DRAFT

Initial Study and Mitigated Negative Declaration for the Sylvan Corners Subdivision Project

Prepared For:

CITRUS HEIGHTS
Solid roots. New growth.

City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

July 2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT

Initial Study and Mitigated Negative Declaration

Sylvan Corners Subdivision

Citrus Heights, California

Lead Agency:

CITRUS HEIGHTS
Solid roots. New growth.

City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2525 Warren Drive
Rocklin, CA 95677

July 2023

THIS PAGE INTENTIONALLY LEFT BLANK

DRAFT MITIGATED NEGATIVE DECLARATION

Lead Agency: City of Citrus Heights

Project Applicant: Woodside Homes

Project Location: 7137 Auburn Boulevard
Citrus Heights, CA 95610
Assessor's Parcel Number (APN): 211-0020-025

Project Description: Woodside Homes proposes the Sylvan Corners Subdivision Project, a 94-unit single-family residential subdivision at 7137 Auburn Boulevard in the City of Citrus Heights. The Project site is assigned APN 211-0020-025 in Sacramento County. The 11.32-acre vacant parcel is located on the northwest corner of the intersection of Auburn Boulevard and Sylvan Road. The Project will require the approval of a General Plan Amendment, rezone to a Special Planning Area, Tentative Subdivision Map, Design Review Permit, and Tree Removal Permit.

Public Review Period: July 28, 2023 – August 28, 2023

Mitigation Measures Incorporated into the Project to Avoid Significant Effects:

Air Quality

AQ-1: Implement SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust

The implementing agency will require the construction contractor(s) to implement basic and enhanced control measures to reduce construction-related fugitive dust as a standard or specification of their contract. The following measures are required for the entirety of the construction area. The implementing agency will ensure, through contract provisions and specifications, that the contractor adheres to the mitigation measures before and during construction and documents compliance with the adopted mitigation measures.

- Control of fugitive dust is required by District Rule 403 and enforced by District staff.
- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.

- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

Biological Resources

BIO-1: Nesting Birds and Raptors

- Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat on the Project site within 14 days of the commencement of construction or tree removal during the nesting season (generally February 1 through August 31). Surveys should be conducted in accessible areas within 300 feet of the Project site for nesting raptors and 100 feet of the Project site for nesting birds.
- If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for CDFW and the lead agency, and no further mitigation shall be required.
- If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.
- If it is determined that construction will not affect an active nest or disrupt breeding behavior onsite, construction may proceed without any restriction or mitigation measure.

BIO-2: Roosting Pallid Bats

- A bat roost survey shall be conducted by a qualified wildlife biologist within 14 days before any ground disturbance. Specific survey methodologies may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., SonoBat, Anabat). If no active roost sites are present within the Project Area, no further actions under this measure are required.
- If it is determined that an active roost site cannot be avoided and will be affected, bats will be excluded from the roost site before the tree is removed. The biologist shall consult with CDFW on appropriate bat exclusion methods and roost removal procedures. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Once it is confirmed that all bats have left the roost, crews will be allowed to continue work in the area.

BIO-3: Protected Trees

- The Project proponent shall ensure appropriate tree removal or work permits have been obtained in accordance with Chapter 106.39 Tree Preservation and Protection of the Citrus Heights Municipal Code and that compensatory mitigation has been provided, as necessary, for Native Oak Trees and other Protected Trees within the Study Area that will be directly impacted (removed) or indirectly impacted (construction activities within the tree's dripline) by the Project.
- Prior to any mobilization or grading on the site, the Project proponent shall prepare and implement a Tree Replacement Plan in accordance with Chapter 106.39 Tree Preservation and Protection of the Citrus Heights Municipal Code for Native Oak Trees and other Protected Trees in the Study Area that will be directly impacted (removed).

Cultural Resources

CUL-1: Unanticipated Discoveries

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agency. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable.

Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

Geology and Soils

GEO-1: Discovery of Unknown Paleontological Resources

If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until the City is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples shall be collected and processed to determine additional fossil potential on the Project site. If the City resumes work in a location where paleontological remains have been discovered and cleared, the City shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution, such as the UCMP Berkeley, for the benefit of current and future generations.

Greenhouse Gas Emissions

GHG-1: Implement SMAQMD Tier 1 Best Management Practices.

The implementing agency shall require the Project to implement Sacramento Metropolitan Air Quality Management District Tier 1 Best Management Practices:

- BMP 1 - Projects shall be designed and constructed without natural gas infrastructure.
- BMP 2 - Projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.

Noise

NOI-1: Land Use Compatibility

The Project applicant shall install air conditioning in all residences constructed on Lots 1 – 5, 82, and 85 – 94, at a minimum, to allow occupants to close doors and windows as desired for additional acoustical isolation. The City shall ensure that building plans include the required air conditioning equipment prior to issuance of building permits.

Transportation

TRANS-1: Auburn Boulevard/Sylvan Road Intersection

To address increased levels of queuing on Auburn Boulevard and additional pedestrian activity by Project residents, the Project applicant shall modify the intersection as follows:

- Modify signal phasing to operate the eastbound and westbound approaches with lead/lag protected left-turn phasing (versus current split phasing).
- Signalize the channelized southbound, eastbound, and westbound right-turn lanes, providing pushbutton pedestrian detection in each crosswalk.
- Extend the southbound Class II bike lane by providing green skip striping (to designate a merge area) to provide for a continuous and more visible facility.

The improvements would directly benefit the Project by virtue of shorter queues on southbound Auburn Boulevard (i.e., fewer blockages of north project access) and improved conditions for Project residents walking/biking in the area.

TRANS-2: Illegal Southbound U-Turns on Auburn Boulevard

To address Project trips desiring to travel northbound on Auburn Boulevard that may choose to perform an illegal U-turn at the southbound left-turn lane serving the Sylvan Corners Plaza, the City shall:

- Monitor (either through counts or complaints filed with the City) this turn lane for unlawful movements, and if warranted, increase enforcement and/or post additional signage to discourage those behaviors.

Tribal Cultural Resources

TCR-1: Unanticipated Discoveries

If subsurface deposits are encountered which represent a Native American or potentially Native American resource that does not include human remains, all work shall cease within 100 feet of the find and the contractor shall immediately contact the City of Citrus Heights and coordinate to contact a member of a culturally affiliated tribe. If the tribal representative determines the find is a TCR, the tribe and the City of Citrus Heights shall consult on appropriate treatment measures. Preservation in place is the preferred treatment, if feasible. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Tribal Cultural Resource or a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction. This Mitigation Measure shall be implemented in conjunction with Mitigation Measure CUL-1.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Appendix K – *Removal Action Completion Report*. GSI Environmental, Inc. April 2022.

Appendix L – *Noise Impact Assessment*. ECORP Consulting, Inc. 2022.

Appendix M –*Transportation Impact Study*. Fehr & Peers. October 2022.

Appendix N – *Evaluation of Signalized Mid-Block Pedestrian Crosswalk on Auburn Boulevard*. Fehr & Peers. October 2022.

LIST OF ACRONYMS AND ABBREVIATIONS

Term	Definition
˚F	Degrees Fahrenheit
AB	Assembly Bill
APE	Area of Potential Effects
APN	Assessor's Parcel Number
ATCM	Airborne Toxic Control Measure
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
BIOS	Biogeographic Information and Observation System
BMPs	Best Management Practices
BRA	Biological Resources Assessment
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
Cal/OSHA	California Division of Occupational Safety and Health
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Standards Code
CBG	Census Block Group
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commissions
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CHP	California Highway Patrol
CHWD	Citrus Heights Water District
City	City of Citrus Heights
CIWM	California Integrated Waste Management
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level

Term	Definition
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	Decibel
dBA	A-weighted Decibel
DHS	Department of Health Services
DMC	De Minimis Conditions
DPM	Diesel Particulate Matter
DPS	Distinct Population Segment
DTSC	Department of Toxic Substances Control
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FICON	Federal Interagency Commission on Noise
FMMP	Farmland Mapping and Monitoring Program
FR	(Federal Register
FTA	Federal Transit Administration
GGRP	Greenhouse Gas Reduction Plan
GHG	Greenhouse Gas
GLO	General Land Office
gpd	Gallons Per Day
HCP	Habitat Conservation Plan
Hz	Frequency, Hertz
I-80	Interstate 80
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
ITE	Institute of Transportation Engineers
kWh	Kilowatt-Hours
Leq	Equivalent Noise Level
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
mph	Miles per hour

Term	Definition
msl	Mean Sea Level
MUTCD	Manual of Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
ND	Negative Declaration
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NMFS	National Marine Fisheries Service
NO	Nitrogen Oxide
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitric Oxide
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
N_2O	Nitrous Oxide
NO_x	nitrogen oxides
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
OCP	Organochlorine Pesticide
OHWM	Ordinary High Water Mark
OPR	California Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCB	Polychlorinated Biphenyl
PHF	Peak Hour Factor
PM	Particulate Matter
$PM_{2.5}$	Particulate matter with a diameter of 2.5 microns or less
PM_{10}	Particulate matter with a diameter of 10 microns or less
ppm	Parts Per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
RACR	Removal Action Completion Report
RMS	Root Mean Square
ROGs	Reactive Organic Gases
RWQCB	Regional Water Quality Control Board
SACOG	Sacramento Area Council of Government
SacRT	Sacramento Regional Transit
SASD	Sacramento Area Sewer District
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District

Term	Definition
SCH	State Clearinghouse
SCS	Sustainable Communities Strategy
sf	Square foot/feet
SIP	State Implementation Plan
SJUSD	San Juan Unified School District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMARA	Surface Mining and Reclamation Act of 1975
SMUD	Sacramento Municipal Utility District
SPA	Special Planning Area
SRCSD	Sacramento Regional County Sanitation District
SRWTP	Sacramento Regional Wastewater Treatment Plant
SSC	Species of Special Concern
SSQP	Sacramento Stormwater Quality Partnership
STC	Sound Transmission Class
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TCRs	Tribal Cultural Resources
TNW	Traditionally Navigable Waters
UCMP	University of California Museum of Paleontology
USACE	United States Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	Underground Storage Tank
VHFHSZ	Very High Fire Hazard Severity Zone
VOCs	Volatile Organic Compounds
WBWG	Western Bat Working Group
WWTP	Wastewater Treatment Plants

1.0 BACKGROUND

1.1 Summary

Project Title:	Sylvan Corners Subdivision
Lead Agency Name and Address:	City of Citrus Heights Planning Division 6360 Fountain Square Drive Citrus Heights, CA 95621
Contact Person and Phone Number:	Alison Bermudez, Senior Planner (916) 727-4741
Project Location:	7137 Auburn Boulevard Citrus Heights, CA 95610
General Plan Designation:	Public
Zoning:	RD-2

1.2 Introduction

The City of Citrus Heights is the Lead Agency for this California Environmental Quality Act (CEQA) Initial Study. This Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Sylvan Corners Subdivision (Project) to satisfy CEQA (Public Resources Code [PRC], Section 21000 et seq.) and state CEQA Guidelines (Title 14, California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences before approving those Projects. The City of Citrus Heights will use this CEQA Initial Study to determine which CEQA document is appropriate for the Project: Negative Declaration (ND), Mitigated Negative Declaration (MND), or Environmental Impact Report (EIR). If the agency finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a ND shall be prepared. If during analysis, the agency recognizes that the Project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a MND shall be prepared.

In accordance with CEQA, this Initial Study/Mitigated Negative Declaration (IS/MND) will be circulated for a 30-day public review and comment period. Written comments on the Draft IS/MND should be submitted to (email preferred):

Alison Bermudez, Senior Planner
City of Citrus Heights
6360 Fountain Square Drive
Citrus Heights, CA 95621

abermudez@citrusheights.net

THIS PAGE INTENTIONALLY LEFT BLANK

2.0 PROJECT DESCRIPTION

2.1 Project Background and Objectives

The Project site is located at 7137 Auburn Boulevard in the City of Citrus Heights (City) (see Figure 2-1. Project Location and Figure 2-2. Project Vicinity). Woodside Homes is proposing a General Plan Amendment and rezone to a Special Planning Area (SPA) to facilitate the development of the proposed Project, a 94-unit single family residential neighborhood, including 80 market-rate units and 14 affordable rate units (at a density of 8.35 dwelling units/net acre). Pursuant to Government Code section 54222.5 of the Surplus Lands Act (SLA), the Project is required to provide 15 percent of the units at an affordable rate. The development of the property would also require the removal of several trees and the installation of utility improvements. The proposed Project objective is to increase housing and affordable housing in the City of Citrus Heights.

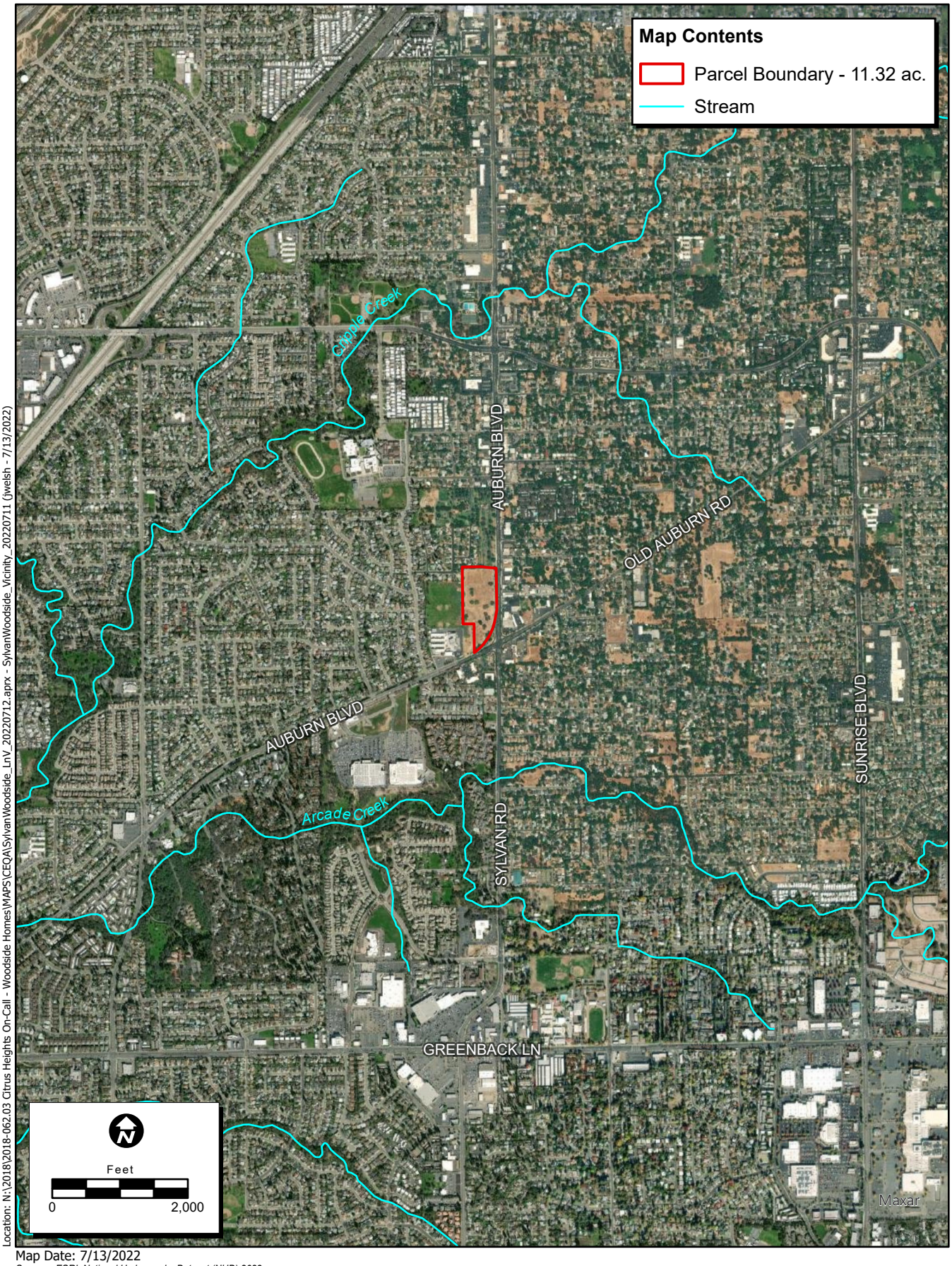
The Project site was previously used for the Sylvan Middle School as early as 1908, with school buildings concentrated in the middle of the property. Numerous structures were added to the campus throughout its operational history until its demolition in 2016-2017. The City purchased the property from San Juan Unified School District in 2019. Woodside Homes entered into a purchase and sale agreement to purchase the property from the City in 2021.

2.2 Surrounding Land Uses

The Project site is currently vacant and is located on the northwest corner of the intersection of Auburn Boulevard and Sylvan Road (see Figure 2-3. Surrounding Land Uses). The Project site is bounded on the east and south by Auburn Boulevard. Uses along Auburn Boulevard near the site include a mix of retail/restaurants, limited office, industrial, churches, the City's Sylvan Plaza, and other supporting uses. Sylvan Middle School is immediately adjacent to the southwest corner of the site. School baseball fields border the Project site along most of the western side. Single-family residential uses abut the northwest corner. Sylvan Cemetery abuts the Project site along the eastern portion of the northern boundary.

2.3 Project Characteristics

Two types of units are proposed: traditional small lots and alley-loaded small lots (see Figure 2-4. Project Site Plan). Traditional small lots (units 6-75 on the site plan) would be 3,000 square feet (sf) minimum. Alley-loaded small lots (units 1-5 and 76-94 on the site plan) would be 2,625 sf minimum. Five open space lots are also proposed (see Figure 2-5 Landscape Conceptual Plan). Open Space Lot A will be a small open space with lawn and aggregate surface areas such as mulch or decomposed granite for walking and playing. The area would feature design elements including reclaimed wood amenities for informal seating and climbing, concrete wall seating, and a large picnic table (see Figure 2-6. Open Space Lot A). Open Space Lots B, C, and D would be incorporated into a decorative main entry featuring a lawn and picnic area, and would surround the southern entrance to the site (see Figure 2-7. Main Entry). Open Space Lot E would feature a pedestrian paseo/walkway, benches, and detention pond and would connect the Project site to the decorative corner at the Auburn Boulevard/Old Auburn Road intersection (see Figure 2-8. Open Space Lot E).



Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\CEQA\SylvanWoodside_LnV_20220712.aprx - SylvanWoodside_Vicinity_20220711 (jwelsh - 7/13/2022)

Map Date: 7/13/2022

Sources: ESRI, National Hydrography Dataset (NHD) 2022

Figure 2-1. Project Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2018-062.03 Sylvan Corners Subdivision

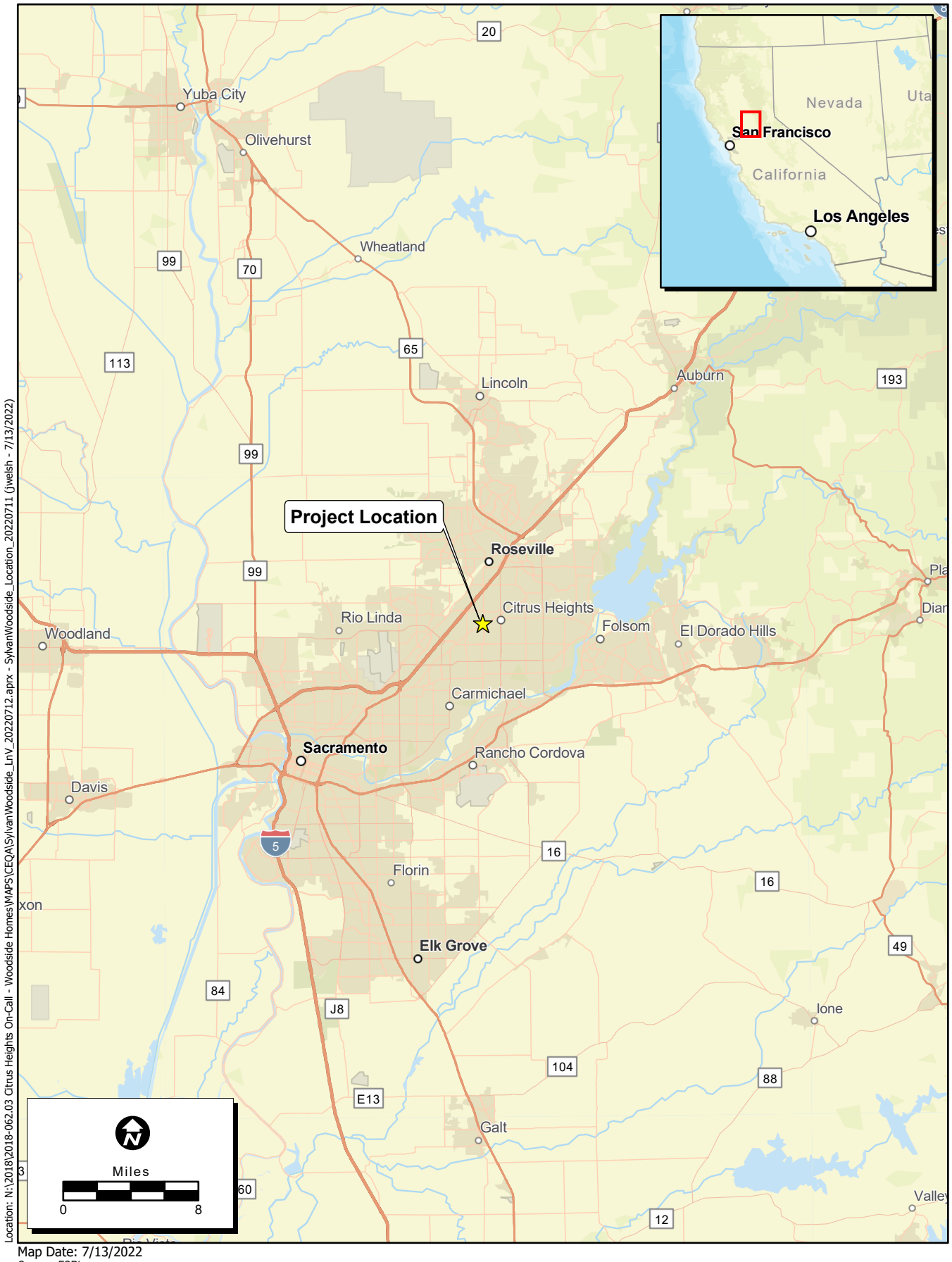


Figure 2-2. Project Location

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2018-062.03 Sylvan Corners Subdivision

