APE suggests that there is a low potential for the inadvertent impact to previously unidentified cultural resources or deposits. The NCIC records search did not identify any resources within the APE. While the NAHC Sacred Lands File search indicated sacred sites may exist within the project area, tribal outreach and consultation is pending to verify the results. Pedestrian survey of the APE was not necessary due to the highly disturbed nature of the APE. Therefore, no known archaeological resources will be impacted by the project as currently designed. The highly disturbed and developed nature of the APE suggests no buried archaeological deposits would exist undisturbed and intact. Based on review of this information, the project site has a relatively low potential for unanticipated buried cultural resources. No additional archaeological work, including monitoring, appears to be required.

No archaeological monitoring is recommended to be necessary based on the highly disturbed condition of the Project site. However, it is always possible that intact archaeological deposits are present at subsurface levels. Management recommendations to reduce potential impacts to unanticipated archaeological resources and human remains during construction activities are provided below.

6.3 Unidentified Cultural Materials

If previously unidentified cultural materials are unearthed, it is Caltrans' policy that a qualified archaeologist assess the significance of the find. It should be further noted, additional archaeological inventory will be needed if Project limits are extended beyond the present survey limits. Additional mitigation specific to tribal cultural resources have been developed through consultation between the City and AHC-listed California Native American tribes.

6.4 Unanticipated Discovery of Human Remains

The discovery of human remains is always a possibility during ground disturbances; State of California Health and Safety Code Section 7050.5 covers these findings. This code section states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

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PROJECT, CITY OF SACRAMENTO

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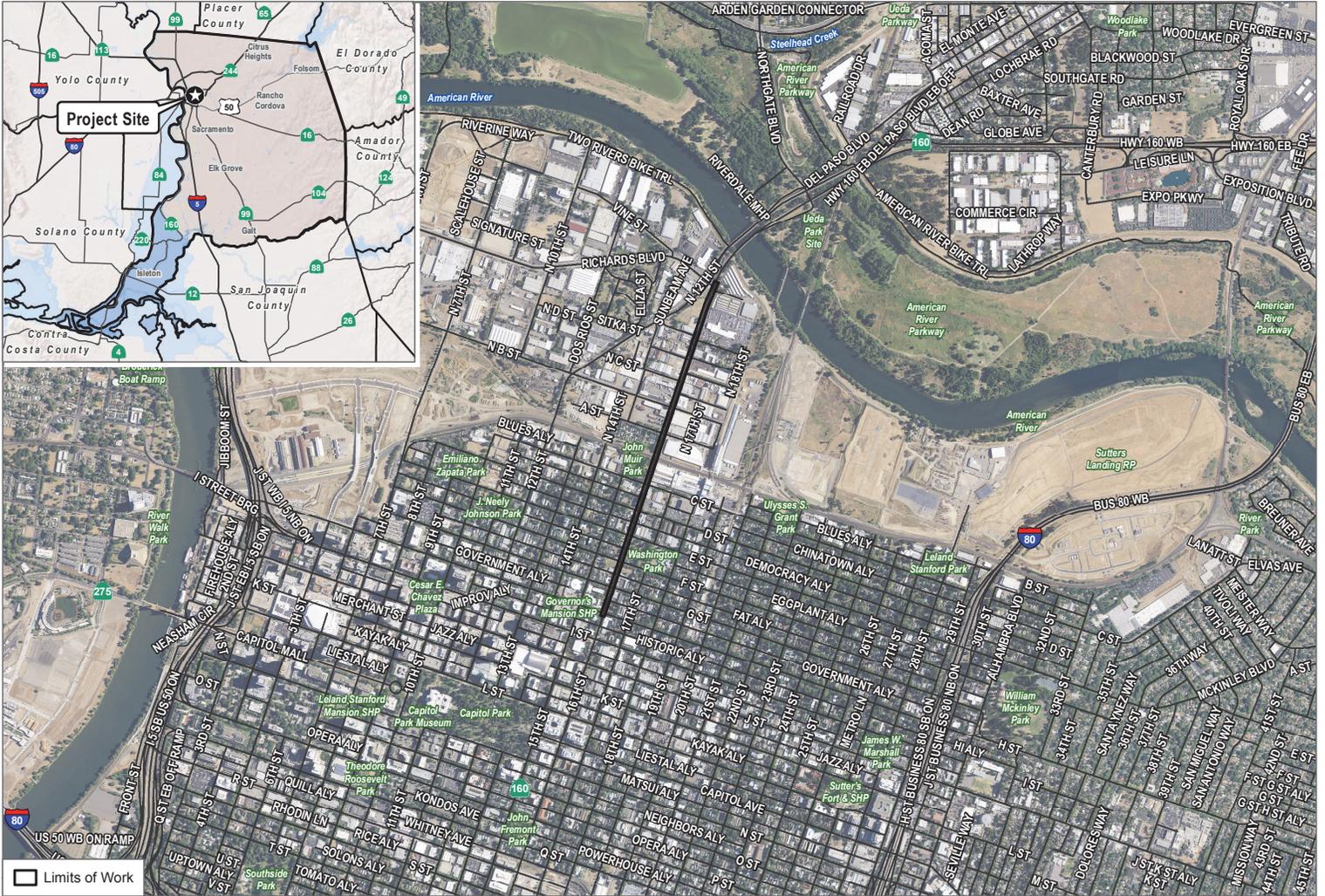
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8 MAPS