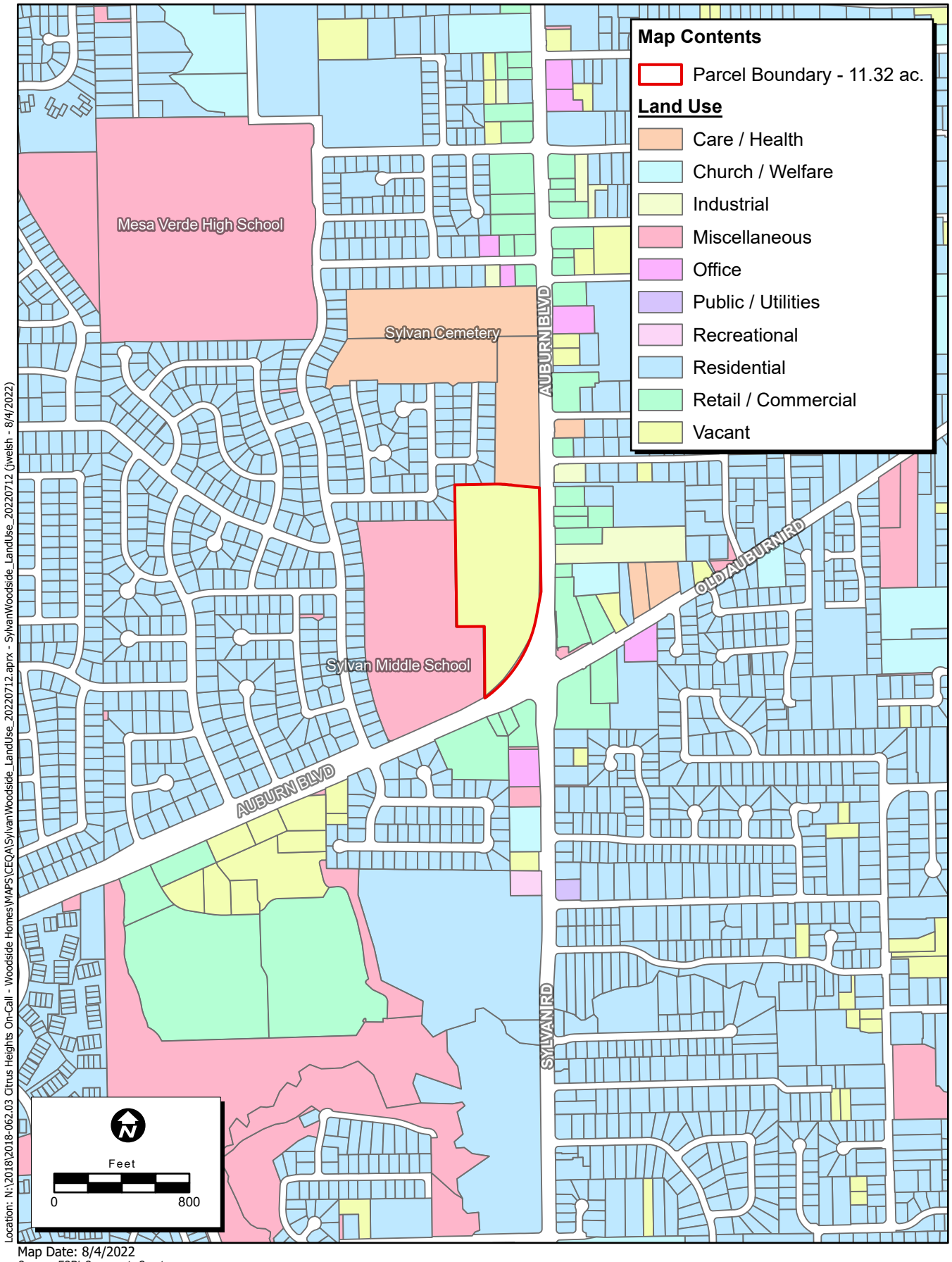


Figure 2-3. Surrounding Land Uses

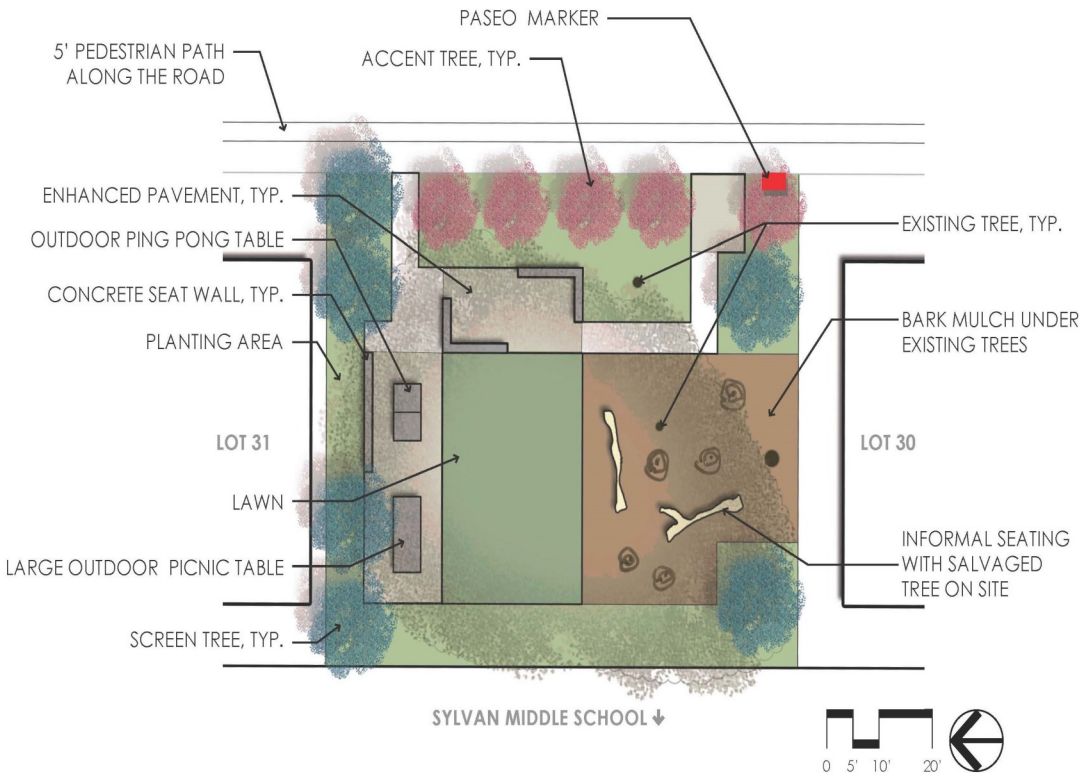
ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2-4. Project Site Plan

Source: Woodside Homes

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

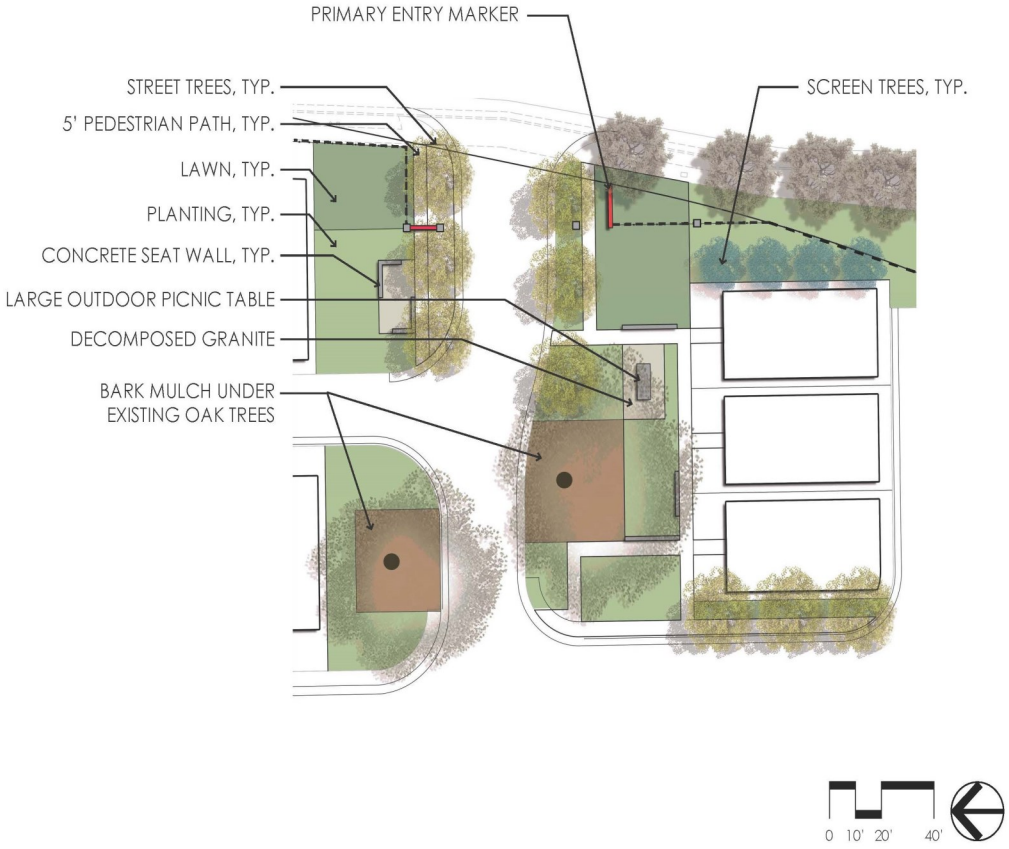
Figure 2-5. Landscape Conceptual Plan

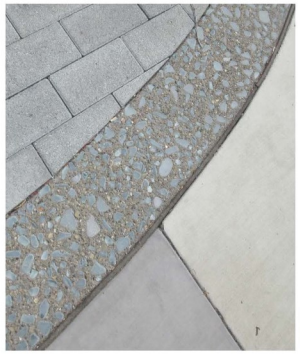


Source: Woodside Homes

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2-6. Open Space Lot A

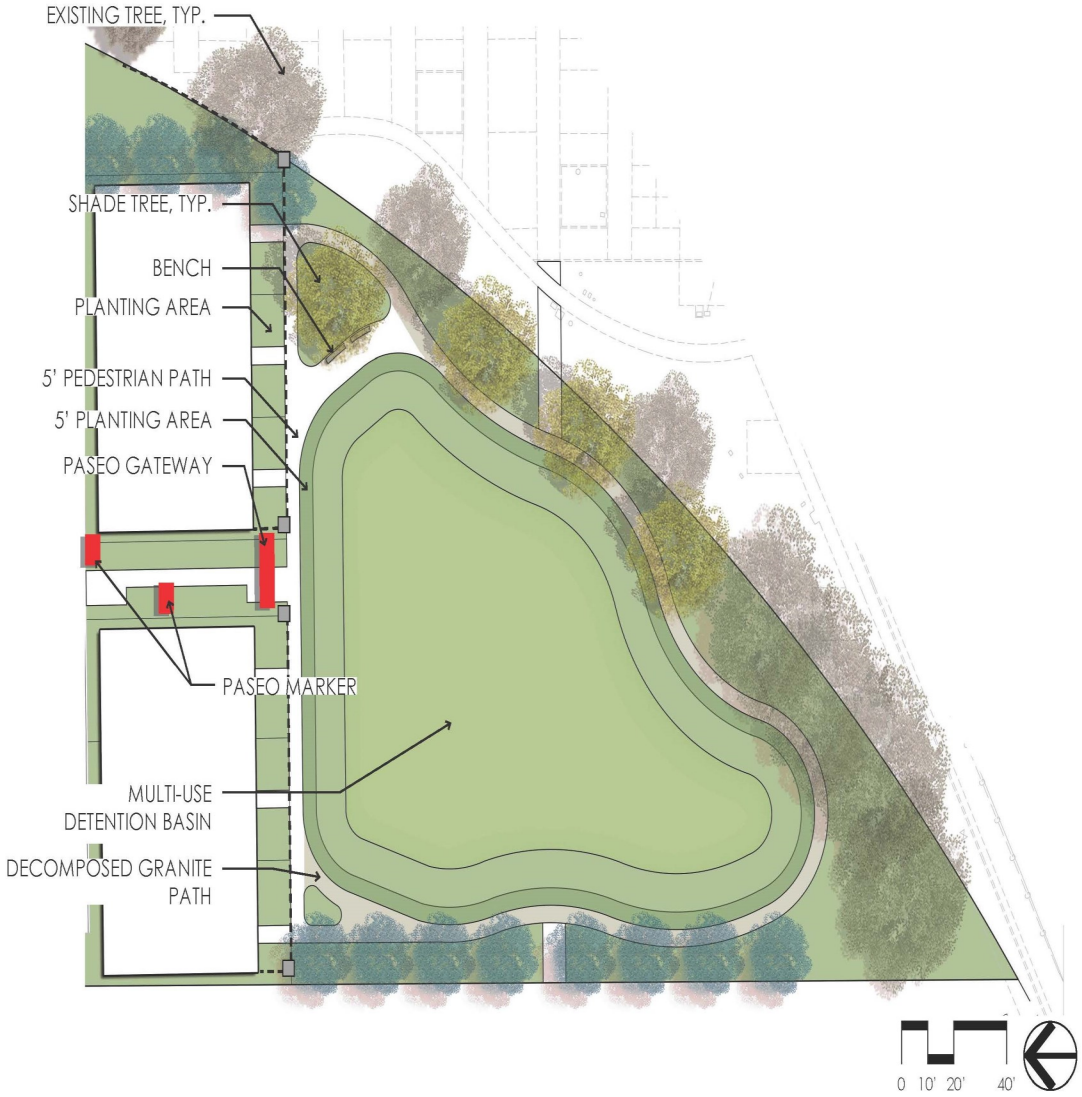




Source: Woodside Homes

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2-7. Main Entry



Source: Woodside Homes

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2-8. Open Space Lot E

The Project will also provide pedestrian access from Lot E to Sylvan Middle School via a gate to allow Project students a direct connection to the school without walking along Auburn Boulevard.

2.3.1 Ingress/Egress

The Project proposes access via two intersections on Auburn Boulevard (see Figure 2-3). The northern intersection will be left in/right in/right out only and the southern intersection will be right in/right out only. These access points will be 825 feet and 350 feet, respectively, north of the southbound limit line at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection. The Sacramento Metropolitan Fire District has provided approval on the proposed ingress/egress.

2.3.2 Parking

The Project's parking requirement is fulfilled by garages provided for each dwelling unit plus one guest parking space for all dwellings (including resident driveways and street parking). Guest parking is distributed throughout the site in both formal and informal on-street parking spaces. The Project will provide 330 parking spaces (3.5 spaces per unit) including garage parking, driveway spaces, and formal and informal on-street spaces. A minimum of two enclosed parking spaces per two-story dwelling, a minimum of one enclosed parking space per one-story dwellings, plus one guest parking space for all dwellings (including resident driveways and street parking). Parking along both public and private streets can be counted toward the guest parking requirement. Guest parking will be distributed throughout the site at both formal and informal on-street parking spaces. Garages and driveways will at all times be available for parking vehicles only (i.e., not boats or RVs). Storage within the garage, or any other use within the garage, is only allowed to the extent that it does not impede parking of the vehicle or vehicles of the owner/tenant of the unit. Additional parking information is available in Figure 2-9. Parking Plan.

2.3.3 Utilities

Water, wastewater, and storm drain connections will occur in the City right-of-way within Auburn Blvd.

2.3.3.1 Water

Water will be supplied by the Citrus Heights Water District (CHWD). Each lot will use an estimated 350 gallons per day (gpd). Total Project water use is projected to be 33,250 gpd.

A combination of 8-inch and 6-inch water mains and fire hydrant laterals will be required within the Project stie. These water mains, and any other CHWD appurtenances, such as fire hydrants and blow-off valves, will be located within a road right-of-way, public utility easement (PUE), or within a dedicated easement granted to CHWD (location, number, and sizing to be determined during Project planning review by the City and CHWD).

The new water mains serving the subdivision will be tied-in to the existing system at a minimum of two separate locations to provide system redundancy (locations to be determined during plan review).

Each parcel will require its own dedicated 1-inch metered water service. Any dedicated irrigation services will require a back-flow prevention device.

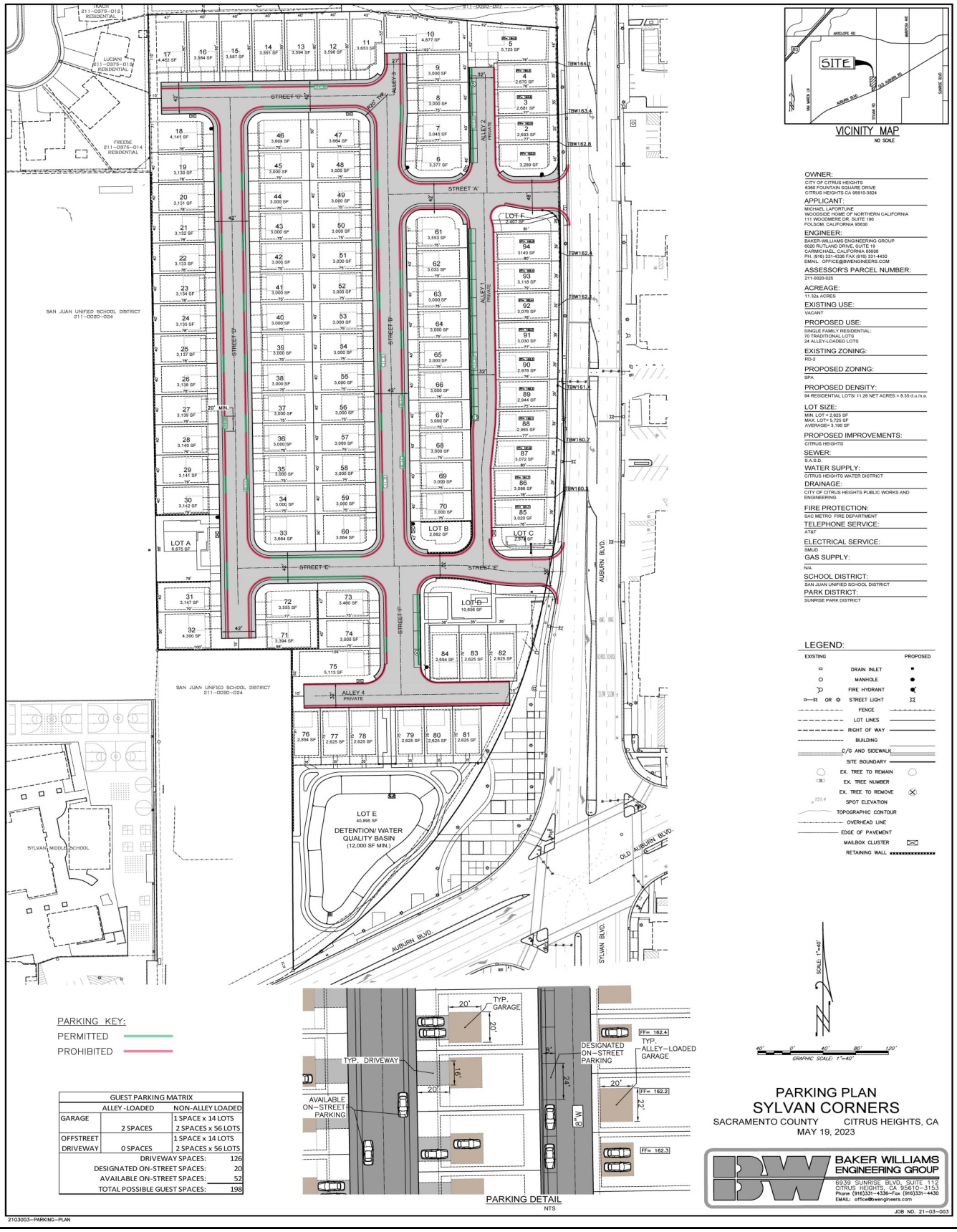


Figure 2-9. Parking Plan

2.3.3.2 Wastewater/Sewer

Sacramento Area Sewer District (SASD) will provide wastewater/sewer service. Wastewater will be treated at the Sacramento Regional Wastewater Treatment Plant (SRWTP).

2.3.3.3 Stormwater

Stormwater detention will occur at the southern tip of the site within the 40,895 square foot Open Space Lot E. The detention/water quality basin will be a minimum of 12,000 sf. The ultimate configuration and capacity of the basin will be determined based on a drainage study currently being prepared by the applicant.

2.3.3.4 Solid Waste

The City contracts with Republic Services for residential garbage, recycling, and green waste collection service. Republic Services offers weekly garbage collection, bulky waste collection, and green waste and mixed recycling collection on alternating weeks.

2.3.3.5 Electricity

Electric service will be provided by Sacramento Municipal Utility District (SMUD).

2.3.3.6 Natural Gas

There will be no natural gas serving the site.

2.3.3.7 Telephone/Cable

The primary service provider is Consolidated Communications for both telephone and cable, but other available providers include AT&T and Comcast.

2.3.4 Lighting

Street lighting shall meet minimum City standards and shall consist of fixtures along streets, sidewalks, and trails, providing sufficient illumination for vehicular and pedestrian safety. On private streets, lighting shall be provided on garages and on the backside of residential units. Outdoor lighting shall meet the following standards:

- All streetlights shall have a color temperature of 3000K or less.
- All lighting in the common areas, including open spaces, shall be certified "Dark Sky Approved" by the International Dark Sky Association.
- All lighting on private lots, whether attached to the home or free-standing, shall be certified "Dark Sky Approved" by the International Dark Sky Association

2.3.5 Fencing

The Project site will be fenced along Auburn Boulevard with a decorative open rail fence. A new six-foot cedar wood fence will be installed along the northern and western property boundaries.

2.4 Project Construction and Timing

Site grading could begin as early as October 2023, with infrastructure construction scheduled to begin in March 2024. The land development portion of the project is expected to be completed in September 2024, with completion of the construction of homes to be driven by the market. Initial construction of homes would likely begin in October 2024. Construction hours would be from 6:00 a.m. to 5:00 p.m. on weekdays and from 7:00 a.m. to 5:00 p.m. on Saturdays. The maximum depth of ground disturbance would be approximately 5 feet for site grading and 8 feet for sewer trenching.

2.5 Regulatory Requirements, Permits, and Approvals

The Project would prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the State Construction General Permit that will specify the use of appropriate Best Management Practices (BMPs) for erosion control and spill prevention during construction and permanent post-construction stormwater management measures following construction. BMPs would include perimeter straw waddles at all disturbed grading areas, inlet protection at all new and existing inlets subject to potential sediment flow, rock construction entrances and designated protected concrete washout areas. The proposed Project would also require the following approvals and regulatory permits:

- Central Valley Regional Water Quality Control Board National Pollutant Discharge Elimination System (NPDES) Permit and SWPPP
- General Plan Amendment and rezone to Special Planning Area
- Design Review Permit and Tentative Subdivision Map
- Grading Permit
- Encroachment Permit
- Tree Removal Permit
- Building Permit for site retaining walls
- Improvement Plan approval

2.6 Consultation With California Native American Tribe(s)

On July 8, 2022, the City of Citrus Heights notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the proposed Project, initiating the 30-day response window: United Auburn Indian Community of the Auburn Rancheria, Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians, and Wilton Rancheria.

On July 28, 2022, the Wilton Rancheria responded via email and requested consultation pursuant to PRC Section 21080.3.1. The Wilton Rancheria requested the opportunity to comment on the Project and copies of all record search results, geotechnical studies, concept site plans and previous studies/reports conducted for the Project area.