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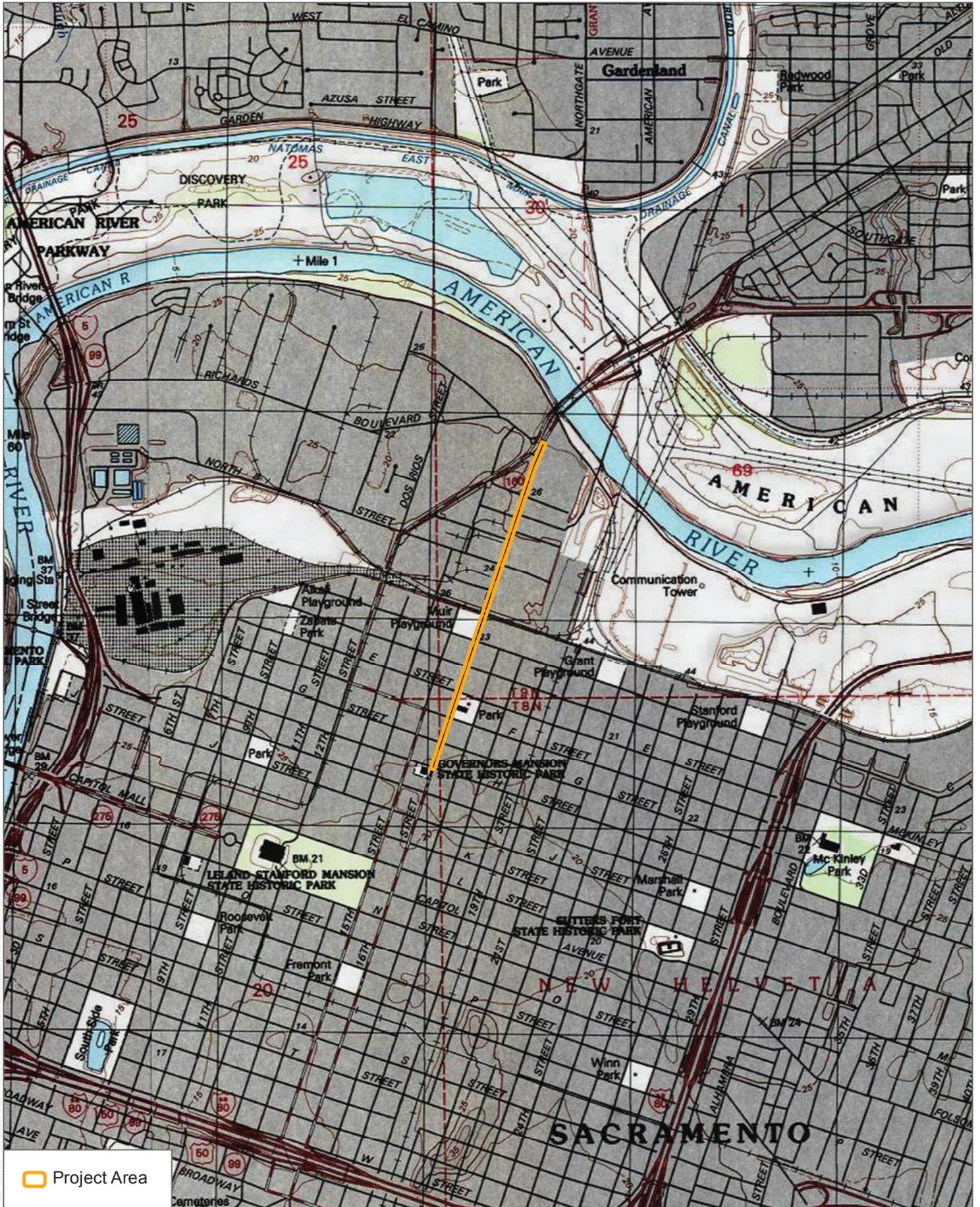


SOURCE: NAIP 2016



FIGURE 1
Project Vicinity
North 16th Street Streetscape

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 Project Area

SOURCE: USGS 7.5 Minute Series Sacramento East Quadrangle
 Township 8N / Range 5E / Section 06
 Township 9N / Range 5E / Section 31

DUDEK  0 1,000 2,000 Feet

FIGURE 2
 Project Location
 North 16th Street Streetscape

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SOURCE: NAIP, 2016

DUDEK 0 170 340 Feet

○ Map ID

Cultural Resources Area of Potential Effects

- ▭ Direct APE
- ▭ Indirect APE
- ▭ Historic District Boundaries

FIGURE 3
Area of Potential Effects
North 16th Street Streetscape

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APPENDIX A

CONFIDENTIAL NCIC Records Search Results

APPENDIX B

*Native American Heritage Commission
Sacred Lands File Search*

Sacred Lands File & Native American Contacts List Request

NATIVE AMERICAN HERITAGE COMMISSION

1550 Harbor Blvd., Suite 100

West Sacramento, CA 95691

(916) 373-3710

(916) 373-5471 – Fax

nahc@nahc.ca.gov

Information Below is Required for a Sacred Lands File Search

Project: North 16th Street (10392)

County: Sacramento

USGS Quadrangle Name: Sacramento East, CA

Township: 9 North Range: 5 East Section(s): 31; 8 North Range: 5 East
Section(s): 6

Company/Firm/Agency: Dudek

Contact Person: Adam Giacinto, M.A., RPA

Street Address: 853 Lincoln Way

City: Auburn **Zip:** 95303

Phone: 530.863.4653 **Fax:** N/A

Email: agiacinto@dudek.com

Project Description: The project proposes improvements along North 16th Street .

(See attached Project Location Map)

NATIVE AMERICAN HERITAGE COMMISSION

Environmental and Cultural Department
1550 Harbor Blvd., ROOM 100
West SACRAMENTO, CA 95691
(916) 373-3710



April 27, 2018

Adam Giacinto
DUDEK

Sent by Email: agiacinto@dudek.com
Number of Pages: 2

RE: North 16th Street, Sacramento East, Sacramento County

Dear Mr. Giacinto:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* (SLF) was completed for the area of potential project effect (APE) for the above referenced project. **Sacred sites were identified in the project areas provided.** Please contact the United Auburn Indian Community directly for more information about potential sacred sites and tribal cultural resources within your APE.

The absence of site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE. Other sources of cultural resources information should be contacted regarding known and recorded sites. Please contact all of the people on the attached list. The list should provide a starting place to locate areas of potential adverse impact within the APE. I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult under applicable laws.** If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact me at my email address: sharaya.souza@nahc.ca.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sharaya Souza".

Sharaya Souza
Staff Services Analyst
(916) 573-0168

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Native American Heritage Commission

Native American Contacts

4/26/2018

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This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
North 16th Street, Sacramento East, Sacramento County.