On August 12, 2022, the City responded and initiated consultation under Assembly Bill (AB) 52 with the Wilton Rancheria. The City included the Confidential *Cultural Resources Inventory and Evaluation* prepared by ECORP (ECORP 2022b) attached to the Initiation of Consultation under AB 52 Letter. The City invited the Wilton Rancheria to a virtual meeting via Zoom at 11 am on September 7, 2022.

On September 7, 2022, prior to the start of the proposed Zoom meeting, the Wilton Rancheria informed the City via email that the Rancheria did not need to further consult on the proposed Project. The Wilton Rancheria requested to be informed as tribal representatives should any inadvertent discoveries be made.

AB 52 consultation was concluded on September 7, 2022.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by the Project, involving at least one impact that is a *Potentially Significant Impact,* as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards/Hazardous Materials	☐ Recreation
☐ Agriculture and Forestry Resources	☐ Hydrology/Water Quality	☒ Transportation
☒ Air Quality	☐ Land Use and Planning	☒ Tribal Cultural Resources
☒ Biological Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☒ Cultural Resources	☒ Noise	☐ Wildfire
☐ Energy	☒ Paleontological Resources	☐ Mandatory Findings of Significance
☐ Geology and Soils	☐ Population and Housing	
☒ Greenhouse Gas Emissions	☐ Public Services	

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☐
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	☒
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	☐

Alison Bermudez, Senior Planner
City of Citrus Heights

July 28, 2023

THIS PAGE INTENTIONALLY LEFT BLANK

4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

4.1.1.1 Visual Character of the Project Area

Auburn Boulevard

The visual character along Auburn Boulevard is dominated by a mix of urban uses alternating with some open space and sparse-to-mature landscaping. The area surrounding the intersection of Auburn Boulevard and Greenback Lane is characterized by a mix of retail and heavy service commercial uses. Further northeast along Auburn Boulevard, the surrounding use transitions into multifamily residential on the south side and single-story office uses on the north side; this area is interspersed with some single-family homes and undeveloped lots until the corridor reaches Van Maren Lane where commercial uses, a library, and a park surround the intersection. Farther northeast along the corridor, the visual character transitions to residential, with one large commercial shopping center located southwest of the intersection with Old Auburn Road and Sylvan Road. At this intersection, Auburn Boulevard turns north and continues until it becomes Riverside Avenue at the boundary with the City of Roseville. Within that segment of the corridor, the visual character is largely commercial, with Sylvan Middle School and a cemetery located northwest of the intersection with Old Auburn Road and Sylvan Road, where the Project is proposed. Some limited single-family residential is located along this segment as well (City of Citrus Heights 2011a, 2011b).

Old Auburn Road

Old Auburn Road has a rural character that is distinct from Auburn Boulevard. This is especially true for the area located east of its intersection with Auburn Boulevard. The parcels along Old Auburn Road are large single-family lots containing tall, mature trees and landscaping. Curbs, gutters, and sidewalks along this road are intermittent, mostly occurring adjacent to newer developments, but may be absent in more established neighborhoods. Along this segment, there are a mix of uses, including churches, schools, parks, and limited commercial uses, with larger-scale commercial uses dominating the intersection of Old Auburn Road and Sunrise Boulevard. This general character of primarily single-family residential development with limited other uses and mature landscaping continues along the corridor east of Sunrise Boulevard, to the City boundary. Curbs, gutters, and sidewalks are interspersed, while unimproved pedestrian walkways are more prevalent (City of Citrus Heights 2011b).

Project Site

The Project site is a vacant lot on the northwest corner of the intersection of Auburn Boulevard and Sylvan Road. The site is mostly disturbed grasses and dirt with scattered oak trees throughout the central and southern portions. The Project site is bounded on the east and south ends by Auburn Boulevard. Sylvan Middle School is immediately adjacent to the southwest corner of the site. School baseball fields border

the Project site along most of the western side. Single-family residential uses abut the northwest corner. Sylvan Cemetery abuts the Project site along the eastern portion of the northern boundary.

4.1.2 Regulatory Setting

Laws and regulations relevant to the proposed Project are presented below.

4.1.2.1 Local

Citrus Heights General Plan

The following policies and actions from the Draft General Plan are intended to enhance visual character of the community:

- 3.4: Enhance the visual quality of City neighborhoods.
- 10.1: Require superior architectural and functional site design features for new development Projects along major corridors.
- 19.1: Promote improvements to major corridors to make them more distinctive and inviting. Encourage installation and maintenance of landscaping in median and street frontages along arterial roadways.
- 19.3: Require landscaping on commercial, residential, and institutional uses adjacent to all public street frontages.
- 19.4: Monitor and enforce the maintenance of landscaping on private property along major corridors.
- 36.1: Incorporate existing trees into development Projects. Avoid adverse effects on health and longevity of native oaks or other significant trees through appropriate design measures and construction practices. When tree preservation is not possible, require appropriate tree replacement.
- 39.3: Require buildings to conform to existing natural topography, and minimize cutting and filling.

4.1.3 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

No Impact.

A scenic vista is generally defined as an expansive view of a highly valued landscape observable from a publicly accessible vantage point. In the Project vicinity, publicly accessible vantage points are limited to

public roads. Views along Auburn Boulevard, Old Auburn Road, and Sylvan Road are of the existing development present in the area. There are no long-range views of scenic vistas available in the Project vicinity. As the Project site does not contribute to any scenic vistas, the proposed Project would have no impacts to any scenic vistas.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒

No Impact.

Scenic resources are physical features that provide scenic value to a Project site and its surroundings. These typically include topographic, geologic, hydrologic, and biological resources (for example, hills, rock outcroppings, creeks, woodlands, or landmark trees). The site does not provide substantial scenic resources. There are no state-designated or eligible scenic highways or routes in the Project vicinity. There would be no impact.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the Project is in an urbanized area, would the Project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Less than Significant Impact.

The site is in an area that contains a mixture of residential development on a variety of lot sizes, retail/office uses, a school, and a cemetery. The design of the proposed 94 single-family residences will be reviewed for consistency with the City's design guidelines. The Project would not cause a detriment to the visual identity and character of surrounding land uses, and this impact would be less than significant.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Less than Significant Impact.

Street light fixtures will be provided along the roadways consistent with City Standards. Lighting for the future homes will be reviewed during the Design Review Permit. All lighting will be required to comply with Zoning Code requirements and be shielded and directed downwards to ensure that light does not spill onto neighboring properties or adversely affect nighttime views. This would ensure that the Project would result in a less than significant impact associated with Project site lighting.

4.1.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

Citrus Heights is located in a primarily urbanized area of northern Sacramento County, adjacent to the southern boundary of Placer County and the City of Roseville. The suburban unincorporated communities of Orangevale, Fair Oaks, Carmichael, Foothill Farms, and Antelope surround the City. Citrus Heights is approximately 98% built out, making very little vacant land available for development. Existing land uses within the City are dominated by suburban residential development ranging in allowable densities, followed by commercial development, industrial development, open space, and public land uses. The City does not contain any land that supports commercial agricultural operations. Agricultural uses in Citrus Heights are limited to hobby farming and the keeping of animals in the more rural residential areas of the City, as long as these uses are in harmony with the character of these rural neighborhoods. These areas are comprised of primarily large lots that can accommodate such uses and are designated as Very Low Density Residential in the Draft General Plan. Agriculture is also an allowable use within areas designated as Open Space (City of Citrus Heights 2011b).

4.2.2 Regulatory Setting

Laws and regulations relevant to the proposed Project are presented below.

4.2.2.1 State

Williamson Act

The Williamson Act is an agricultural conservation tool. Under the Williamson Act, local governments can enter into contracts with private property owners to protect land for agricultural and open space purposes. Citrus Heights does not contain any parcels that are protected by Williamson Acts contracts.

Farmland Mapping and Monitoring Program

The California Department of Conservation, Division of Land Resource Protection, administers the Farmland Mapping and Monitoring Program (FMMP). The program produces agricultural resource inventories and maps that rate agricultural lands based on soil quality, irrigation status, and land use

within California. These ratings are used to help prioritize farmland conservation efforts. The inventories and maps are updated every two years and were last updated in 2008. The FMMP uses the term "Important Farmland" to describe parcels that meet certain criteria. There is no Important Farmland in Citrus Heights (City of Citrus Heights 2011b).

4.2.3 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒

No Impact.

The Project site is located in an urban area and is currently vacant. The site is identified as Urban and Built-Up Land by the California Department of Conservation and is not designated as prime farmland, unique farmland, or farmland of statewide importance. Further, the Project site is not under a Williamson Act contract (Department of Conservation 2018). The site is not planned for or used for any agricultural purposes. The construction of the proposed Project would not result in the conversion of any agricultural land, conflict with any agricultural use, or conflict with a Williamson Act contract. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No Impact.

See response to 4.2.3 a). There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒

No Impact.

The Project site is not zoned as forest land, does not contain forest land or forest resources, and does not support any forest uses. The construction of the proposed Project would not result in the conversion of any forest land to a non-forest use. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

See response to 4.2.3 c). There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No Impact.

As discussed above, the site is located an in urban area and does not support any farmland, agricultural, or forest uses. Construction of the proposed Project at the Project site would not result in conversion of any farm, agricultural, or forest land to non-agricultural or non-forest uses.

4.2.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.3 Air Quality

This section is based in part on the results of the Air Quality and Greenhouse Gas Assessment performed by ECORP Consulting, Inc. in October 2022 (ECORP 2022a; Appendix A). This assessment was prepared using methods and assumptions recommended in the rules and regulations of the Sacramento Metropolitan Air Quality Management District (SMAQMD). Regional and local existing conditions are presented, along with pertinent pollutant emissions standards and regulations. The purpose of this assessment is to estimate criteria air pollutants attributable to the Project and determine the level of impact the Project would have on the environment.

4.3.1 Environmental Setting

Air quality in a region is determined by its topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the Sacramento Valley Air Basin (SVAB), which encompasses the Project Site, pursuant to the regulatory authority of the SMAQMD.

Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The air basin is subject to a combination of topographical and climatic factors that reduce the potential for high levels of regional and local air pollutants. The following section describes the pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

4.3.1.1 Sacramento Valley Air Basin

The California Air Resources Board (CARB) divides the State into air basins that share similar meteorological and topographical features. The Project site lies in the SVAB, which is comprised of all of Butte, Colusa, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties and parts of Solano and Placer County. The air basin is relatively flat, bordered by mountains to the east, west, and north and by the San Joaquin Valley to the south. Air flows into the SVAB through the Carquinez Strait, moving across the Sacramento Delta, and bringing pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storm systems. From May to October, the region's intense heat and sunlight lead to high ozone pollutant concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Meteorological Influences on Air Quality

Regional flow patterns affect air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions, such as moderate winds, disperse pollutants and reduce pollutant concentrations. However, the mountains surrounding the SVAB can create a barrier to airflow, which can trap air pollutants in the valley when meteorological conditions are right and a temperature inversion exists. The highest frequency of air stagnation occurs in the autumn and early winter when large high-

pressure cells lie over the valley. The lack of surface wind during these periods and the reduced vertical air flow caused by less surface heating reduces the influx of outside air and allows air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with smoke from agricultural burning or when temperature inversions trap cool air, fog, and pollutants near the ground.

The ozone season (May through October) in the valley is characterized by stagnant morning air or light winds, with the delta sea breeze arriving in the afternoon out of the southwest. Usually, the evening breeze transports the airborne pollutants to the north out of the valley. During about half of the days from July to September, however, a phenomenon called the Schultz Eddy prevents this from occurring. Instead of allowing the prevailing wind patterns to move north and carry the pollutants out of the valley, the Schultz Eddy causes the wind pattern to circle back south. This phenomenon exacerbates the pollution levels in the area and increases the likelihood of exceeding federal or state standards.

4.3.1.2 Criteria Air Pollutants

Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health with a determined margin of safety. Ozone (O_3), coarse particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$) are generally considered to be regional pollutants because they or their precursors affect air quality on a regional scale. Pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) are considered to be local pollutants because they tend to accumulate in the air locally. Particulate Matter (PM) is also considered a local pollutant. Health effects commonly associated with criteria pollutants are summarized in Table 4.3-1.

Table 4.3-1. Criteria Air Pollutants – Summary of Common Sources and Effects

Pollutant	Major Manmade Sources	Human Health & Welfare Effects
CO	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
NO_2	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Causes brown discoloration of the atmosphere.
O_3	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (N_2O) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.

Table 4.3-1. Criteria Air Pollutants – Summary of Common Sources and Effects		
Pollutant	**Major Manmade Sources**	**Human Health & Welfare Effects**
PM_{10} & $PM_{2.5}$	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
SO_2	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, and locomotives.	Respiratory irritant. Aggravates lung and heart problems. Can damage crops and natural vegetation. Impairs visibility.

Source: California Air Pollution Control Officers Association (CAPCOA 2013)

Carbon Monoxide

CO in the urban environment is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high concentrations of CO are typically found near crowded intersections and along heavy roadways with slow moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within relatively short distances of the source. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SVAB are in compliance with the state and federal one- and eight-hour standards.

Nitrogen Oxides

Nitrogen gas comprises about 80 percent of the air and is naturally occurring. At high temperatures and under certain conditions, nitrogen can combine with oxygen to form several different gaseous compounds collectively called nitric oxides (NO_x). Motor vehicle emissions are the main source of NO_x in urban areas. NO_x is very toxic to animals and humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membrane, and skin. In animals, long-term exposure to NO_x increases susceptibility to respiratory infections, and lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations can suffer from lung irritation or possible lung damage. Precursors of NO_x, such as Nitrogen Oxide (NO) and NO_2, attribute to the formation of O_3 and $PM_{2.5}$. Epidemiological studies have also shown associations between NO_2 concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

Ozone

O_3 is a secondary pollutant, meaning it is not directly emitted. It is formed when Volatile Organic Compounds (VOCs) or ROGs and NO_x undergo photochemical reactions that occur only in the presence of sunlight. The primary source of ROG emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. NO_x forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level O_3 to form. Ground-level O_3 is the primary constituent of smog. Because O_3 formation occurs over extended periods of time, both O_3 and its precursors are transported by wind and high O_3 concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when O_3 levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level O_3 exposure to a variety of problems including lung irritation, difficult breathing, permanent lung damage to those with repeated exposure, and respiratory illnesses.

Particulate Matter

PM includes both aerosols and solid particulates of a wide range of sizes and composition. Of concern are those particles smaller than or equal to 10 microns in diameter size (PM_{10}) and small than or equal to 2.5 microns in diameter ($PM_{2.5}$). Smaller particulates are of greater concern because they can penetrate deeper into the lungs than larger particles. PM_{10} is generally emitted directly as a result of mechanical processes that crush or grind larger particles or form the resuspension of dust, typically through construction activities and vehicular travel. PM_{10} generally settles out of the atmosphere rapidly and is not readily transported over large distances. $PM_{2.5}$ is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including NO_x, sulfur oxides (SO_x) and VOCs. $PM_{2.5}$ can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne PM are on the respiratory system. Short-term exposure of high $PM_{2.5}$ and PM_{10} levels are associated with premature mortality and increased hospital admissions and emergency room visits. Long-term exposure is associated with premature mortality and chronic respiratory disease. According to the U.S. Environmental Protection Agency (USEPA), some people are much more sensitive than others to breathing PM_{10} and $PM_{2.5}$. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM_{10} and $PM_{2.5}$. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

4.3.1.3 Toxic Air Contaminants

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For regulatory purposes, carcinogenic TACs are assumed to have no safe threshold below which health impacts would not occur, and cancer risk is

expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

There are many different types of TACs, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Public exposure to TACs can result from emissions from normal operations, as well as from accidental releases of hazardous materials during upset conditions. The health effects of TACs include cancer, birth defects, neurological damage, and death.

Most recently, CARB identified Diesel Particulate Matter (DPM) as a TAC. DPM differs from other TACs in that it is not a single substance but rather a complex mixture of hundreds of substances. Diesel exhaust is a complex mixture of particles and gases produced when an engine burns diesel fuel. DPM is a concern because it causes lung cancer; many compounds found in diesel exhaust are carcinogenic. DPM includes the particle-phase constituents in diesel exhaust. The chemical composition and particle sizes of DPM vary between different engine types (heavy-duty, light-duty), engine operating conditions (idle, accelerate, decelerate), fuel formulations (high/low sulfur fuel), and the year of the engine (USEPA 2002). Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation, and diesel exhaust can cause coughs, headaches, light-headedness, and nausea. DPM poses the greatest health risk among the TACs; due to their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung.

4.3.1.4 Ambient Air Quality

Ambient air quality at the Project Site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region. As described in detail below, the region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019). The Sacramento-Del Paso Manor air monitoring station (2701 Avalon Drive, Sacramento), located approximately 7.03 miles southwest of the Project site, monitors ambient concentrations of O_3, PM_{10}, and $PM_{2.5}$. Ambient emissions concentrations vary due to localized variation in emissions sources and climate conditions, but the concentrations from this air quality monitoring station should be considered "generally" representative of ambient concentrations in the Project Area.

Table 4.3-2 summarizes the published data concerning O_3, $PM_{2.5}$ and PM_{10} from the Sacramento-Del Paso Manor monitoring station. O_3, PM_{10} and $PM_{2.5}$ are the pollutant species most potently affecting the Project region.

Table 4.3-2. Summary of Ambient Air Quality Data			
Pollutant Standards	**2019**	**2020**	**2021**
O_3 - Sacramento-Del Paso Manor Monitoring Station			
Max 1-hour concentration (ppm)	0.087	0.120	0.110
Max 8-hour concentration (ppm)	0.069	0.085	0.091
Number of days above 1-hour standard (state)	0	4	7
Number of days above 8-hour standard (state/federal)	0 / 0	10 / 10	18 / 17
PM_{10} - Sacramento-Del Paso Manor Monitoring Station			
Max 24-hour concentration (µg/m^3) (state/federal)	110.4 / 53.0	190.0 / 188.0	63.0 / 63.0
Number of days above 24-hour standard (state/federal)	* / *	* / 6.1	* / *
$PM_{2.5}$ - Sacramento-Del Paso Manor Monitoring Station			
Max 24-hour concentration (µg/m^3) (state/federal)	41.4 / 41.4	147.3 / 147.3	95.4 / 90.0
Number of days above federal 24-hour standard	3.0	28.1	5.0

Source: CARB 2022
Note: µg/m^3 = micrograms per cubic meter; ppm = parts per million
* = Insufficient data available

The USEPA and CARB designate air basins or portions of air basins and counties as being in "attainment" or "nonattainment" for each of the criteria pollutants. Areas that do not meet the standards are classified as nonattainment areas. The National Ambient Air Quality Standards (NAAQS) (other than O_3, PM_{10} and $PM_{2.5}$ and those based on annual averages or arithmetic mean) are not to be exceeded more than once per year. The NAAQS for O_3, PM_{10}, and $PM_{2.5}$ are based on statistical calculations over one- to three-year periods, depending on the pollutant. The California Ambient Air Quality Standards (CAAQS) are not to be exceeded during a three-year period. The attainment status for the Sacramento County portion of the SVAB, which encompasses the Project Site, is included in Table 4.3-3.

Table 4.3-3. Attainment Status of Criteria Pollutants in the Sacramento County Portion of the SVAB		
Pollutant	**State Designation**	**Federal Designation**
O_3	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Attainment	Nonattainment
CO	Attainment	Unclassified/Attainment
NO_2	Attainment	Unclassified/Attainment
SO_2	Attainment	Unclassified/Attainment

Source: CARB 2019

The determination of whether an area meets the state and federal standards is based on air quality monitoring data. Some areas are unclassified, which means there is insufficient monitoring data for determining attainment or nonattainment. Unclassified areas are typically treated as being in attainment. Because the attainment/nonattainment designation is pollutant-specific, an area may be classified as nonattainment for one pollutant and attainment for another. Similarly, because the state and federal standards differ, an area could be classified as attainment for the federal standards of a pollutant and as nonattainment for the state standards of the same pollutant. The region is designated as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3 and PM_{10} (CARB 2019).

4.3.1.5 Sensitive Receptors

Sensitive receptors are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include residences directly adjacent to the northwest corner of the Project site boundary, fronting Fairytale Street and Tartanilla Circle. Another sensitive receptor is Sylvan Middle School, which is located directly adjacent to the Project Area, on the southwest corner of the site.

4.3.2 Regulatory Setting

4.3.2.1 Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the USEPA to establish the NAAQS, with states retaining the option to adopt more stringent standards or to include other specific

pollutants. On April 2, 2007, the Supreme Court found that carbon dioxide (CO_2) is an air pollutant covered by the CAA; however, no NAAQS have been established for CO_2.

These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those "sensitive receptors" most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has classified air basins (or portions thereof) as being in attainment, nonattainment, or unclassified for each criteria air pollutant, based on whether or not the NAAQS have been achieved. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. Table 4.3-3 lists the federal attainment status of the SVAB for the criteria pollutants.

4.3.2.2 State

California Clean Air Act

The California Clean Air Act (CCAA) allows the State to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. CARB, a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB also has primary responsibility for the development of California's State Implementation Plan (SIP), for which it works closely with the federal government and the local air districts.

California State Implementation Plan

The federal CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the SIP. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. To comply with California law, the SMAQMD has rolled out a series of air quality plans and reports that constitute the SIP for the

Sacramento County portion of the SVAB. The most recent report, the *2021 Sacramento County Second 10-Year PM_{10} Maintenance Plan* as a comprehensive strategy to update emission inventories, demonstrates maintenance efforts and updated control measures, and establishes new motor vehicle emission budgets. Additional plans include the SMAQMD *2017 Sacramento Regional 2008 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (including 2018 updates) and the *$PM_{2.5}$ Implementation/Maintenance Plan and Re-designation Request for Sacramento $PM_{2.5}$ Nonattainment Area* (SMAQMD 2013). These air quality planning documents present comprehensive strategies to reduce the O_3 precursor pollutants (ROG and NOx) as well as PM emissions from stationary, area, mobile, and indirect sources.

Tanner Air Toxics Act & Air Toxics "Hot Spots" Information and Assessment Act

CARB's statewide comprehensive air toxics program was established in 1983 with Assembly Bill (AB) 1807, the Toxic Air Contaminant Identification and Control Act (Tanner Air Toxics Act of 1983). AB 1807 created California's program to reduce exposure to air toxics and sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an airborne toxics control measure for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions.

CARB also administers the State's mobile source emissions control program and oversees air quality programs established by state statute, such as AB 2588, the Air Toxics "Hot Spots" Information and Assessment Act of 1987. Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, required to communicate the results to the public in the form of notices and public meetings. In September 1992, the "Hot Spots" Act was amended by Senate Bill (SB) 1731, which required facilities that pose a significant health risk to the community to reduce their risk through a risk management plan.

4.3.2.3 Local

Sacramento Metropolitan Air Quality Management District

The SMAQMD is the air pollution control agency for Sacramento County, including the Project Site. The agency's primary responsibility is ensuring that the NAAQS and CAAQS are attained and maintained in the Sacramento County portion of the SVAB. The SMAQMD coordinates the work of government agencies, businesses, and private citizens to achieve and maintain healthy air quality for the Sacramento area. The SMAQMD develops market-based programs to reduce emissions associated with mobile sources, processes permits, ensures compliance with permit conditions and with SMAQMD rules and regulations, and conducts long-term planning related to air quality. The SMAQMD is also responsible for adopting and enforcing rules and regulations concerning air pollutant sources, issuing permits for stationary sources of air pollutants, inspecting stationary sources of air pollutants, responding to citizen complaints, monitoring ambient air quality and meteorological conditions, awarding grants to reduce motor vehicle emissions, and conducting public education campaigns, as well as many other activities.

The following is a list of noteworthy SMAQMD rules that are required of construction activities associated with the Proposed Project:

- **Rule 201: General Permit Requirements.** Any project that includes the use of equipment capable of releasing emissions to the atmosphere may require permit(s) from SMAQMD prior to equipment operation. The applicant, developer, or operator of a project that includes an emergency generator, boiler, or heater should contact the SMAQMD early to determine if a permit is required, and to begin the permit application process. Other general types of uses that require a permit include, but are not limited to, dry cleaners, gasoline stations, spray booths, and operations that generate airborne particulate emissions. Portable construction equipment (e.g. generators, compressors, pile drivers, lighting equipment) with an internal combustion engine over 50 horsepower is required to have a SMAQMD permit or a CARB portable equipment registration.
- **Rule 402: Nuisance.** The purpose of this rule is to limit emissions which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have natural tendency to cause injury or damage to business or property.
- **Rule 403: Fugitive Dust.** The purpose of this rule is to require that reasonable precautions be taken so as not to cause or allow the emissions of fugitive dust from non-combustion sources from being airborne beyond the property line from which the emission originates.
- **Rule 442: Architectural Coatings.** The purpose of this rule is to limit the emissions of volatile organic compounds from the use of architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the SMAQMD.

4.3.2.4 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to air quality if it would do any of the following:

1) Conflict with or obstruct implementation of any applicable air quality plan.

2) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

3) Expose sensitive receptors to substantial pollutant concentrations.

4) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people).

Sacramento Metropolitan Air Quality Management District Thresholds

The significance criteria established by the applicable air quality management or air pollution control district (SMAQMD) may be relied upon to make the above determinations. According to the SMAQMD, an

air quality impact is considered significant if the Proposed Project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The SMAQMD has established thresholds of significance for air quality for construction and operational activities of land use development projects such as that proposed, as shown in Table 4.3-4.

Table 4.3-4. SMAQMD Regional Significance Thresholds

Air Pollutant	Construction Activities		Operations	
Reactive Organic Gas	-		65 pounds/day	
Carbon Monoxide	-		-	
Nitrogen Oxide	85 pounds/day		65 pounds/day	
Sulfur Oxide	-		-	
Coarse Particulate Matter (PM_{10})	*80 pounds/day (If all feasible BACT/BMP applied)	*14.6 tons/year	*80 pounds/day (If all feasible BACT/BMP applied)	*14.6 tons/year
Fine Particulate Matter ($PM_{2.5}$)	*82 pounds/day (If all feasible BACT/BMP applied)	*15 tons/year	*82 pounds/day (If all feasible BACT/BMP applied)	*15 tons/year

Source: SMAQMD 2020
Notes: BACT= Best Available Control Technology; BMP = best management practices
* = The allowable threshold level is 0 pounds/day or 0 tons/year unless all SMAQMD recommended BACT/BMP are implemented.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

4.3.2.5 Methodology

Air quality impacts were assessed in accordance with methodologies recommended by the SMAQMD. Where criteria air pollutant quantification was required, emissions were modeled using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. Project construction-generated air pollutant emissions were calculated using CalEEMod model defaults for Sacramento County. Operational air pollutant emissions were based on the Project site Plans and traffic trip generation rates from the *Transportation Impact Analysis* conducted by Fehr & Peers (2022a).

4.3.3 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Less than Significant Impact.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously mentioned, the Project site is located within the SVAB, which is under the jurisdiction of the SMAQMD. SMAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SVAB is in nonattainment. The SMAQMD is required to submit air quality plans and rate-of-progress milestone evaluations in accordance with the federal Clean Air Act. The SMAQMD air quality attainment plans and reports, which include the *2017 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (SMAQMD 2018), *2021 Sacramento County Second 10-Year PM_{10} Maintenance Plan*, and *$PM_{2.5}$ Implementation/Maintenance Plan and Re-designation Request for Sacramento $PM_{2.5}$ Nonattainment Area* (SMAQMD 2013), present comprehensive strategies to reduce the O_3 precursor pollutants (ROG and NO_x) as well as PM emissions from stationary, area, mobile, and indirect sources.

A project is consistent with regional air quality planning efforts in part if it is consistent with the population and housing assumptions that were used in the development of the SMAQMD air quality plans and does nothing to inhibit the region's achievement of air quality standards. The Project Site is proposing a General Plan Amendment and Rezone to a Special Planning Area (SPA) in order to facilitate the development of the proposed single family residential neighborhood. The Site is currently vacant land with no current structures and is zoned RD-2, which is used for large lots that may contain a variety of uses like single-family housing, hobby farming, public uses, and similar uses. According to the Citrus Heights General Plan: Chapter 2 Community Development, Goal 25, the City will promote the development of a variety of housing types, including on vacant or underutilized lands, while ensuring the compatibility of adjacent land uses. Thus, the Project complies with the anticipated housing needs in Citrus Heights and supports the goals of the General Plan. The surrounding land uses are residential, commercial, and public-school use. Therefore, the Project, which proposes the construction of 94 single-family housing units, can be identified for its "location efficiency." Location efficiency describes the location of the Project relative to the type of urban landscape its proposed to fit within. In general,

compared to the statewide average, a project with location efficiency can realize automotive vehicle miles traveled (VMT) reductions between 10 and 65 percent (CAPCOA 2021). The Project would locate residential land uses in close proximity to existing offsite commercial and restaurant uses, thereby providing commercial and work options to Project residents. The location efficiency of the Project site would result in synergistic benefits that would reduce vehicle trips and VMT compared to the statewide average and would result in corresponding reductions in transportation-related emissions, a primary goal of the SMAQMD air quality planning effort.

Additionally, as shown in Table 4.3-5 and 4.3-6, below, all Project emissions would be under the SMAQMD significance thresholds.

Therefore, the Project would be consistent with the goals of local air quality planning.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

4.3.3.1 Project Construction-Generated Criteria Air Quality Emissions

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation.

Construction-generated emissions associated the proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. See Attachment A for more information regarding the construction assumptions, including construction equipment and duration, used in this analysis. Construction activities would be subject to Mitigation Measure AQ-1, which would implement the SMAQMD's Basic Construction Emission Control Practices, known as Best Management Practices (BMPs) during the Project's construction. The application of AQ-1 ensures that the construction of the Project will not have significant air quality impacts.

Predicted maximum daily construction-generated emissions for the proposed Project are summarized in Table 4.3-5. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SMAQMD's thresholds of significance.

Table 4.3-5. Construction-Related Emissions

Construction Year	Pollutant					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Daily (pounds per day)						
Construction Year One	10.1	34.5	35.1	0.1	10.2	5.7
Construction Year Two	10.0	25.2	34.9	0.1	1.6	1.2
Construction Year Three	9.8	23.1	34.7	0.1	1.5	1.1
SMAQMD Significance Threshold	-	*85 pounds/day*	-	-	**80 pounds/day (If all feasible BACT/BMP applied)*	**82 pounds/day (If all feasible BACT/BMP applied)*
Exceed SMAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual (tons per year)						
Construction Year One	0.2	1.0	1.0	0.0	0.2	0.1
Construction Year Two	1.3	3.3	4.5	0.0	0.2	0.2
Construction Year Three	0.1	0.1	0.2	0.0	0.0	0.0
SMAQMD Significance Threshold	-	-	-	-	**14.6 tons/year*	**15 tons/year*
Exceed SMAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment A of Appendix A for Model Data Outputs.
Notes: Emission reduction/credits for construction emissions are applied based on the required implementation of SMAQMD Rule 403. The specific Rule 403 measures applied in CalEEMod include sweeping/cleaning adjacent roadway access areas daily, water exposed surfaces twice daily, and limit speeds on unpaved roads to 15 miles per hour. Emissions taken of the season, summer or winter, with the highest outputs. Building construction, paving and painting assumed to occur simultaneously.
* = The allowable threshold level is 0 pounds/day or 0 tons/year unless all SMAQMD recommended BACT/BMP are implemented.

As shown in Table 4.3-5, emissions generated during Project construction would not exceed the SMAQMD's daily or annual thresholds of significance with the implementation of mitigation measure AQ-1. This mitigation measure ensures that the SMAQMD's BACT/BMPs are met which, according to air

district regulations, allows the particulate matter significance threshold to be non-zero (allowing PM_{10} to be 80 pounds/day or 14.6 tons/year and $PM_{2.5}$ to be 82 pounds/day or 15 tons/year). Without the implementation of AQ-1, the Project's construction emissions would be over the threshold of 0 pounds/day and thus have a significant effect. The City of Citrus Height's General Plan: Community Health Element, Policy 53.1 promotes the thresholds and standards set out by the SMAQMD and ensures the enforcement of the air pollution control measures during construction periods. With AQ-1, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard, and no health effects from Project criteria pollutants would occur.

4.3.3.2 Project Operation-Generated Criteria Air Quality Emissions

Implementation of the Project would result in long-term operational emissions of criteria air pollutants such as PM_{10}, $PM_{2.5}$, CO, and SO_2 as well as O_3 precursors such as ROGs and Nitric Oxide (NO_X). Project-generated increases in emissions would be predominantly associated with motor vehicle use. As previously described, operational air pollutant emissions were based on the Project Site plans and traffic trip generation rates from Fehr and Peers (2022a). Long-term operational emissions attributable to the Project are identified in Table 2-6 and compared to the operational significance thresholds promulgated by the SMAQMD. The PM_{10} and $PM_{2.5}$ non-zero thresholds are reliant on the implementation of the SMAQMD's BACT/BMPs for land use development project operations. The following are the recommendations made by the SMAQMD for land use development project operations:

- Compliance with District rules that control operational PM and NOx emissions. Reference rules regarding wood burning devices, boilers, water heaters, generators and other PM control rules that may apply to equipment to be located at the project.
- Compliance with mandatory measures in the California Building Energy Efficiency Standards (Title 24, Part 6) that pertain to efficient use of energy at a residential or non-residential land use.
- Compliance with mandatory measures in the California Green Building Code (Title 24, Part 11). Current mandatory measures related to operational PM include requirements for bicycle parking, parking for fuel efficient vehicles, electric vehicle charging, and fireplaces for non-residential projects. Residential project measures include requirements for electric vehicle charging and fireplaces.

The proposed Project will comply with the above recommendations in order to justify the use of a non-zero operational threshold for PM_{10} and $PM_{2.5}$. As seen by Table 4.3-6, the air pollutant concentrations are below the SMAQMD significance threshold for the Project.

Table 4.3-6. Operational-Related Emissions						
Emission Source	**Pollutant (pounds per day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer Emissions						
Area	4.4	0.1	7.7	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	2.2	2.2	18.0	0.0	3.7	1.0
Total:	**6.6**	**2.3**	**25.7**	**0.0**	**3.7**	**1.0**
SMAQMD Significance Threshold	*65 pounds/day*	*65 pounds/day*	-	-	**80 pounds/day*	**82 pounds/day*
Exceed SMAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions						
Area	4.4	0.1	7.7	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	1.8	2.5	17.8	0.0	3.7	1.0
Total:	**6.2**	**2.6**	**25.5**	**0.0**	**3.7**	**1.0**
SMAQMD Significance Threshold	*65 pounds/day*	*65 pounds/day*	-	-	**80 pounds/day*	**82 pounds/day*
Exceed SMAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes: Emission projections predominately based on CalEEMod model defaults for Sacramento County. Average daily vehicle trips provided by Fehr & Peers (2022a).
* = The allowable threshold level is 0 pounds/day or 0 tons/year unless all SMAQMD recommended BACT/BMP are implemented.
Source: CalEEMod version 2020.4.0. Refer to Attachment A of Appendix A for Model Data Outputs.

As shown in Table 4.3-6, the Project's emissions would not exceed any SMAQMD thresholds for any criteria air pollutants during operation.

As identified in Table 4.3-3, the Sacramento County portion of the SVAB is listed as a nonattainment area for federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3, and PM_{10} (CARB 2019). O_3 is a health threat to persons who already suffer from respiratory diseases and can cause severe ear, nose and throat irritation and increases susceptibility to respiratory infections. PM can adversely affect the human respiratory system. As shown in Table 4.3-6, the proposed Project would result

in increased emissions of the O_3 precursor pollutants ROG and NOx, PM_{10}, and $PM_{2.5}$. However, the correlation between a project's emissions and increases in nonattainment days, or frequency or severity of related illnesses, cannot be accurately quantified. The overall strategy for reducing air pollution and related health effects in the SMAQMD is contained in the SMAQMD *2017 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2018), *2021 Sacramento County Second 10-Year PM_{10} Maintenance Plan*, and *$PM_{2.5}$ Implementation/Maintenance Plan and Re-designation Request for Sacramento $PM_{2.5}$ Nonattainment Area* (SMAQMD 2013). These air quality planning documents present comprehensive strategies to reduce the O_3 precursor pollutants (ROG and NOx) as well as PM emissions from stationary, area, mobile, and indirect sources. Each of these air quality planning documents provide control measures that reduce emissions to attain and maintain federal ambient air quality standards such as the application of available cleaner technologies, best management practices, incentive programs, as well as development and implementation of zero and near-zero technologies and control methods. The CEQA thresholds of significance established by the SMAQMD are designed to meet the objectives of these air quality planning documents and in doing so achieve and maintain attainment status with state and federal standards. As noted above, the Project would increase the emission of certain pollutants, but would not exceed the thresholds of significance established by the SMAQMD for purposes of reducing air pollution and its deleterious health effects.

Impacts to criteria pollutants would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than Significant Impact.

As previously described, sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over age 65, children under age 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptors to the Project Site include residences directly adjacent to the northwestern Project site boundary and the directly adjacent Sylvan Middle School to the southwest of the site.

4.3.3.3 Construction-Generated Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NOx, CO, and PM_{10} from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; and other miscellaneous activities. The Sacramento County portion of the SVAB is listed as a nonattainment area for the federal O_3 and $PM_{2.5}$ standards and is also a nonattainment area for the state standards for O_3 and

PM_{10}. Thus, existing O_3, PM_{10} and $PM_{2.5}$ levels in the SVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-5 the Project would not exceed the SMAQMD significance thresholds for construction emissions.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in O_3 precursor emissions (ROG or NOx) in excess of the SMAQMD thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve construction activities that would result in CO emissions in excess of the SMAQMD thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the primary TAC of concern. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. As with O_3 and NOx, the Project would not generate emissions of PM_{10} or $PM_{2.5}$ that would exceed the SMAQMD's thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, Project construction would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

4.3.3.4 Operational Air Contaminants

Operation of the proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project; nor would the Project attract additional mobile sources that spend long periods queuing and idling at the site. Onsite Project emissions would not result in significant concentrations of pollutants at nearby sensitive receptors. The Project would not have a high carcinogenic or non-carcinogenic risk during operation.

4.3.3.5 Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of

high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the Sacramento County portion of the SVAB is designated as in attainment. Detailed modeling of Project-specific CO "hot spots" is not necessary and thus this potential impact is addressed qualitatively.

A CO "hot spot" would occur if an exceedance of the state one-hour standard of 20 Parts Per Million (ppm) or the eight-hour standard of 9 ppm were to occur. The analysis prepared for CO attainment in the South Coast Air Quality Management District's (SCAQMD's) *1992 Federal Attainment Plan for Carbon Monoxide* in Los Angeles County and a Modeling and Attainment Demonstration prepared by the SCAQMD as part of the 2003 Air Quality Management Plan can be used to demonstrate the potential for CO exceedances of these standards. The SCAQMD is the air pollution control officer for much of southern California. The SCAQMD conducted a CO hot spot analysis as part of the 1992 CO Federal Attainment Plan at four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The intersections evaluated included Long Beach Boulevard and Imperial Highway (Lynwood), Wilshire Boulevard and Veteran Avenue (Westwood), Sunset Boulevard and Highland Avenue (Hollywood), and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. Despite this level of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992). In order to establish a more accurate record of baseline CO concentrations affecting the Los Angeles, a CO "hot spot" analysis was conducted in 2003 at the same four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards. The highest one-hour concentration was measured at 4.6 ppm at Wilshire Boulevard and Veteran Avenue and the highest eight-hour concentration was measured at 8.4 ppm at Long Beach Boulevard and Imperial Highway. Thus, there was no violation of CO standards.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD), the air pollution control officer for the San Francisco Bay Area, concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a significant CO impact.

The proposed Project is anticipated to result in 680 daily traffic trips (Fehr and Peers 2022a). Thus, the proposed Project would not generate traffic volumes at any intersection of more than 100,000 vehicles per day (or 44,000 vehicles per day) and there is no likelihood of the Project traffic exceeding CO values.

Impacts to sensitive receptors from Project construction and operational pollutant concentrations would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than Significant Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

During construction, the proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

According to the SMAQMD, land uses commonly considered to be potential sources of obnoxious odorous emissions include wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, petroleum refineries, chemical manufacturing plants, painting/coating

operations, rendering plants, and food packaging plants. The proposed Project does not include any uses identified by the SMAQMD as being associated with odors.

Impacts from odors during Project construction and operation would be less than significant.

4.3.4 Mitigation Measures

AQ-1: Implement SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust.

The implementing agency will require the construction contractor(s) to implement basic and enhanced control measures to reduce construction-related fugitive dust as a standard or specification of their contract. The following measures are required for the entirety of the construction area. The implementing agency will ensure, through contract provisions and specifications, that the contractor adheres to the mitigation measures before and during construction and documents compliance with the adopted mitigation measures.

- Control of fugitive dust is required by District Rule 403 and enforced by District staff.
- Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
- Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
- Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
- Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
- All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

4.4 Biological Resources

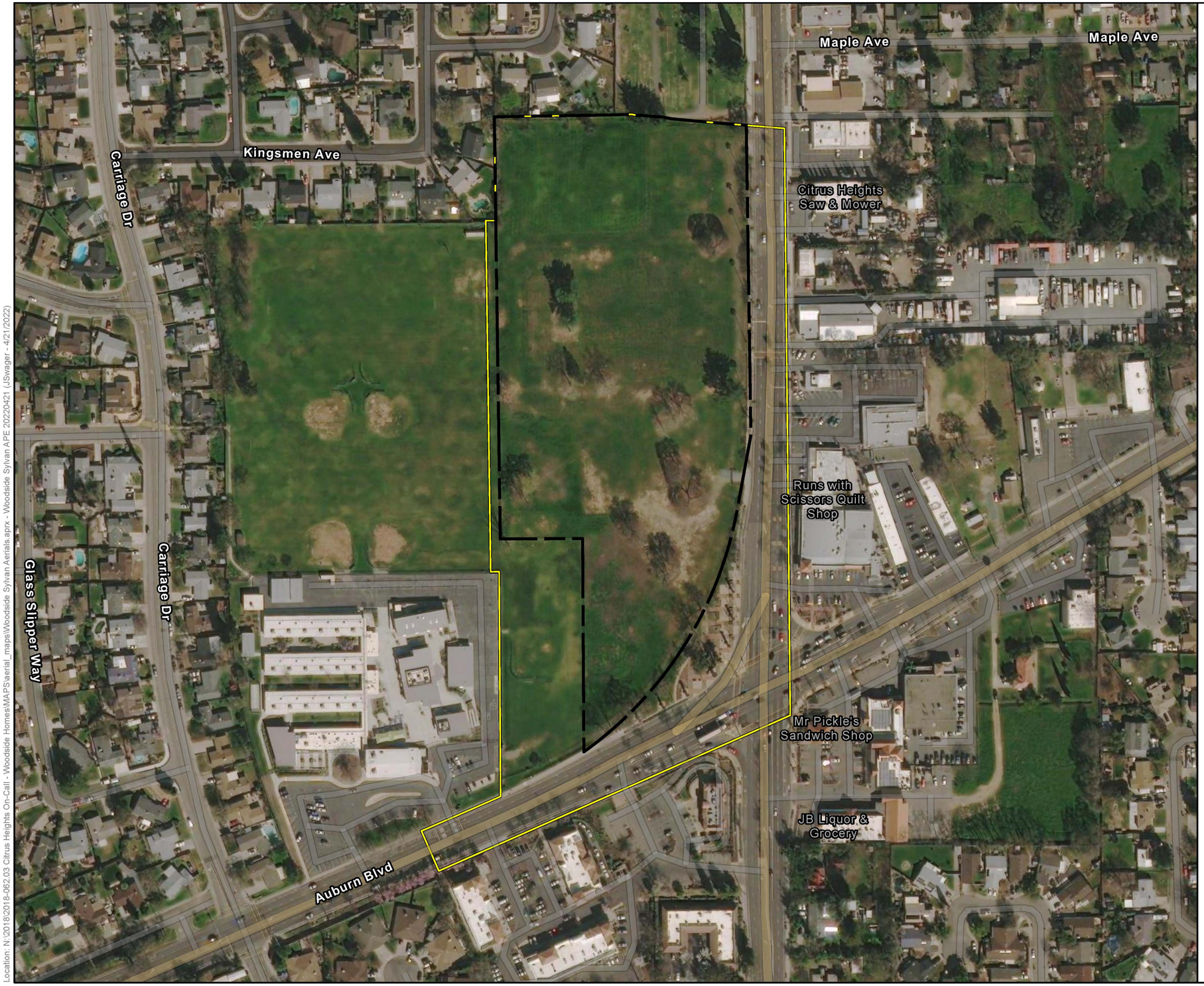
This section is based on the analysis and recommendations presented in the *Biological Resources Assessment* (BRA) (ECORP 2023a, Appendix B) and *Arborist Survey Report* (ECORP 2023b, Appendix C) prepared for the proposed Project. The purpose of this section is to assess the potential for occurrence of special-status plant and animal species or their habitats and sensitive habitats such as wetlands, riparian communities, and sensitive natural communities within the Study Area. The Study Area is defined as the environmental study limits within which the Project will occur (see Figure 4.4-1. Study Area Location and Vicinity). The approximately 17.98-acre Study Area is located at the intersection of Auburn Road/Sylvan Road and Old Auburn Boulevard in Citrus Heights, Sacramento County, California. The southeast corner of the Study Area is located at the intersection of Auburn Boulevard and Sylvan Road. The Study Area is bordered by Auburn Boulevard to the south and east, Sylvan Middle School to the west, and the Sylvan Cemetery District to the north. The proposed Project entails the development of approximately 94 single-family residential units on 11.32 acres, and the remaining 6.66 acres within the Study Area are for offsite infrastructure improvement (i.e., underground utility connections and road striping).

This assessment includes information generated from the reconnaissance-level site assessment and preliminary wetland assessment surveys for biological and aquatic resources onsite. Wildlife species presence was evaluated based on the results of the site assessment. A preliminary aquatic resources assessment was performed according to U.S. Army Corps of Engineers (USACE) standards and is discussed within this section and the BRA.

Literature Review

Prior to conducting the field portion of the assessment, a literature search was performed. The following resources were queried to determine whether any special-status species have potential to occur within the Study Area.

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) record search for the "Citrus Heights, California" 7.5-minute quadrangles and the eight surrounding U.S. Geological Survey (USGS) quadrangles (CDFW 2022a).
- U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2022).
- California Native Plant Society (CNPS) electronic Inventory of Rare and Endangered Plants of California was queried for the "Citrus Heights, California" 7.5-minute quadrangles and the eight surrounding USGS quadrangles (CNPS 2022).



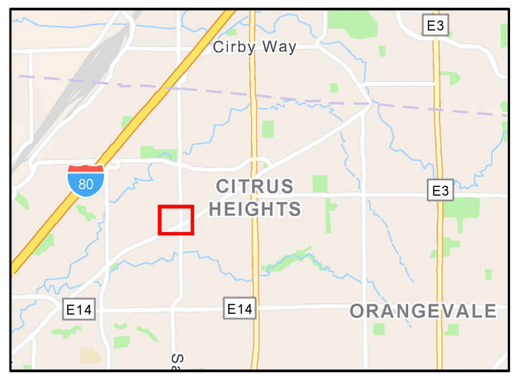
Map Contents

Property Boundary - 11.32 ac.

APE Boundary - 17.98 ac.

The property boundary and APE boundary depicted on this map were provided by BW Engineers in California State Plane 2 (NAD83), Grid Coordinates.

Sources: ESRI, Maxar (2021), BW Engineers



Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\aerial_maps\Woodside Sylvan Aerials.aprx - Woodside Sylvan APE 20220421 (JSwager - 4/21/2022)

Map Date: 4/21/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 200

Figure 4.4-1. Study Area Location and Vicinity

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

Field Assessment

ECORP biologist Stephanie Castle conducted a site assessment and a preliminary aquatic resources assessment of the site on May 19, 2022. During this survey, the Study Area was traversed on foot and topographic maps and aerial imagery were referenced. Biological communities occurring within the Study Area were characterized and the following biological resource information was collected:

- Potential aquatic features;
- Animal species directly observed;
- Habitat and vegetation communities;
- Animal evidence;
- Active bird nests;
- Burrows and any other special habitat features; and
- Representative photographs of the Study Area (Attachment A of Appendix B).

4.4.2 Environmental Setting

4.4.2.1 Site Characteristics and Land Use

The Study Area is located within leveled terrain situated at an elevational range of approximately 150 feet to 170 feet above mean sea level in the Sacramento Valley Subregion of the Great Central Valley floristic region of California (Baldwin et. al. 2012). The average winter minimum temperature in Sacramento (approximately 12 miles southwest of the Study Area) is 41.8 degrees Fahrenheit (˚F) and the average summer maximum temperature is 92.3 ˚F (National Oceanic and Atmospheric Administration [NOAA] 2022). Average annual precipitation is approximately 19.20 inches, which falls as rain (NOAA 2022).

The Study Area is a vacant property with sparse vegetation and scattered oak trees, located immediately adjacent to the intersection of Sylvan Road and Auburn Boulevard in Citrus Heights. Previously, the site was occupied by the Sylvan Middle School (also known as the Sylvan Intermediate School), which was demolished between 2016 and 2018. The Study Area is bordered by Auburn Boulevard to the south and east, Sylvan Middle School to the west, and the Sylvan Cemetery District to the north. Adjacent land uses include commercial developments, residential housing, an elementary school, and a small municipal cemetery. The Study Area consists of urban vegetation communities, including ruderal grasses and forbs. Descriptions of the vegetation communities are provided in Section 4.3 and aquatic resources are discussed in Section 4.4.2.4.

4.4.2.2 Soils

According to the Web Soil Survey (Natural Resources Conservation Service [NRCS] 2022), one soil unit, or type, has been mapped within the Study Area (see Figure 4.4-2. National Resources Conservation Service Soil Types):

THIS PAGE INTENTIONALLY LEFT BLANK

Map Contents

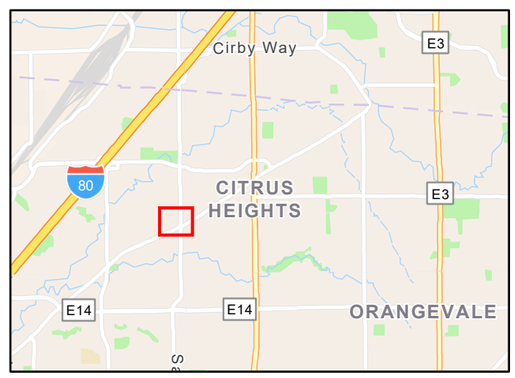
APE Boundary - 17.98 ac.

Series Designation - Series Description

229 - Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes

Soils data derived from Natural Resources Conservation Service (NRCS) gSSURGO (2021) Soils Database

Sources: ESRI, Maxar (2021), BW Engineers, CALVEG (2019)



Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\Soils_and_Geology\Woodside Sylvan Soils.aprx - Woodside Sylvan Soils 20220613 (jwelsh - 8/23/2022)

Map Date: 6/13/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 200

Figure 4.4-2. Natural Resources Conservation Service Soil Types

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

- 229 – Urban land-Xerarents-Fiddyment complex, 0 to 8 percent slopes

This soil unit is not considered hydric, as the soil unit does not contain hydric components (NRCS 2022).

4.4.2.3 Vegetation Communities

The vegetation community occurring within the Study Area includes Ruderal Grassland and Urban/Built Up Land Vegetation Community. A list of plant species observed onsite is provided in Attachment C of Appendix B.

Ruderal Grassland represents the dominant vegetation community within the Study Area outside of the suburban paved areas. Representative plant species that may be present in this general area include Bermuda grass (*Cynodon dactylon*), Italian ryegrass (*Festuca perrenis*), foxtail barley (*Horduem murinum*), wild oats (*Avena fatua*), ripgut brome (*Bromus diandrus*), big heron bill (*Erodium botrys*), smooth cat's ear (*Hypocharis glabrata*), cheeseweed (*Malva parviflora*), and rose clover (*Trifolium hirtum*).

The remaining portions of the site consist of sparse ruderal vegetation in the gravel lots within the northern and southern portions of the Study Area, which is dominated by nonnative and invasive species that usually occur in areas of disturbance. Common dandelion (*Taraxacum officinale*), bur clover (*Medicago polymorpha*), prickly lettuce (*Lactuca serriola*), red-stemmed filaree (*Erodium cicutarium*), and prostrate knotweed (*Polygonum aviculare*) dominate this vegetation community type. Ruderal areas are found sparsely throughout portions of the property and are concentrated within the gravel lots in the northern and southern portions of the Study Area.

The Study Area within the right-of-way for Sylvan Road and Auburn Boulevard also includes cultivated plants and street trees including boxwood (*Buxus sempervirens*), cultivated rose (*Rosa* sp.), Siberian elm (*Ulmus parviflora*), and American sycamore (*Platanus racemosa*).

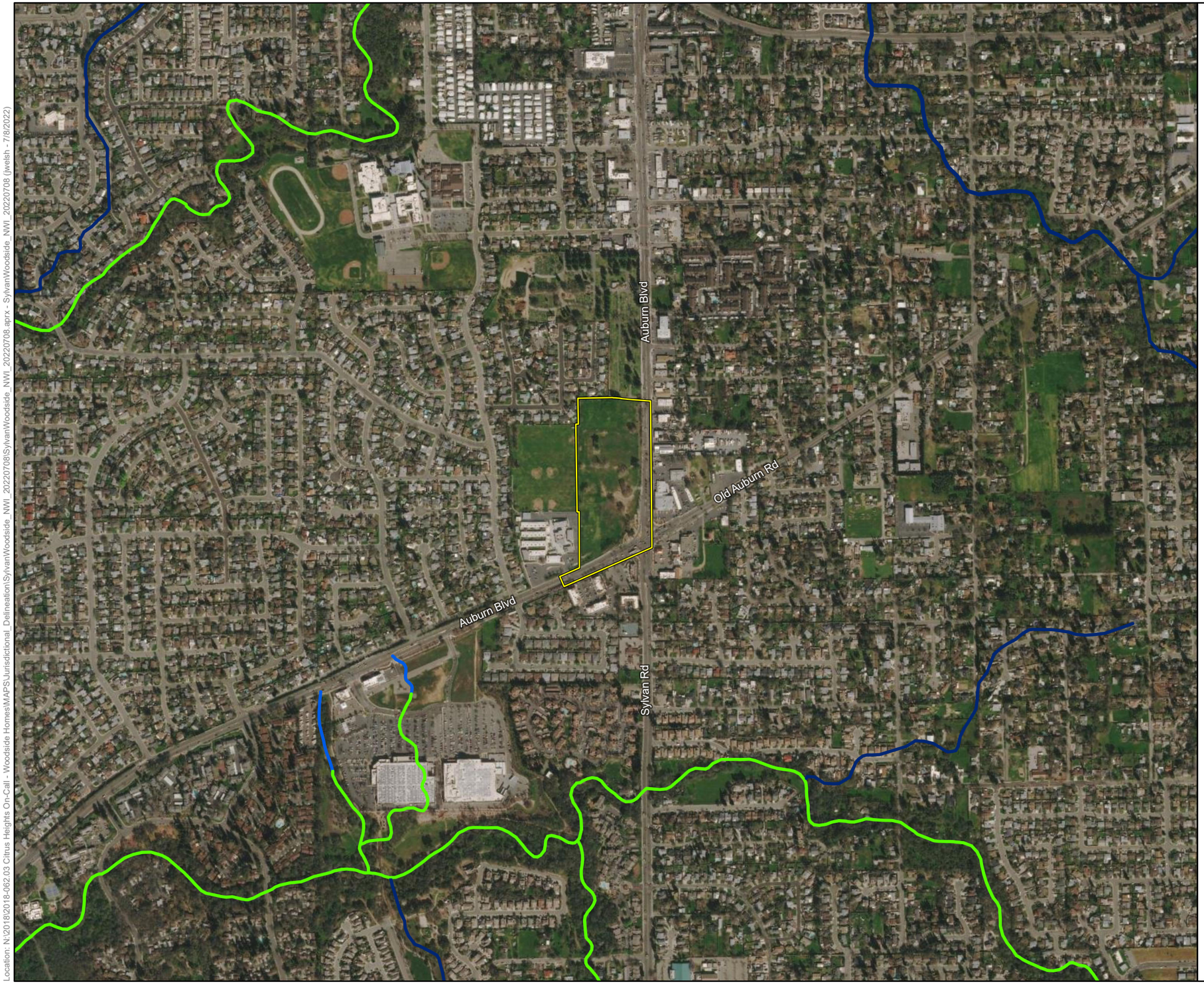
4.4.2.4 Potential Waters of the U.S.

During the preliminary aquatic resources assessment, no aquatic resources were found onsite, and no aquatic features were mapped on the National Wetland Inventory (see Figure 4.4-3. National Wetland Inventory). As expected, the Study Area does not support aquatic resources, since the site was previously developed.

4.4.2.5 Wildlife

Wildlife observed within or adjacent to the Study Area during the site assessment on May 19, 2022, included yellow-billed magpie (*Pica nuttalli*), mourning dove (*Zenaida macroura*), killdeer (*Charadrius vociferous*), turkey vulture (*Cathartes aura*), and California ground squirrel (*Otospermophilus beecheyi*). Wildlife use of the Study Area is expected to be minimal due to its small size and close proximity to urban development. Other wildlife species expected to be found in the Study Area include western gray squirrel (*Sciurus griseus*), striped skunk (*Mephitis mephitis*), raccoon (*Procyon lotor*), western scrub-jay (*Aphelocoma californica*), northern mockingbird (*Mimus polyglottos*), house finch (*Haemorhous mexicanus*), and western fence lizard (*Sceloporus occidentalis*).

THIS PAGE INTENTIONALLY LEFT BLANK



Map Contents

APE Boundary - 17.98 ac.

NWI Type

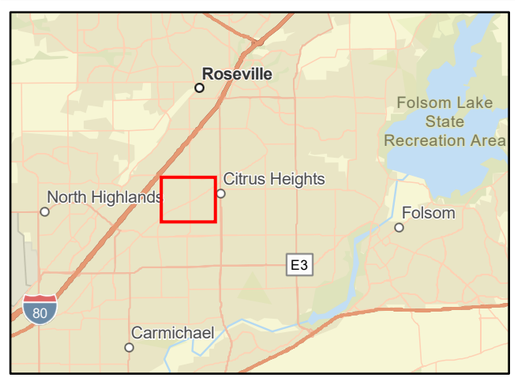
Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Riverine

United States Fish & Wildlife Service (USFWS) National Wetland Inventory (NWI) May 2022.

Sources: ESRI, USFWS, BW Engineers



Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\Jurisdictional_Delineation\SylvanWoodside_NWI_20220708.aprx - SylvanWoodside_NWI_20220708 (jwelsh - 7/8/2022)

Map Date: 7/8/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 800

Figure 4.4-3. National Wetland Inventory

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

4.4.2.6 Evaluation of Special-Status Species

For the purposes of this assessment, special-status species[1] are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- are listed or candidates for future listing as threatened or endangered under the California ESA;
- meet the definitions of endangered or rare under § 15380 of the CEQA Guidelines;
- are identified as a Species of Special Concern (SSC) by the CDFW;
- are birds identified as BCC by the USFWS;
- are considered by the CNPS to be "rare, threatened, or endangered in California," "plants about which more information is needed," or "plants of limited distribution – a watch list" (i.e., species with a California Rare Plant Rank (CRPR) of 1B, 2, 3, or 4);
- are plants listed as rare under the Native Plant Protection Act (NPPA) (California Fish and Game Code, § 1900 et seq.); or
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Special-status species identified during the literature review and database searches are presented in Attachment B of Appendix B. Table 4.4-1 provides an evaluation of each species' potential to occur in the Study Area based on the criteria presented below. Descriptions of species that have at least at low potential to occur in the Study Area are provided in the following sections. Species that were considered to be absent from the Study Area due to the lack of suitable habitat, or because the known distribution of the species does not include the Study Area vicinity, are not discussed further in this document.

A complete list of special-status plant and animal species identified through the literature review and database searches is provided in Attachment B of Appendix B. These lists were evaluated relative to the assessment of site conditions, and species with at least a low potential to occur in the Study Area were retained for further evaluation.

The assessment of each species' potential to occur in the Study Area or vicinity was evaluated based on the following criteria:

- **Present** - Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDB or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Study Area based on site assessment or literature research.

[1] Species that are tracked by the CNDDB but having no other special status are not considered to be special-status species.

- **Low Potential to Occur** - Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available literature.
- **Absent** - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other literature.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	FESA	CESA	Other			
Plants						
Big-scale balsamroot *(Balsamorhiza macrolepis)*	–	–	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentinite soils (150'–5,100').	March–June	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*)	–	–	4.2	Occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland (35'–1,100').	April–May	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Hispid salty bird's-beak *(Chloropyron molle* ssp. *hispidum)*	–	–	1B.1	Alkaline soils in meadows and seeps, playas, and valley and foothill grasslands (5'–510').	June–September	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Brandegee's clarkia *(Clarkia biloba* ssp. *brandegeeae)*	–	–	4.2	Chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (245'–3,000').	May–July	Absent. No suitable habitat present onsite. One CNDDB record within 5 miles.
Dwarf downingia *(Downingia pusilla)*	–	–	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species has also been found in disturbed areas such as tire ruts and scraped depressions	March–May	Absent. No suitable habitat present onsite. Several CNDDB records within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				(CDFW 2022a) (5'–1,460').		
Stinkbells *(Fritillaria agrestis)*	–	–	4.2	Clay and sometimes serpentinite soils in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (35'–5,100').	March–June	Absent. No suitable habitat present onsite. Two CNDDB records within 5 miles.
Boggs Lake hedge-hyssop *(Gratiola heterosepala)*	–	CE	1B.2	Marshes, swamps, lake margins, and vernal pools (35'–7,790').	April–August	Absent. No suitable habitat present onsite. Two CNDDB records within 5 miles.
Hogwallow starfish *(Hesperevax caulescens)*	–	–	4.2	Sometimes alkaline in mesic areas with clay soil within valley and foothill grassland and shallow vernal pools (0'–1,655').	March–June	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Ahart's dwarf rush *(Juncus leiospermus* var. *ahartii)*	–	–	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2022) (100'–750').	March–May	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Red Bluff dwarf rush *(Juncus leiospermus* var. *leiospermus)*	–	–	1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools (115'–4,100').	March–June	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Legenere *(Legenere limosa)*	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and	April–June	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				floodplains of intermittent drainages (USFWS 2005) (5'–2,885').		
Pincushion navarretia *(Navarretia myersii* ssp. *myersii)*	–	–	1B.1	Often acidic soils in vernal pools (65'–1,085').	April–May	Absent. No suitable habitat present onsite. One CNDDB record within 5 miles.
Slender Orcutt grass *(Orcuttia tenuis)*	FT	CE	1B.1	Vernal pools, often gravelly (115'–5,775').	May–September	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Sacramento Orcutt grass *(Orcuttia viscida)*	FE	CE	1B.1	Vernal pools (100'–330').	April–July	Absent. No suitable habitat present onsite. Two CNDDB records within 5 miles.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,135').	May–October	Absent. No suitable habitat present onsite. Several CNDDB records within 5 miles.
Invertebrates						
An andrenid bee *(Andrena subapasta)*	-	-	CNDDB	Vernal pool grassland; collects pollen primarily from *Minuartia californica* but also *Tryphysaria eriantha* and *Lasthenia* spp.	N/A	Absent. No suitable foraging habitat present onsite. Two CNDDB records within 5 miles.
Crotch bumble bee *(Bombus crotchii)*	-	-	-	Primarily nests underground in open grassland and scrub habitats from the California coast east to the Sierra Cascade and south to Mexico.	March-September	Absent. No suitable foraging or nesting habitat present onsite. No CNDDB records within 5 miles.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	-	Vernal pools/wetlands.	November-April	Absent. No suitable habitat present onsite. Multiple CNDDB occurrences within 5 miles.
Monarch butterfly (*Danaus plexippus*)	FC	-	-	Adult monarchs west of the Rocky Mountains typically overwinter in sheltered wooded	Any season	Absent. No suitable overwintering habitat present onsite. No CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				groves of Monterey pine, Monterey cypress, and gum eucalyptus along coastal California, then disperse in spring throughout California, Nevada, Arizona, and parts of Oregon and Washington. Adults require milkweed and additional nectar sources during the breeding season. Larval caterpillars feed exclusively on milkweed.		
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	-	Elderberry shrubs.	Any season	Absent. No suitable habitat present onsite. Multiple CNDDB occurrences within 5 miles.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	-	Vernal pools/wetlands.	November-April	Absent. No suitable habitat present onsite. No CNDDB records within 5 miles.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent. No suitable habitat present onsite. No CNDDB occurrences within 5 miles.
Steelhead (CA Central California Coast Distinct Population Segment [DPS]) (*Oncorhynchus mykiss irideus*)	FT	-	-	Fast-flowing, well-oxygenated rivers and streams. This DPS includes naturally spawned anadromous steelhead originating below natural and manmade impassable barriers from the Russian River to and including Aptos Creek, and all	N/A	Absent. No suitable habitat present onsite. Two CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				drainages of San Francisco and San Pablo Bays eastward to Chipps Island at the confluence of the Sacramento and San Joaquin Rivers (NOAA 2022).		
Amphibians						
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	WL	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Absent. No suitable habitat present onsite. No CNDDB occurrences within 5 miles.
Western spadefoot (*Spea hammondii*)	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Absent. No suitable habitat present onsite. One CNDDB occurrences within 5 miles.
Reptiles						
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Absent. No suitable habitat present onsite. One CNDDB occurrence within 5 miles.
Giant garter snake (*Thamnophis gigas*)	FT	CT	-	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent. No suitable habitat present onsite. No CNDDB occurrences within 5 miles.
Birds						
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	-	Breeds in California, Arizona, Utah, Colorado, and	June 15-August 15	Absent. No suitable habitat present onsite.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.		No CNDDB occurrences within 5 miles.
California black rail (*Laterallus jamaicensis coturniculus*)	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March-September (breeding)	Absent. No suitable nesting habitat present onsite. One CNDDB occurrence within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
Double-crested cormorant *(Nannopterum auritum)*	-	-	CDFW WL	Nests near ponds, lakes, artificial impoundments, slow-moving rivers, lagoons, estuaries, and open coastlines and typically forages in shallow water. Non-nesters are found in many coastal and inland waters.	April-August	Absent. No suitable nesting habitat present onsite. One CNDDB occurrence within 5 miles.
Osprey *(Pandion haliaetus)*	-	-	CDFW WL	Nesting habitat requires close proximity to accessible fish, open nest site free of mammalian predators, and extended ice-free season. They nest in large trees, snags, cliffs, transmission and communication towers, artificial nest platforms, channel markers/buoys.	April-September	Absent. No suitable nesting habitat present onsite. No CNDDB occurrences within 5 miles.
White-tailed kite (*Elanus leucurus*)	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential. Mature trees onsite represent potential nesting habitat. Multiple CNDDB occurrences within 5 miles.
Golden eagle (*Aquila chrysaetos*)	-	-	CFP, CDFW WL	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/ savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g., windmills,	Nest (February-August); winter Central Valley (October-February)	Absent. There is no potential nesting habitat onsite. No CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during winter.		
Cooper's hawk *(Accipiter cooperii)*	-	-	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes.	March-July	Potential. Mature trees onsite represent potential nesting habitat. No CNDDB occurrence within 5 miles.
Bald eagle (*Haliaeetus leucocephalus*)	De-listed	CE	CFP	Typically nests in forested areas near large bodies of water in the northern half of California; nests in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g., rivers, lakes), wetlands, flooded agricultural fields, open grasslands.	February – September (nesting); October-March (wintering)	Absent. No suitable nesting habitat present onsite. No CNDDB occurrences within 5 miles.
Swainson's hawk (*Buteo swainsoni*)	-	CT	-	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during discing/harvesting, irrigated pastures.	March-August	Absent. No suitable nesting or foraging habitat present onsite or in the Study Area vicinity. One CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
Ferruginous hawk (*Buteo regalis*)	-	-	BCC, CDFW WL	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Absent. No suitable foraging habitat present onsite. No CNDDB occurrences within 5 miles.
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g., prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Absent. No suitable burrows present onsite. No CNDDB occurrences within 5 miles.
Nuttall's woodpecker *(Dryobates nuttallii)*	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Potential. Mature trees onsite represent suitable nesting habitat. No CNDDB occurrences within 5 miles.
Merlin *(Falco columbarius)*	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings,	September–April (wintering in the Central Valley); does not breed in California	Absent. No suitable nesting habitat present onsite. No CNDDB occurrence within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.		
Olive-sided flycatcher *(Contopus cooperi)*	-	-	SSC, BCC	Nests in montane and northern coniferous forests, in forest openings, forest edges, semiopen forest stands. In California, nests in coastal forests, Cascade and Sierra Nevada region. Winters in Central to South America.	May-August	Absent. No suitable nesting habitat onsite. No CNDDB occurrences within 5 miles.
Yellow-billed magpie (*Pica nuttallii*)	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large expanses of open ground; also found in urban parklike settings.	April-June	Present. One adult and two fledglings observed onsite during site assessment. Mature trees onsite represent potential nesting habitat. No CNDDB occurrences within 5 miles.
Bank swallow (*Riparia riparia*)	-	CT	-	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding	May-July	Absent. No suitable nesting habitat present onsite. Several CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				range includes northern and central California.		
Purple martin (*Progne subis*)	-	-	SSC	In California, breeds along coast range, Cascade-northern Sierra Nevada region and isolated population in Sacramento. Nesting habitat includes montane forests, Pacific lowlands with dead snags; the isolated Sacramento population nests in weep holes under elevated highways/ bridges. Winters in South America.	May-August	Absent. No suitable nesting habitat present onsite. No CNDDB occurrences within 5 miles.
Oak titmouse (*Baeolophus inornatus*)	-	-	BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines, and Joshua tree).	March-July	Potential. Mature oaks and other trees onsite represent suitable nesting habitat. No CNDDB occurrences within 5 miles.
Lawrence's goldfinch (*Spinus lawrencei*)	-	-	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or	March-September	Absent. No suitable nesting habitat present onsite. No CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				other brushy areas, tall annual weed fields, and a water source (e.g., small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.		
Grasshopper sparrow (*Ammodramus savannarum*)	-	-	BCC, SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May-August	Absent. No suitable habitat present onsite and no CNDDB occurrences within 5 miles.
Song sparrow "Modesto" (*Melospiza melodia heermanni*)	-	-	SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Absent. No suitable habitat onsite. No CNDDB occurrences within 5 miles.
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and	March-August	Absent. No suitable nesting or foraging habitat present onsite.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
				southeastern deserts from Humboldt and Shasta counties south to San Bernardino, Riverside and San Diego counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck, and fava bean fields.		One CNDDB occurrence within 5 miles.
Mammals						
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (Western Bat Working Group [WBWG] 2021).	April-September	Potential. Mature trees onsite represent suitable roosting habitat onsite. One CNDDB occurrences within 5 miles.

Table 4.4-1. Evaluation of Special-Status Species Potential to Occur in the Study Area						
Common Name (Scientific Name)	**Status**			**Habitat Description**	**Survey Period**	**Potential To Occur Onsite**
	FESA	**CESA**	**Other**			
American badger *(Taxidea taxus)*	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent. No suitable habitat present onsite due to lack of suitable foraging habitat, lack of connectivity to adjacent habitat, and disturbance from urban development. No CNDDB occurrences within 5 miles.

Status Codes:

FESA	Federal Endangered Species Act
CESA	California Endangered Species Act
FE	FESA listed, Endangered.
FT	FESA listed, Threatened.
FC	Candidate for FESA listing as Threatened or Endangered
CFP	California Fish and Game Code Fully Protected Species
CE	CESA or NPPA listed, Endangered
CT	CESA or NPPA listed, Threatened.
BCC	USFWS Bird of Conservation Concern
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
CNDDB	Species that is tracked by CDFW's CNDDB but does not have any of the above special-status designations otherwise
1B	CRPRs/Rare or Endangered in California and elsewhere
2B	CRPR/Rare or Endangered in California, more common elsewhere
4	CRPR /Plants of Limited Distribution - A Watch List
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)
Delisted	Formally Delisted (delisted species are monitored for 5 years)

Special-Status Plants

No special-status plant species were identified as having potential to occur within the Study Area based on the literature review and site assessment.

Invertebrates

No special-status invertebrate species were identified as having potential to occur within the Study Area based on the literature review and site assessment.

Fish

No special-status fish species were identified as having potential to occur within the Study Area based on the literature review and site assessment.

Amphibians

No special-status amphibian species were identified as having potential to occur within the Study Area based on the literature review and site assessment.

Reptiles

No special-status reptile species were identified as having potential to occur within the Study Area based on the literature review and site assessment.

Birds

Five special-status bird species were identified as having the potential to occur within the Study Area based on the literature review and site assessment. Brief descriptions of these species are presented in the following sections.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal ESAs; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 1995). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 1995).

There are four documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022a). Mature trees within the Study Area provide potential nesting habitat for this species. White-tailed kite has potential to occur within the Study Area.

Cooper's Hawk

Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the California or federal ESAs. However, it is a CDFW "watch list" species and is currently tracked in the CNDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2020). Breeding occurs from March through July, with a peak from May through July.

There is one documented CNDDB occurrence of this species within 5 miles of the Study Area (CDFW 2022a). Mature trees within the Study Area provide potential nesting habitat for this species. Cooper's hawk has potential to occur within the Study Area.

Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. Nuttall's woodpeckers are resident from Siskiyou County south to Baja

California. They nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs from April through July.

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022a). The mature trees onsite within the Study Area provides suitable nesting habitat. Nuttall's woodpecker has potential to occur within the Study Area.

Yellow-Billed Magpie

Yellow-billed magpie *(Pica nuttalli*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February and may take up to six to eight weeks to complete, with eggs laid during April through May and fledging occurring from May through June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020).

There are no documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022a). The mature trees within the Study Area provides potential nesting habitat for this species. One adult and two fledgling yellow-billed magpies were observed onsite during the site assessment on May 19, 2022. Yellow-billed magpie are present within the Study Area.

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) is not listed pursuant to either the California or federal ESAs but is considered a USFWS BCC. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse, and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs from March through July.

There are no documented CNDDB occurrences of this species within five miles of the Study Area (CDFW 2022a). Mature trees within the Study Area provide suitable nesting habitat for this species. Oak titmouse has potential to occur within the Study Area.

Mammals

One special-status mammal species was identified as having potential to occur within the Study Area based on the literature review and site assessment. A brief description of this species is presented in the following section.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is not listed pursuant to either the federal or California ESAs; however, it is designated as a CDFW SSC. In addition, the WBWG has classified the pallid bat in California as

"imperiled or are at high risk of imperilment" (WBWG 2021). The pallid bat is a large buff-colored bat, with large ears and broad wings (Orr 1954). The pallid bat occurs in Oregon and Washington and throughout the southwestern United States, south into Mexico (Hermanson and O'Shea 1983). Pallid bats inhabit low elevation rocky arid deserts and canyonlands, shrub-steppe grasslands, oak woodlands, karst formations, and higher elevation coniferous forests (Philpott 1996; WBWG 2021). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, and trees; and in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2021). Pallid bats are primarily insectivores and feed by gleaning prey items from open ground habitats or from vegetation (Bell 1982; WBWG 2021). Reproductive patterns are not well known but mating most likely occurs in autumn, birth of pups occurring in spring, and weaning just prior to mating again in August (Beasley and Zucker 1984; WBWG 2021).

There is one documented CNDDB occurrences of this species within 5 miles of the Study Area (CDFW 2022a). The mature trees within the Study Area provides potential roosting habitat for this species. Pallid bat has potential to occur within the Study Area.

4.4.2.7 Sensitive Natural Communities

One sensitive natural community was identified as having the potential to occur within the Study Area based on the literature review, the northern hardpan vernal pool (CDFW 2022a). According to the CNDDB/ Biogeographic Information and Observation System (BIOS), no sensitive natural communities were mapped within the Study Area and none were observed during the February 2022 and April 2022 site visits (CDFW 2022a; ECORP 2023a).

4.4.2.8 Wildlife Movement Corridors and Nursery Sites

The Study Area is located within a developed portion of Citrus Heights at the intersection of Auburn Avenue/Sylvan Road and Old Auburn Boulevard, in the center of Citrus Heights. The Study Area does not have any aquatic features and is not adjacent to any undeveloped lands, and is not likely suitable as a wildlife movement corridor due to a lack of suitable cover and adjacent habitat. The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2022a).

There are no known wildlife nursery sites within the Study Area according to CNDDB, and none were observed during the 2022 site visits (CDFW 2022a; ECORP 2023a).

4.4.2.9 Trees

A formal arborist survey was conducted for the Study Area on May 19, 2022, and January 17, 2023, by ECORP arborist Krissy Walker-Berry and ECORP biologist Stephanie Castle (ECORP 2023b, Appendix C). A total of 38 trees were inventoried in the Study Area including 20 native trees and 18 nonnative trees. The 20 native trees include: eight blue oak (*Quercus douglasii*), four Arizona ash (*Fraxinus velutina*), four interior live oak (*Quercus wislizeni*), three valley oak (*Quercus lobata*), and one incense cedar (*Calocedrus decurrens*). The 18 nonnative trees include eight London plane (*Platanus x acerifolia*), five deodar cedar (*Cedrus deodara*), four Chinese elm (*Ulmus parvifolia*), and one silver maple (*Acer saccharinum*). Figure 4.4-

4. Arborist Survey Results depicts the locations of the inventoried trees and is included as Attachment D in Appendix B. Figure 4.4-5. Trees Removed in Site Plan shows an overlay of the Arborist Survey Results and Site Plan and depicts which trees will be removed. Detailed tree survey data are included in the Arborist Report (ECORP 2023b, Appendix C).

4.4.3 Regulatory Setting

4.4.3.1 Federal

Endangered Species Act

The federal Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS).

Section 9 of the ESA prohibits, without authorization, the taking of listed wildlife species, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of federal law (16 U.S. Code [USC] 1538). Under Section 7 of the ESA, federal agencies are required to consult with the USFWS and/or NMFS if their actions, including permit approvals and funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity, provided the activity will not jeopardize the continued existence of the species. Section 10 of the ESA provides for the issuance of incidental take permits where no other federal actions are necessary, provided a Habitat Conservation Plan (HCP) is developed.

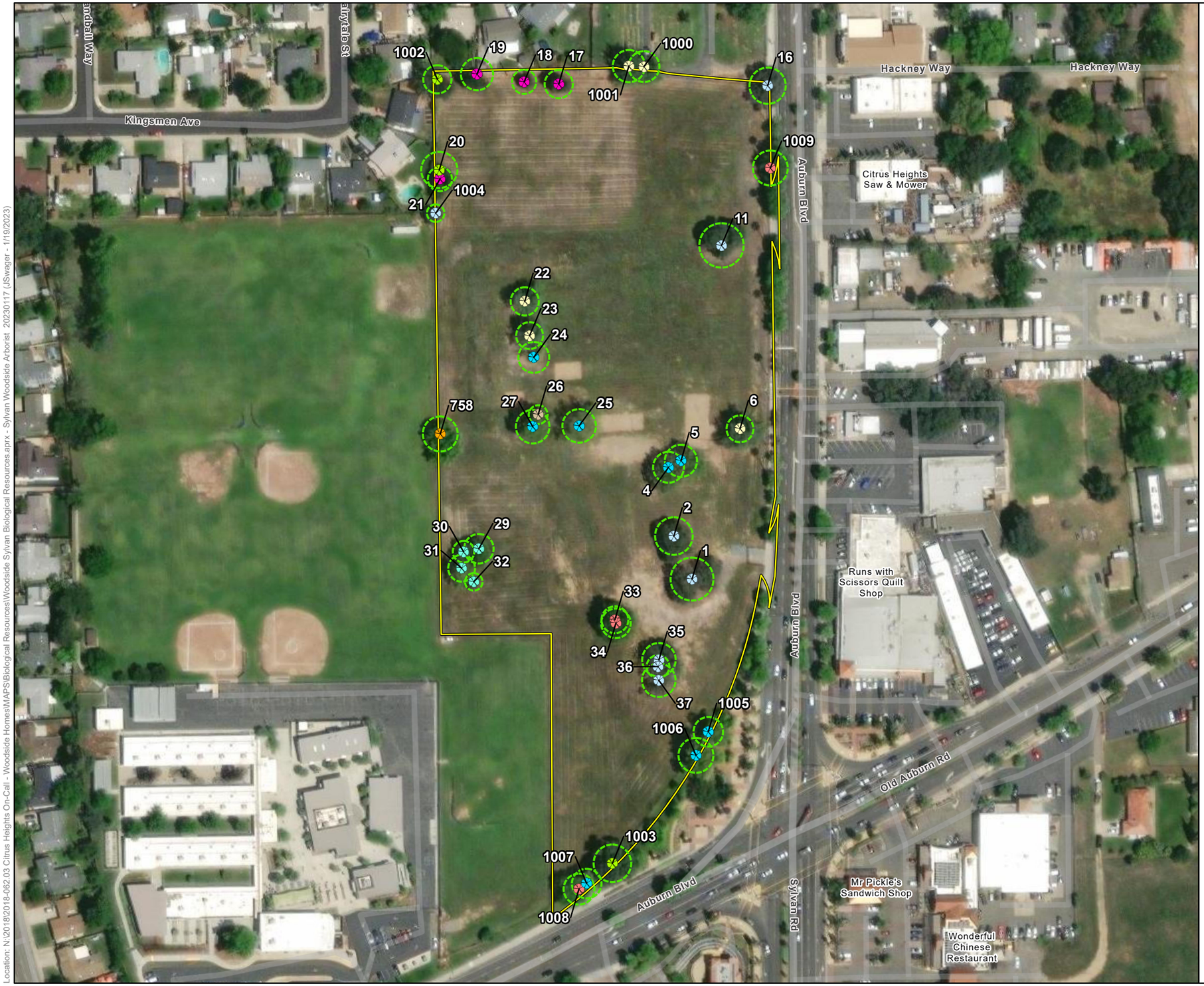
Critical Habitat

Critical Habitat is defined in Section 3 of the ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and

2. specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

THIS PAGE INTENTIONALLY LEFT BLANK



Map Contents

- Project Area - 11.39 Acres
- Tree Protection Zone

Tree Species

- Arizona Ash (4)
- Blue Oak (8)
- Chinese Elm (4)
- Deodar Cedar (5)
- Incense Cedar (1)
- Live Oak (4)
- London Plane (8)
- Silver Maple (1)
- Valley Oak (3)

Sources: ESRI, Maxar (2022), BW Engineering Group

Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\Biological Resources\Woodside Sylvan Biological Resources.aprx - Sylvan Woodside Arborist 20230117 (JSwager - 1/19/2023)

Map Date: 1/19/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 150

Figure 4.4-4. Arborist Survey Results

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

Map Contents

- Project Area - 11.39 Acres
- Tree Protection Zone
- Tree Removal (21)

Tree Species

- Arizona Ash (4)
- Blue Oak (8)
- Chinese Elm (4)
- Deodar Cedar (5)
- Incense Cedar (1)
- Live Oak (4)
- London Plane (8)
- Silver Maple (1)
- Valley Oak (3)

Sources: ESRI, Maxar (2022), BW Engineering Group

Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\Biological Resources\Woodside Sylvan Biological Resources.aprx - Sylvan Woodside Arborist Impacts 20230117 (JSwager - 7/12/2023)

Map Date: 7/12/2023

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 150

Figure 4.4-5. Trees Removed by Project

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features essential to the conservation of the species (16 USC 1533). Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

1. Space for individual and population growth and for normal behavior;
2. Food, water, air, light, minerals, or other nutritional or physiological requirements;
3. Cover or shelter;
4. Sites for breeding, reproduction, or rearing (or development) of offspring; and
5. Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. The protections of the MBTA extend to disturbances that result in abandonment of a nest with eggs or young. As authorized under the MBTA, the USFWS may issue permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of nongame birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

U.S. Fish and Wildlife Service Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates the USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, the USFWS published a list of Birds of Conservation Concern (BCC; USFWS 2021a) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS' highest conservation priorities. Depending on the policy of the lead agency, Projects that result in substantial impacts to BCC may be considered significant under CEQA.

Magnuson-Stevens Fishery Conservation and Management Act

The 1996 Magnuson-Stevens Fishery Conservation and Management Act, as amended (16 USC 1801), requires federal agencies to consult with NMFS whenever a proposed action has a potential to adversely affect Essential Fish Habitat (EFH). Although states are not required to consult with NMFS, NMFS is required to develop EFH conservation recommendations for any state agency activities with the potential to affect EFH. EFH is defined as "…those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity" and includes the necessary habitat for managed fish to complete their life cycles and contribute to a sustainable fishery and healthy ecosystem. Although the concept of EFH is similar to the ESA definition of Critical Habitat, measures recommended by NMFS or a regional fisheries management council to protect EFH are advisory, rather than prescriptive.

Federal Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into Waters of the U.S. without a permit from the USACE. The USACE regulates discharge of dredged or fill material into Waters of the U.S. under Section 404 of the CWA. Discharge of fill material is defined as the addition of fill material into Waters of the U.S., including, but not limited to the following: placement of fill necessary for the construction of any structure, or impoundment requiring rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; and fill for intake and outfall pipes, and subaqueous utility lines [33 CFR § 328.2(f)]. In addition, Section 401 of the CWA (33 USC 1341) requires any applicant for a federal license or permit to conduct any activity that may result in a discharge of a pollutant into Waters of the U.S. to obtain a certification that the discharge will comply with the applicable effluent limitations and water quality standards.

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register [FR] 86:245, February 25, 2022). If impacts on wetlands could be substantial, an Individual Permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

Wetlands

Wetlands are "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, Aug. 25, 1993). Wetlands can be perennial or intermittent.

To be determined a wetland, the following three criteria must be met:

- A majority of dominant vegetation species are wetland-associated species;

- Hydrologic conditions exist that result in periods of flooding, ponding, or saturation during the growing season; and
- Hydric soils are present.

Other Waters

Other waters are nontidal, perennial, and intermittent watercourses and tributaries to such watercourses (51 FR 41250, Nov. 13, 1986, as amended at 58 FR 45036, August 25, 1993). The limit of USACE jurisdiction for nontidal watercourses (without adjacent wetlands) is defined in 33 CFR 328.4(c)(1) as the Ordinary High Water Mark (OHWM). The OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" and is an approximation of the lateral limit of USACE jurisdiction. The upstream limits of other waters are defined as the point where the OHWM is no longer perceptible.

Jurisdictional Assessment

Pursuant to the USEPA and USACE memorandum regarding CWA jurisdiction, issued after the U.S. Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (herein referred to as Rapanos), the agencies will assert jurisdiction over the following waters: Traditionally Navigable Waters (TNW), all wetlands adjacent to TNW, nonnavigable tributaries of TNW that are relatively permanent waters (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally), and wetlands that directly abut such tributaries (USEPA and USACE 2007).

Waters requiring a significant nexus determination by the USACE and USEPA to establish jurisdiction include nonnavigable tributaries that are not relatively permanent, wetlands adjacent to nonnavigable tributaries that are not relatively permanent, and wetlands adjacent to but not directly abutting a relatively permanent nonnavigable tributary (USEPA and USACE 2007). The jurisdictional determination is a fact-based evaluation to establish whether a water has a significant nexus with TNW. The significant nexus analysis will assess the flow characteristics and functions of the nonnavigable tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNW (USEPA and USACE 2007).

4.4.3.2 State

California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the state as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the take, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take

incidental to otherwise lawful Projects under permits issued by the California Department of Fish and Wildlife (CDFW).

Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and the California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFW prohibits any state agency from issuing incidental take permits for fully protected species. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

Native Plant Protection Act

The NPPA of 1977 was created with the intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as endangered or rare and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code §§ 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code. The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under the NPPA. Plants listed as rare under the NPPA are not protected under the California ESA, but are still protected under the provisions of the NPPA. The Fish and Game Commission no longer lists plants under the NPPA, reserving all listings to the California ESA.

California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds.

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or

destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting raptors.

Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.

Lake or Streambed Alteration Agreements

Sections 1600-1616 of the California Fish and Game Code require individuals or agencies to provide a Notification of Lake or Streambed Alteration to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the NPDES, including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for Projects that disturb one or more acres of land require development and implementation of a Stormwater Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" [Water Code 13260(a)]. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" [Water Code 13050(e)]. The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of Waste Discharge Requirements for these activities.

Species of Special Concern

CDFW defines SSC as a species, subspecies, or distinct population of an animal native to California that is not legally protected by the California ESA or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;

- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status; and
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, Projects that result in substantial impacts to SSC may be considered significant under CEQA.

Sensitive Natural Communities

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of Projects. The CDFW maintains the California Natural Communities List (CDFW 2022b), which provides a list of vegetation alliances, associations, and special stands as defined in *A Manual of California Vegetation* (Sawyer et al. 2009), along with their respective state and global rarity ranks. Natural communities with a state rarity rank of 1, 2, or 3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

Wildlife Movement and Corridors and Nursery Sites

As part of the California Essential Habitat Connectivity Project, the CDFW and the California Department of Transportation (Caltrans) maintain data on Essential Habitat Connectivity areas. This database is available in the California Natural Diversity Database (CNDDB). The goal of this Project is to map large intact habitat or natural landscapes and potential linkages that could provide corridors for wildlife. For urban settings such as the Project, riparian vegetated stream corridors can also serve as wildlife movement corridors.

CDFW's BIOS database for Mule Deer Range identifies winter range, migration corridors, critical range, or critical fawning areas for mule deer (CDFW 2022a).

For the purposes of this analysis, nursery sites include but are not limited to concentrations of nest or den sites such as heron rookeries, bat maternity roosts, and mule deer critical fawning areas. This data is available through CDFW's BIOS database or as occurrence records in the CNDDB and is supplemented with the results of the field reconnaissance.

California Rare Plant Ranks

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2022), which provides a list of plant species native to California that are threatened with extinction or have limited distributions and/or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government, academia, nongovernmental organizations, and private sector botanists, and is jointly managed by the CDFW and CNPS. The CRPRs are currently recognized in the CNDDB. The following are definitions of the CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere

- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, CNPS has defined Threat Ranks that are added to the CRPRs as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants with a CRPR of 1B, 2B, or 4, and for the majority of plants with a CRPR of 3. Plant species with a CRPR of 1A and 2A (presumed extirpated in California), and some species with a CRPR of 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2022).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria include definitions similar to definitions used in the federal ESA, California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a Project under review may have a significant effect on a species that has not been listed under the federal ESA, California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as SSC by CDFW, and plants identified by the CNPS as rare, threatened, or endangered may meet the CEQA definition of rare or endangered.

California Environmental Quality Act Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of nonlisted species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a Project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by Projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

4.4.3.3 Local

City of Citrus Heights Tree Preservation Ordinance

Chapter 106.39 Tree Preservation and Protection Ordinance of the City Municipal Code establishes basic standards, measures, and compliance for the preservation and protection of trees within Citrus Heights. Per Chapter 106.39, a tree permit is required if a Project may impact a protected tree. Protected trees are defined as native oak trees; heritage trees; significant groves/stands of trees; certain mature trees over 19 inches in diameter; planted, relocated, or trees preserved by this Zoning Code; or trees within 25 feet of a seasonal stream (City of Citrus Heights 2020). Chapter 106.39 includes the following definitions for protected trees:

- ***Native Oak Tree:*** A native oak tree with a diameter of six or more inches as measured 54 inches above the ground, or a multi-trunked oak tree having an aggregate diameter of 10 inches or more measured 54 inches above the ground.
- ***Landmark Tree:*** A heritage, or landmark tree or grove identified by City Council resolution.
- ***Mature Trees:*** A mature tree other than those listed in Subsections A.1 through A.3, that is 19 inches or more in diameter as measured at 54 inches above the ground, and located on a commercial parcel, or on a residential parcel that can be further subdivided, or on a parcel in the RD-1, RD-2, or RD-3 zones, provided that the tree is not a willow (*Salix* spp.), fruit tree, eucalyptus (*Eucalyptus* spp.), alder (*Alnus* spp.), cottonwood (*Populus* spp.), pine (*Pinus* spp.), catalpa (*Catalpa* spp.), fruitless mulberry (*Morus* spp.), or palm (*Acoelorrhaphe* spp.);

- ***Significant Grove:*** Significant groves or stands of trees identified by City Council resolution.
- ***Planted, Relocated, or Preserved Trees:*** A tree required to be planted, relocated, or preserved by a requirement of this Zoning Code, or by a condition of approval of a Tree Permit or other discretionary permit, and/or as environmental mitigation for a discretionary permit; and
- ***Riparian Trees:*** A tree within 25 feet of a seasonal stream that is 19 inches or more in diameter as measured at 54 inches above the ground.

4.4.4 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Suitable nesting habitat for five special-status birds is present within the Study Area. These include white-tailed kite, Cooper's hawk, Nuttall's woodpecker, yellow-billed magpie, and oak titmouse. If nesting individuals are present during construction, including tree removal, the Project could result in direct mortality of eggs or nestlings, harassment to nesting individuals, potentially leading to nest abandonment and loss of eggs or young. In addition to the above-listed special-status birds, all native birds are protected under the California Fish and Game Code and the federal MBTA. As such, to ensure that there are no impacts to active nests of special-status and other protected birds, Mitigation Measure BIO-1 would be implemented to reduce potential impacts to less than significant.

Suitable roosting habitat for one special-status mammal, the pallid bat, is present within the Study Area. If roosting individuals or maternity colonies are present during construction, the Project could result in direct mortality of individuals, harassment to roosting individuals or maternity colonies, potentially leading to loss of young. To ensure that impacts to active nests are less than significant, Mitigation Measure BIO-2 would be implemented.

Impacts to special-status species would be less than significant with mitigation incorporated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒

No Impact.

The Study Area consists of urban vegetation communities, including ruderal grasses and forbs and native and nonnative trees. According to the CNDDB/BIOS, no sensitive natural communities were mapped within the Study Area and none were observed during the February 2022 and April 2022 site visits (CDFW 2022a; ECORP 2023a). There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒

No Impact.

There are no aquatic resources onsite, so the Project would have no impact on Waters of the U.S. or Waters of the State.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒

No Impact.

The Study Area does not have any aquatic features and is not adjacent to any undeveloped lands, and is not likely suitable as a wildlife movement corridor due to a lack of suitable cover and adjacent habitat. The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2022a). There are no known wildlife nursery sites within the Study Area according to CNDDB, and none were observed during the 2022 site visits (CDFW 2022a; ECORP 2023a). The Project is not anticipated to

have impacts on wildlife movement corridors and will not affect fish or wildlife nursery sites for any species. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Multiple Native Oak Trees and other Protected Trees protected by Chapter 106.39 Tree Preservation and Protection of the City Municipal Code were observed in the Study Area during the 2023 arborist survey (ECORP 2023b, Appendix C). Per Chapter 106.39, a tree permit is required for removal of Protected Trees (see Section 4.4.3.3 for definition). Mitigation Measure BIO-3 would be implemented to reduce potential impacts to Protected Trees to less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

No Impact.

There is no HCP covering the Study Area. The Project would not conflict with an HCP, and there would be no impact.

4.4.5 Mitigation Measures

BIO-1: Nesting Birds and Raptors

- Retain a qualified biologist to conduct a preconstruction nesting raptor and bird survey of all suitable habitat on the Project site within 14 days of the commencement of construction or tree removal during the nesting season (generally February 1 through August 31). Surveys should be conducted in accessible areas within 300 feet of the Project site for nesting raptors and 100 feet of the Project site for nesting birds.
- If active nests are not found during the preconstruction survey, the biologist shall document the findings in a letter report for CDFW and the lead agency, and no further mitigation shall be required.
- If active nests are found, a no-disturbance buffer shall be established around the nest. The buffer distances shall be established by a qualified biologist in consultation with CDFW. The buffer shall

be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

- If it is determined that construction will not affect an active nest or disrupt breeding behavior onsite, construction may proceed without any restriction or mitigation measure.

BIO-2: Roosting Pallid Bats

- A bat roost survey shall be conducted by a qualified wildlife biologist within 14 days before any ground disturbance. Specific survey methodologies may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., SonoBat, Anabat). If no active roost sites are present within the Project Area, no further actions under this measure are required.
- If it is determined that an active roost site cannot be avoided and will be affected, bats will be excluded from the roost site before the tree is removed. The biologist shall consult with CDFW on appropriate bat exclusion methods and roost removal procedures. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Once it is confirmed that all bats have left the roost, crews will be allowed to continue work in the area.

BIO-3: Protected Trees

- The Project proponent shall ensure appropriate tree removal or work permits have been obtained in accordance with Chapter 106.39 Tree Preservation and Protection of the Citrus Heights Municipal Code and that compensatory mitigation has been provided, as necessary, for Native Oak Trees and other Protected Trees within the Study Area that will be directly impacted (removed) or indirectly impacted (construction activities within the tree's dripline) by the Project.
- The Project proponent shall prepare and implement a Tree Replacement Plan in accordance with Chapter 106.39 Tree Preservation and Protection of the Citrus Heights Municipal Code for Native Oak Trees and other Protected Trees in the Study Area that will be directly impacted (removed).

4.5 Cultural Resources

Cultural resources include prehistoric archaeological sites, historic archaeological sites, and historic structures, and generally consist of artifacts, food waste, structures, and facilities made by people in the past. Prehistoric archaeological sites are places that contain the material remains of activities carried out by the native population of the area (i.e., Native Americans) prior to the arrival of Europeans in Southern California. Places that contain the material remains of activities carried out by people during the period when written records were produced after the arrival of Europeans are considered historic archaeological sites. Historic structures include houses, garages, barns, commercial structures, industrial facilities, community buildings, and other structures and facilities that are more than 50 years old. Historic structures may also have associated archaeological deposits, such as abandoned wells, cellars, privies, refuse deposits, and foundations of former outbuildings.

ECORP prepared a *CONFIDENTIAL Cultural Resources Inventory and Evaluation Report* (ECORP 2022b, Appendix D) for the proposed Project to determine if cultural resources were present in or adjacent to the Project Area and assess the sensitivity of the Project Area for undiscovered or buried cultural resources. ECORP subjected the 17.98-acre Area of Potential Effects (APE or Project Area) to an intensive pedestrian survey on March 11 and May 31, 2022, under the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (National Park Service ([NPS] 1983) using 15-meter transects. ECORP expended 0.5 person-day in the field. At the time, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits.

No subsurface investigations or artifact collections were undertaken during the pedestrian survey. The shoulder of the rights-of-way of Auburn Boulevard was surveyed for cultural resources and to document the road. The 17.98-acre APE includes the rights-of-way of Auburn Boulevard, as outlined in Figure 4.5-1. Field Survey Coverage.

The information provided below is an abridged version of the Cultural Resources Inventory and Evaluation Report and is included here to provide a brief context of the potential cultural resources in the Project Area. Due to the sensitive nature of cultural resources and their records and documentation, which are restricted from public distribution by state and federal law, the IS/MND appendices do not include the cultural resources report; however, all pertinent information necessary for impact determinations is included in this section. A redacted version of the cultural resources report that does not include site records or locations may be obtained by contacting the City of Citrus Heights.

4.5.1 Environmental Setting

4.5.1.1 Project Area History

The Project Area is within the eastern portion of the historical area of Sacramento County known as Center Township, which developed around the towns of Antelope and Arcade in the 19th century. The Central Pacific Railroad was constructed through Center Township in 1864. Antelope and Arcade originally were railroad stops along the Central Pacific Railroad. The first building in the area was in the town of Antelope and was a large brick warehouse built in 1876. By 1879, the town or rail stop of Antelope had one hotel, two blacksmith shops, two stores, and four dwelling houses (Thompson and West 1880). The railroad passes through Antelope approximately 2.2 miles west of the Project Area.

Arcade was a flag station located where the dividing line between American and Center townships intersected with the Central Pacific Railroad. This stop was a section-house that was owned by the railroad and no buildings or settlements were established there. The train would not stop at a flag station unless a passenger *flagged* the train to have it stop. Arcade was located approximately eight miles southwest of the Project Area on the Central Pacific Railroad (Thompson and West 1880).

THIS PAGE INTENTIONALLY LEFT BLANK

Map Contents

- Property Boundary - 11.32 ac.
- APE Boundary - 17.98 ac.
- Survey Coverage

The property boundary and APE boundary depicted on this map were provided by BW Engineers in California State Plane 2 (NAD83), Grid Coordinates.

Sources: ESRI, Maxar (2021), BW Engineers

Location: N:\2018\2018-062.03 Citrus Heights On-Call - Woodside Homes\MAPS\cultural_resources\Woodside Survey Coverage.aprx - Woodside Sylvan APE 20220421 (ttrotellini - 5/16/2022)

Map Date: 5/16/2022

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 200

Figure 4.5-1. Field Survey Coverage

2018-062.03 Sylvan Corners Subdivision

THIS PAGE INTENTIONALLY LEFT BLANK

The Road to Auburn ran through the Center Township in a southwest-to-northeast direction along Arcade Creek. The Road to Auburn was used by miners to access Placer County gold mining camps that sprang up around the town of Auburn. The most prominent stop along the route in Center Township was the Twelve-Mile House located three miles southwest of the Project Area. The Twelve-Mile House was built as a way station for travelers hauling supplies to the mining camps in the 1800s. The original house was demolished in the 1870s. When Auburn Road was expanded in the 1920s, the Twelve-Mile House was rebuilt. Another stop was the Fourteen-Mile House that was built in 1851 (Van Maren 2011). Other stops along the route were built in 1850 but were later abandoned once the Sacramento Valley Railroad to Folsom was completed in 1856 (Thompson and West 1880).

The Center Township lies north of the American River and within the township were two Mexican land grants, Rancho del Paso and Rancho de San Juan. The Rancho del Paso, or the Norris Grant, occupied almost 30,000 acres of the Center Township and lies west of the Project Area. The Project Area is located within the easternmost edge of the Center Township and within the Rancho de San Juan land grant. The Rancho de San Juan consists of about 20,000 acres north of the American River in the Center and Mississippi townships and was given to Joel Dedmond in 1844 by Mexican governor Manuel Micheltorena (Thompson and West 1880). The Rancho de San Juan occupied almost 8,000 acres of the Center Township. The grant was later issued to Hiram Grimes on July 9, 1860. By 1880, the land was being sold into smaller tracts (Thompson and West 1880).

The City of Citrus Heights encompasses the area known as the Sylvan District of the Rancho de San Juan. After the Norris and San Juan land grants were issued, they were both later divided into large farm plots that were sold to settlers. The early settlers of the Citrus Heights area became farmers and cleared the oak trees to grow wheat, almonds, and later citrus, olives, and strawberries; they also raised cattle and turkeys (Van Maren 2011). The Sylvan Cemetery was established 1862 just north of the Project Area. Within the Project Area, the first grammar schoolhouse, the Sylvan grammar schoolhouse (previously recorded as P-34-4036), was in the Sylvan District in 1862 at Sylvan Corners. The old Sylvan grammar schoolhouse was moved from Sylvan Corners to a 0.5-acre parcel located at 6921 Sylvan Road in 1927. The building is still used today as a community clubhouse. San Juan High School, named after the land grant, opened in 1915. In 1976, Mesa Verde High School was built to accommodate an increase of students. The name Sylvan District was replaced with Citrus Heights in 1910 when a real estate firm bought large tracts of land in the area and felt that it would imply that citrus was easily grown here. The Sunrise Mall, located 1.5 miles southeast of the Project Area, was constructed in 1970 and sparked other commercial development near the Sunrise Boulevard and Greenback Lane intersection. Commercial development in Citrus Heights began in the 1970s and continued through the 1980s. Citrus Heights was incorporated in 1997 (Van Maren 2011).

Historically, the Project Area was the location of the Sylvan grammar schoolhouse, previously recorded as P-34-4036, which was built in 1862. The schoolhouse was built in a simple Greek Revival style of architecture and was the first grammar school building in the eastern part of Sacramento County (Cross 1943). The schoolhouse had a single classroom and two small broom or hat halls (Cross 1943). William Thomas donated land for the school site at Sylvan Corners and the district name Sylvan is attributed to him (Cross 1943; Van Maren 2011). The Sylvan grammar schoolhouse building was remodeled in 1903 and

a cupola was added, and windows were enlarged to provide better lighting (Van Maren 2011). The grammar schoolhouse building was deemed too small to serve the area, so it was moved to its current location at 6921 Sylvan Road on land donated by Adolph Van Maren in 1927 and remodeled. The grammar schoolhouse building also served as a community meeting location which included social affairs and church services.

After the grammar schoolhouse building was relocated, a newer school, the Sylvan Middle School or known as the Sylvan Intermediate School, was built within the Project Area in the 1930s and the campus was expanded over the years. The Sylvan Middle School campus has been previously recorded as P-34-618. In 2001, the campus (P-34-618) was evaluated using National Register of Historic Places (NRHP) and California Register of Historic Resources (CRHR) criteria and found to be not eligible under any criteria and subsequently demolished between 2016 and 2018. An aerial photograph from 2018 shows the Sylvan Middle School buildings have been demolished and removed entirely from the Project Area, leaving the property vacant. A new middle school was constructed just west of the Project Area in 1960s and today is known as the Sylvan Middle School.

4.5.1.2 Historic Context of Road Development

The following is a brief historical context for road development during the period when the segment of Auburn Boulevard within the Project Area was constructed and used. The context is included to better understand factors associated with road development and how the resource fits within that context.

Early Public Roads

Public roads in the western United States have their origins in the enabling acts of 1802 and 1803, which set aside proceeds from the sale of public lands in Ohio for the "laying out, opening and making roads" in western territories. The acts funded the National Road, a wagon road that traversed the Appalachian Mountains and facilitated early western settlement. During the 19th century, as the United States made western territorial gains, Congress directed Army engineers to establish hundreds of miles of wagon roads linking western military installations. Federal railroad surveys carried out after 1850 continued the work. For a generation of overland emigrants and freighters, 19th-century wagon roads established by Army engineers and railroad surveyors pointed the way west (Lamar 1998).

Many early public roads, particularly those that traversed mountain passes, followed Native American footpaths. In California, early nonnative incursions such as the de Anza (1774), Portola (1769), and Fremont (1844) expeditions relied on directions provided by California Indians. The roads that Spanish, Mexican, and American newcomers established over mountain passes linking missions, presidios, pueblos, ranchos, and forts often superseded preexisting Native American trails (Davis 1961).

The Good Roads Movement

During the second half of the 19th century, as the United States became preoccupied with railroad building, older wagon roads became neglected and degraded. "By 1900," observes one planning historian, "the nation with the greatest railway system in the world had the worst roads" (Johnson 1990). Interest in road building revived after 1890, as farmers and ranchers, many who settled on remote western lands

distant from railroads, pressured county officials for improvements. They were joined by millions of bicyclists who called for smoother roads in town and in the countryside. Joining forces, farmers, ranchers, and bicyclists in 1893 founded the National Good Roads Association to promote road improvements. In response, the federal government established the Office of Road Inquiry in the Department of Agriculture to study new road building methods (Lamar 1998).

For good roads proponents, unimproved dirt roads had limited value. Dusty during summer months, dirt roads became impassable during the winter and spring, as mud caused by snow, rain, and runoff played havoc with horse-drawn vehicles and bicycles. Overcoming mud and dust became a focus of good roads engineering. Early efforts involved wood. Plank roads made from lumber appeared in the 1850s. After 1860, a method called the Nicholson paving came into use. It consisted of square wood blocks nailed to planks and coated with tar. Concrete, gravel, and a form of compacted gravel called macadam also became widely used during the late 19th century. Finally, beginning in about 1885, asphalt—a mixture of bitumen, aggregate, and sand—became the standardized modern road surface in the United States. Durable, smooth, and impervious to water, asphalt withstood winter weather, reduced vehicular wear and tear, and facilitated better drainage (Kostof 1992).

Rural County Roads

The task of improving and maintaining rural roads in the United States typically fell to county governments. County boards of supervisors, acting on behalf of constituents, furnished taxpayer funds for the grading and paving of rural roads. Many rural county roads connected cities to smaller towns or to sites of production such as farms, ranches, mines, quarries, and mills. These roads, such as Auburn Boulevard, typically took on the name of a principal destination such a city, town, ranch, or mine.

Thousands of other rural county roads derived from the Public Land Survey System, a checkerboard of square-mile sections laid out by federal surveyors to facilitate the sale of western public lands. Because they marked farm boundaries, section and quarter-section lines became natural roadways (Johnson 1990). To create roads, neighboring landowners forfeited equal strips of land along section lines—typically 33 feet apiece making 66-foot roadways—to county boards of supervisors in exchange for taxpayer funded improvements (U.S. Department of Transportation 1976).

State Highways

The proliferation of automobiles in the United States after 1910 made road improvements a more urgent matter, kicking the Good Roads Movement into high gear. Between 1900 and 1915, 38 states organized state highway departments intended solely for the planning, paving, and maintenance of modern highways. Under the Federal Road Aid Act of 1916, the U.S. Bureau of Public Roads provided matching funds to expedite state highway improvement Projects. Many new state highways paralleled existing railroads or superseded older wagon roads (Lamar 1998).

Around the same time, Good Roads Movement proponents began forming groups such as the Lincoln Highway Association and Bankhead Highway Association. These groups did not build roads; they chose logical coast-to-coast routes and arranged publicity campaigns, prompting state highway departments to prioritize segments of coast-to-coast routes within their respective states (Hokanson 1999). In response,

the U.S. Bureau of Public Roads during the 1920s began designating federal highways such as U.S. 40, which traversed multiple states and receiving priority funding (Lamar 1998).

Suburban Streets

After 1910, as automobile usage surged in the United States, planners began articulating a *hierarchy of streets* to distinguish residential streets, two-lane collector streets, two- and four-lane arterial streets, and state highways, each handling progressively higher volumes of traffic. Through the remainder of the 20th century, as suburban growth supplanted farms and ranches on the edges of American cities, many rural county roads became adapted to suit new suburban landscapes. Roads that previously pointed the way to smaller towns, such as Auburn Boulevard, became two- and four-lane arterial streets lined with shopping centers and other commercial developments; others rural roads became two-lane collector streets lined with residential properties.

Auburn Boulevard

Auburn Road became established during the California Gold Rush as a miner's wagon road connecting Sacramento City to the town of Auburn in Placer County (Van Maren 2011). Along the road, "at short intervals, were located houses for the refreshment of man and beast." Traffic on Auburn Road, however, began declining in 1856, when the Sacramento Valley Railroad began running trains from Sacramento to Folsom (Thompson and West 1880:213). In 1864, the Central Pacific Railroad began running trains from Sacramento to Placer County, rendering Auburn Road obsolete for freighters (Robertson 1998). The 1866 General Land Office (GLO) Plat Map for Township 10 North, Range 6 East shows the *Road to Auburn* as trending in a northeast-southwest direction through Section 26. The *Road to Auburn* route corresponds with the alignment of today's Auburn Boulevard and Old Auburn Road. The 1866 GLO Plat Map also shows a road aligned with the north-south quarter-section line of Section 26. This corresponds with today's Auburn Boulevard north of the Auburn Boulevard-Sylvan Road-Old Auburn Road intersection. The 1888 Official Map of Sacramento County and 1902 USGS Fair Oaks Quadrangle indicate that Auburn Boulevard through the Project Area remained an unpaved county wagon road through 1900.

Newspaper reports indicate that by 1912, Auburn Road possessed a macadam surface, which consisted of gravel and oil. (The Sacramento Union 1912). That year, promoters of the new Arcade Park subdivision, four miles southwest of the Project Area, praised the "magnificent highway known as the Auburn Road," a "splendid macadamized County Road" (Ben Leonard Company 1912).

By 1912, big changes were in store for Auburn Road. In 1909, the California State Legislature passed the State Highways Act, which provided $18 million for the development of state highways. Auburn Road through Sacramento County became part of Route 3, which extended northeast from Sacramento to the Project Area. At the Auburn Boulevard-Sylvan Road intersection, highway engineers turned Route 3 north toward Roseville, aligning it with the unimproved north-south quarter-section line road through Section 26. Construction crews then set to work grading and paving the new north-south segment of Auburn Road (the segment northeast of the Project Area remained a county road named Old Auburn Road). When completed in February 1914, the new Auburn Road (Route 3) consisted of a 15-foot concrete base topped by a 1.5-inch sheet of asphalt (California Highway Commission 1913, 1914). A 1918 state

highways map confirms that by the end of the decade, the entire stretch of Auburn Road through the Project Area was paved with asphalt (State of California 1918).

In 1913, the Lincoln Highway Association chose a portion of Route 3, including Auburn Road through the Project Area, for inclusion in the coast-to-coast Lincoln Highway system. In 1929, the U.S. Bureau of Public Roads designated a portion of Route 3, including Auburn Road through the Project Area, as U.S. 40. U.S. 40 was decommissioned in 1964 upon the establishment of Interstate 80 (I-80). Today, *Historic U.S. 40 Highway* signs have been placed along the route within California.

The 1951 USGS Citrus Heights Quadrangle depicts Auburn Boulevard through the Project Area as a three-lane state highway (two lanes and a median), facilitating CA 99 and U.S. 40. Aerial photography in 1963 shows that Auburn Boulevard through the Project Area remained a two-lane road with a median through the early 1960s. By 1971, Auburn Boulevard appeared as a four-lane arterial road with a median fronted by modern schools, shopping centers, and single-family housing tracts, indicating that widening and other improvements occurred during the mid-lane 1960s as the surrounding area transitioned to a suburban landscape.

4.5.2 Regulatory Setting

4.5.2.1 Federal

National Historic Preservation Act

The National Historic Preservation Act (NHPA) requires that the federal government list significant historic resources on the NRHP, which is the nation's master inventory of known historic resources. The NRHP is administered by the NPS) and includes listings of buildings, structures, sites, objects, and districts that possess historic, architectural, engineering, archaeological, or cultural significance at the national, state, or local level.

Structures, sites, buildings, districts, and objects more than 50 years of age can be listed in the NRHP as significant historic resources. However, properties under 50 years of age that are of exceptional importance or are contributors to a historic district can also be included in the NRHP.[2] The criteria for listing in the NRHP include resources that:

a) are associated with events that have made a significant contribution to the broad patterns of history;

b) are associated with the lives of persons significant in our past;

c) embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent

[2] A [historic] district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development (NPS 1983).

a significant and distinguishable entity whose components may lack individual distinction; or

d) have yielded or may likely yield information important in prehistory or history.

4.5.2.2 State

California Register of Historical Resources

The State Historical Resources Commission designed the California Register of Historical Resources (CRHR) for use by state and local agencies, private groups, and citizens to identify, evaluate, register, and protect California's historical resources. The CRHR is the authoritative guide to the state's significant historical and archaeological resources. This program encourages public recognition and protection of resources of architectural, historical, archaeological, and cultural significance, identifies historical resources for state and local planning purposes, determines eligibility for state historic preservation grant funding, and affords certain protections under CEQA.

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both historical resources and unique archaeological resources. Pursuant to PRC § 21084.1, a "Project that may cause a substantial adverse change in the significance of an historical resource is a Project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed Projects would have effects on unique archaeological resources.

Historical resource is a term with a defined statutory meaning (PRC § 21084.1). Under CEQA Guidelines Section 15064.5(a), historical resources include the following:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (PRC § 5024.1).
- A resource included in a local register of historical resources, as defined in PRC § 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC § 5024.1(g), will be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource will be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources (PRC Section 5024.1), including the following:

a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b) Is associated with the lives of persons important in our past;

c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d) Has yielded, or may be likely to yield, information important in prehistory or history.

The fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to PRC § 5020.1(k)), or identified in a historical resources survey (meeting the criteria in PRC § 5024.1(g)) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC §§ 5020.1(j) or 5024.1.

Historic resources are usually 45 years old or older and must meet at least one of the criteria for listing in the CRHR, described above (such as association with historical events, important people, or architectural significance), in addition to maintaining a sufficient level of physical integrity.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC § 5024.1 and 14 CCR § 4850).

CEQA also requires lead agencies to determine if a proposed Project would have a significant effect on unique archaeological resources. If a lead agency determines that an archaeological site is a historical resource, the provisions of PRC Section 21084.1 and CEQA Guidelines Section 15064.5 would apply. If an archaeological site does not meet the CEQA Guidelines criteria for a historical resource, then the site may meet the threshold of PRC Section 21083.2 regarding unique archaeological resources.

"Unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

The CEQA Guidelines note that if a resource is neither a unique archaeological resource nor a historical resource, the effects of the Project on that resource shall not be considered a significant effect on the environment (14 CCR Section 15064[c][4]).

4.5.3 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Previously recorded resource P-34-618, the historic-era Sylvan Middle School campus, was previously found not eligible for the NRHP and CRHR and was demolished and removed from the property between 2016 and 2018. The surrounding landscape has been graded and no standing structures are present; therefore, the resource no longer retains integrity. In addition, the Project Area historically contained the 1860s Sylvan grammar schoolhouse (recorded as P-34-4036), however; the building was relocated to 6921 Sylvan Road in 1927 and is now being used as a community center. No evidence of the grammar schoolhouse was identified during the field survey.

The *CONFIDENTIAL Cultural Resources Inventory and Evaluation* identified one cultural resource within the Project Area: Auburn Boulevard. Auburn Boulevard was evaluated using NRHP and CRHR criteria and found to be significant under Criterion A, but not eligible due to diminished integrity. Therefore, NSSP-01, Auburn Boulevard, is not a historic property under Section 106 and is not a historical resource under CEQA. The proposed Project would not have an effect on historical resources or historic properties.

It is possible that underground deposits or evidence exist that were associated with the previously extant buildings (school buildings) within the Project Area. Therefore, there is moderate possibility that unanticipated historic-period subsurface discoveries (post-review discoveries), particularly in the central portion of the Project Area, could be encountered during construction given the presence of past historic-era structures on the property.

The likelihood of buried pre-contact archaeological sites increases with proximity to alluvial deposits along perennial waterways. There exists the low potential for buried pre-contact archaeological sites in the Project Area as the nearest alluvium would be from Cripple and Arcade Creeks, which are located over one-third mile away of the Project Area. That potential is lessened even more so with the lack of previously recorded pre-contact sites within 0.5 mile of the Project Area. Therefore, there remains a low possibility of encountering pre-contact archaeological deposits, which may arise during Project construction. With regards to the buried historic-era deposits, it is unlikely that the 1937 Middle School had privies or buried their garbage on site. While the 19th century schoolhouse may have had those types of deposits, the 1937 school was constructed on top of the original location of the earlier school house. That construction and recent demolition would have removed those deposits, so it is unlikely that there are intact buried deposits associated with the 19th century schoolhouse.

However, there remains the possibility that excavations associated with the development of the Project could affect subsurface intact archaeological deposits. Therefore, unanticipated subsurface discoveries

may arise during Project construction. As such, Mitigation Measure CUL-1 has been included to reduce the potential impact to historical resources to less than significant with mitigation incorporated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

See response to 4.5.3 a), above. Impacts would be less than significant with the incorporation of Mitigation Measure CUL-1.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The Project site is bounded by the historic-era Sylvan Cemetery to the north, but Project construction and operation would not affect the cemetery. Impacts would be less than significant with the incorporation of Mitigation Measure CUL-1.

4.5.4 Mitigation Measures

CUL-1: Unanticipated Discoveries

If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeology, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, the archaeologist shall immediately notify the lead agency. The agencies shall consult on a finding of eligibility and implement appropriate treatment measures, if the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines or a historic property under Section 106 NHPA, if applicable.

Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Historical Resource under CEQA or a Historic Property under Section 106; or 2) that the treatment measures have been completed to their satisfaction.

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the Sacramento County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the coroner determines the remains are Native American and not the result of a crime scene, the coroner will notify the Native American Heritage Commission (NAHC), which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

4.6 Energy

ECORP prepared a *Total Construction-Related and Operational Gasoline Usage* analysis (ECORP 2022c, Appendix E) for the proposed Project. The amount of operational automotive fuel use was estimated using the CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Sacramento County.

4.6.1 Environmental Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity. This analysis focuses on the four sources of energy that are relevant to the proposed Project: electricity, natural gas, the equipment fuel necessary for Project construction, and the automotive fuel necessary for Project operations.

4.6.1.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity, closely followed by renewables, large hydroelectric and nuclear (California Energy Commissions [CEC] 2021a). SMUD provides electricity services to Citrus Heights, which encompasses the Project Area. SMUD has served the Sacramento Area for over 75 years, providing electricity to 1.5 million people in a 900 square miles area. SMUD is a community owned electricity provider, operated by an elected Board of Directors. In 2021, the SMUD Board unanimously approved a Zero Carbon Plan that commits the utility company to removing all carbon emissions from its power supply by 2030. SMUD currently acquires power from a variety of energy sources, including wind power, solar power, hydropower, biomass, geothermal, and wholesale power purchased on the market.

The SMAQMD, the air pollution control agency for Sacramento County, prohibits all new operational Projects from being built with natural gas infrastructure and still be considered less than significant under CEQA. Federal and State laws give the SMAQMD authority to make such recommendations, which are followed by the local cities within their area of domain. As such, the proposed Project would not have any natural gas infrastructure as required by Mitigation Measure GHG-1 (see Section 4.8.3), and thus no natural gas will be used in the operations of the Project.

4.6.1.2 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption associated with all residential uses in Sacramento County from 2016 to 2020 is shown in Table 4.6-1. As indicated, the demand has increased since 2016.

Table 4.6-1. Residential Electricity Consumption in Sacramento County 2016-2020

Year	Electricity Consumption (kilowatt hours)
2020	5,160,932,169
2019	4,714,243,582
2018	4,719,373,900
2017	5,161,568,996
2016	4,784,432,043

Source: CEC 2021b

The natural gas consumption associated with all residential uses in Sacramento County from 2016 to 2020 is shown in Table 4.6-2. As indicated, the demand has increased since 2016.

Table 4.6-2. Residential Natural Gas Consumption in Sacramento County 2016-2020	
Year	**Natural Gas Consumption (therms)**
2020	196,703,812
2019	199,788,073
2018	194,345,859
2017	198,851,836
2016	182,459,477

Source: CEC 2021b

Automotive fuel consumption in Sacramento County from 2017 to 2021 is shown in Table 4.6-3. Fuel consumption demand has slightly decreased since 2017.

Table 4.6-3. Automotive Fuel Consumption in Sacramento County 2016-2020	
Year	**Total Fuel Consumption**
2021	670,501,447
2020	599,695,443
2019	687,314,567
2018	683,793,520
2017	682,656,089

Source: CARB 2021a

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	☐	☐	☒	☐

Less than Significant Impact.

Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. As previously described, the proposed Project would not have any natural gas infrastructure. For the purpose of this analysis, the amount of electricity estimated to be consumed by the Project is quantified and compared to that consumed by all residential land uses in Sacramento County. Similarly, the amount of fuel necessary for Project construction is calculated and compared to that consumed by

off-road equipment in Sacramento County, and the amount of fuel necessary for Project operations is calculated and compared to that consumed in Sacramento County.

The analysis of electricity is based on CalEEMod modeling conducted by ECORP (2022a), which quantifies energy use for Project operations (see Appendix A). The amount of operational automotive fuel use was estimated using the CARB's EMFAC2021 computer program, which provides projections for typical daily fuel usage in Sacramento County (see Appendix E). The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1 (2016). Energy consumption associated with the proposed Project is summarized in Table 4.6-4.

Table 4.6-4. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Building Energy Consumption		
Electricity Consumption	740,037 kilowatt-hours	0.014 percent
Natural Gas Consumption	0 therms*	0 percent
Automotive Fuel Consumption		
Project Construction Year One	17,044 gallons	0.003 percent
Project Construction Year Two	70,148 gallons	0.010 percent
Project Construction Year Three	3,153 gallons	0.0005 percent
Project Operations	88,100 gallons	0.013 percent

Source: Refer to Appendix A for building energy consumption calculations and Appendix E for Fuel Consumption calculations.

Notes: * = The Project will have no natural gas infrastructure to comply with SMAQMD's Tier 1 Best Management Practices, which prohibit natural gas infrastructure in all new operational Projects.

The Project increases in electricity and natural gas consumption are compared with all of the residential buildings in Sacramento County in 2020, the latest data available. The Project increases in construction and operations automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Operation of the proposed Project only includes electricity usage. As shown in Table 4.6-4, the annual electricity consumption due to operations would be 740,037 kilowatt-hours, resulting in an imperceivable increase (0.014 percent) in the typical annual electricity consumption attributable to all residential uses in Sacramento County. This is potentially a conservative estimate since in September 2018 Governor Jerry Brown Signed Executive Order (EO) B-55-18, which established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving net zero CO_2 emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for Greenhouse Gas (GHG) emission

reduction. Governor's Executive Order B-55-18 requires CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal." Furthermore, the Project will not have any natural gas infrastructure, and as the sources of SMUD's energy become more sustainably generated, this allows this Project's energy usage to have less of a carbon footprint. For these reasons, the Project would not result in the inefficient, wasteful, or unnecessary consumption of building energy.

Fuel necessary for Project construction would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project site. The fuel expenditure necessary to construct the physical building and infrastructure would be temporary, lasting only as long as Project construction. As further indicated in Table 4.6-4, the Project's gasoline fuel consumption during the one-time construction period is estimated to be 17,044 gallons over the course of the first year of construction, 70,148 gallons in the second year of construction, and 3,153 gallons in the third year of construction. This would increase the annual construction related fuel use in the county by 0.003 percent, 0.010 percent, and 0.0005 percent respectively. As such, Project construction would have a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the state. Construction contractors would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

The Project is estimated to generate approximately 680 daily trips (Fehr and Peers 2022a). As indicated in Table 4.6-4, this would result in the consumption of approximately 88,100 gallons of automotive fuel per year, which would increase the annual countywide automotive fuel consumption by 0.013 percent. This analysis conservatively assumes that all of the automobile trips projected to arrive at the Project during operations would be new to Sacramento County. Further, a liberal approach was taken for vehicle trip estimation to ensure potential impacts due to operational gasoline usage were adequately accounted. Fuel consumption associated with vehicle trips generated by the Project would not be considered inefficient, wasteful, or unnecessary in comparison to other similar developments in the region.

For these reasons, this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Less than Significant Impact.

The Project would be designed in a manner that is consistent with relevant energy conservation plans designed to encourage development that results in the efficient use of energy resources. The Project will be built to the Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6, of the CCR (Title 24). Title 24 was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately every three years; the 2016 standards became effective January 1, 2017. The 2019 Title 24 updates went into effect on January 1, 2020. The 2019 Energy Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Energy Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 Energy Standards are a major step toward meeting Zero Net Energy. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments. Additionally, in January 2010, the State of California adopted the California Green Building Standards Code (CalGreen) that establishes mandatory green building standards for all buildings in California. The code was subsequently updated in 2013. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and indoor environmental quality. With these building standards in place, the Project would not obstruct any state or local plan for renewable energy or energy efficiency.

Additionally, SMAQMD requires all projects to implement Tier 1 Best Management Practices, which mandates that all project plans be designed and constructed without natural gas infrastructure and that all projects must adhere to the current Cal Green Tier 2 standards. As required by Mitigation Measure GHG-1, the Project design and construction will implement the Tier 1 Best Management Practices, which help to promote renewable energy measures.

For these reasons, this impact would be less than significant.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

The analysis presented in this section is based in part on the City of Citrus *Heights General Plan Update EIR* (2011b) and the *Geotechnical Engineering Report* completed for the proposed Project by Mid Pacific Engineering, Inc. (MPE) on February 23, 2021 (MPE 2021, Appendix F). MPE conducted 10 exploratory borings and 10 test pits at various locations throughout the Project site on January 29, 2021 (see Figure 2 of Appendix F).

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The Project site area is located in the Sacramento Valley, which forms the northern portion of the Great Valley geomorphic province of California. The Great Valley is an alluvial plain approximately 50 miles wide and 400 miles long that lies between the mountains and foothills of the Sierra Nevada to the east and the Coast Ranges to the west. It was once an arm of the ocean that became isolated by mountain ranges as they formed and eventually rose above sea level. As a result, the valley is underlain by an asymmetrical depression (formed by intersecting, downward sloping folds of bedrock) in which marine sediments from the receding ocean were followed more recently by river deposits (alluvial deposits) washing down from the Sierra Nevada and the Klamath, Cascade, and Coast Ranges (City of Citrus Heights 2011b).

The Great Valley covers more than 6,500 square miles and fills a northwest-trending structural depression bounded on the west by the Great Valley fault zone and the Coast Ranges and on the east by the Sierra Nevada and the Foothills fault zone. Relatively few faults in the Great Valley have been active during the last 10,000 years. Most of the surface of the Great Valley is covered with Holocene and Pleistocene-age alluvium, composed primarily of sediments from the Sierra Nevada and the Coast Ranges that were carried by water and deposited on the valley floor. Siltstone, claystone, and sandstone are the primary types of sedimentary deposits. Older Tertiary deposits underlie the Quaternary alluvium (Hackel 1966, Cherven and Graham 1983).

The Great Valley is divided into various geomorphic subunits characterized by Holocene deposits, including the low-lying Delta lands that extend along Sacramento County's western boundary. This region was previously covered with tidal marshes and sloughs. Currently, this area has been drained and numerous islands have been created by the construction of the levee system. Citrus Heights is located within the Delta geomorphic subunit, a Holocene floodplain containing peat deposits (City of Citrus Heights 2011b).

4.7.1.2 Site Topography

The northern and southern portions of the site are approximately 3 to 5 feet lower than central portions of the site. The western portion of the site is approximately 5 to 10 feet lower than central portion of the site (MPE 2021).

4.7.1.3 Soils

According to the NRCS Web Soil Survey database, the Project site consists of Urban Land-Xerarents-Fiddyment complex, 0 to 8 percent slopes (NRCS 2022). The soil type has the following properties:

- Drainage Class: Well-Drained
- Flooding Frequency Class: Never
- Hydrologic Soil Group: D

4.7.1.4 Paleontological Resources

ECORP prepared a *Paleontological Assessment Memorandum* (ECORP 2022d, Appendix G) for the proposed Project to determine if paleontological resources were present in or adjacent to the Project Area and assess the area for undiscovered paleontological resources. ECORP conducted an online record search on the University of California Museum of Paleontology (UCMP) database and published and unpublished literature. Although no fossils have been documented from the proposed Project site, there have been fossils discovered from the Pleistocene Epoch nearby. The UCMP database has 126 documented localities where vertebrate fossils have been discovered. These discoveries are documented in Table 4.7-1.

Table 4.7-1. Closest Known Fossil Localities

Location	Formation	Taxa
Davis Gravel Pit (V6747)	Unknown Pleistocene	*Equus, Camelops, Camelops hesternus*
Chicken Ranch Slough 1 (V6846)	Unknown Pleistocene	*Mammuthus columbi*
Chicken Ranch Slough 2 (V68141), Sacramento County	Unknown Pleistocene	*Equus*
Teichert Gravel Pit E 1 (V69129), Sacramento County	Unknown Pleistocene	*Canis latrans, Canis dirus, Bison, Thomomys, Aves, Orthodon, Scapanus latimanus, Neotoma, Mammuthus, Mammuthus columbi, Thamnophis, Microtus, Spermophilus, Reithrodontomys, Sylvilagus, Rana, Sorex, Scaphiopus, Archoplites*
Teichert Gravel Pit E 2 (V75126), Sacramento County	Unknown Pleistocene	*Camelops hesternus, Glossotherium harlani*
Ehrhardt Avenue, Sacramento County	Unknown Pleistocene	*Mammuthus columbi*

The *Paleontological Assessment Memorandum*, Appendix G of this document provides the UCMP database results, more details about the geology, and the probability of finding fossil specimens.

4.7.2 Regulatory Setting

Laws and regulations relevant to the proposed Project are presented below.

4.7.2.1 Federal

Natural Resources Conservation Service

The U. S. Department of Agriculture NRCS produces soil surveys that assist planners in determining which land uses are suitable for specific soil types and locations.

4.7.2.2 State

California Geologic Survey

The California Geological Survey (CGS) provides regulatory information pertaining to soils, geology, mineral resources, and geologic hazards. CGS maintains and provides information about California's nonfuel mineral resources.

August-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This state law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. There are no Alquist-Priolo Earthquake Fault Zones in the planning area (City of Citrus Heights 2011b).

California Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 directs CGS to identify and map areas prone to earthquake hazards of liquefaction, earthquake-induced landslides, and amplified ground shaking. The purpose of the act is to reduce threats to public safety and to minimize loss of life and property by identifying and mitigating these seismic hazards. The Seismic Hazards Mapping Act was passed by the California Legislature after the 1989 Loma Prieta earthquake. There are no Zones of Required Investigation in the Project area (City of Citrus Heights 2011b).

California Building Standards Code

The State of California provides minimum standards for building design through the California Building Standards Code (CBC, CCR Title 24). Information on current code requirements can be found on the California Building Standard Commission's website. The CBC applies to all occupancies throughout the state unless local amendments have been adopted, and includes regulations for seismic safety, excavation of foundations and retaining walls, and grading activities (including drainage and erosion control and construction on unstable soils).

4.7.2.3 Local

Citrus Heights Municipal Code

Chapter 18 of the Municipal Code provides regulations for buildings and construction. Article 4 of the City's building code adopts by reference the California Building Code Part 2, 2007 Edition, which is based on the 2006 International Building Code. Article 12 includes land grading and erosion control requirements to minimize the degradation of water quality and water courses; disruption of drainage flows from land preparation and development activities; and sediment and pollutant runoff from construction activities.

Citrus Heights General Plan

- 50.1: Implement the California Building Code to comply with federal and State earthquake protection and slope stability standards for new development.
- 50.2: Require soils reports for new development to identify the potential for liquefaction, expansive soils, ground settlement, and slope failure. Require reports to contain remedial measures that could be feasibly implemented to minimize potential impacts.

4.7.3 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☒	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐

Less than Significant Impact.

4.7.3.1 Surface Fault Rupture

There are no active faults within or near the City of Citrus Heights; the Project site is not within an Alquist-Priolo Earthquake Fault Zone as delineated by the State Geologist. The closest active fault mapped by the California Division of Mines and Geology is the Foothills Fault Zone about 15 miles to the northeast of the City (City of Citrus Heights 2011b). Impacts would be less than significant.

4.7.3.2 Seismic Shaking

The proposed Project is required to comply with the California Building Code, which includes requirements for site improvements and building design to ensure Project features would withstand the likely level of seismic ground shaking anticipated for the site. This would reduce any impacts related to ground shaking from distant seismic events to a less than significant level.

4.7.3.3 Liquefaction and Landslides

Seismic Hazard Zones are areas delineated by the State Geologist as areas of liquefaction and landslide hazards. There are no Seismic Hazards Zones identified within the City of Citrus Heights (City of Citrus Heights 2011). Compliance with the California Building Code would reduce any minor potential for liquefaction or landslides to a less-than-significant level. As noted in the City of Citrus Heights General Plan EIR, the City of Citrus Heights planning area has not been identified as having liquefaction potential. The depth to the water table and the underlying geologic materials within the planning area do not support high liquefaction potential (City of Citrus Heights 2011b). Impacts would be less than significant.

4.7.3.4 Geologic and Soil Instability

The General Plan identified the soil underlying the Project site as Urban Land-Xerarents-Fiddyment complex. This soil is considered stable and has a low potential for landslide, lateral spreading, subsidence, liquefaction, and/or collapse. As required by chapter 18 of the CBC and Chapter 18.12 of the City of Citrus Heights Municipal Code, the Project's preliminary soil report and geotechnical report must evaluate whether there are expansive soils on-site and provide recommendations for design of the site improvements and buildings to avoid adverse effects related to expansive soils, if present. The *Geotechnical Engineering Report* found expansion potential of on-site near surface and surface soils to be very low (MPE 2021). Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than Significant Impact.

Native topsoil present at the Project site is disturbed. Construction activities would include replacement of the underlying soil with engineered fill, per MPE's recommendation in the *Geotechnical Engineering Report*. This soil disturbance could result in soil erosion. Best Management Practices (BMPs) are included as part of the SWPPP prepared for the proposed Project and would be implemented to manage and erosion the loss of topsoil during construction-related activities, as described in Section IX. Implementation of the SWPPP would reduce soil erosion impacts to a less than significant level.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

Less than Significant Impact.

See response to 4.7.3 a), above. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☒	☐

Less than Significant Impact.

Urban Land-Xerarents-Fiddyment complex soil that underlies the Project site has a moderate potential for expansion (NRCS 2022). As noted in the City of Citrus Heights General Plan EIR, "Expansive or shrink-swell soils contain substantial amounts of clay minerals that swell when wet and shrink when dry. These clays tend to swell despite the heavy loads imposed by large structures. Damage (such as cracking of foundations) results from differential movement and from the repetition of the shrink-swell cycle. Shrinking and swelling of soil can damage roads, dams, building foundations, and other structures. In some cases, this problem may be avoided by removing the top soil layer before placing a foundation" (City of Citrus Heights 2011b). As the top soil layer at the Project site has been previously disturbed and any remaining top soil would likely be removed, the potential for the site to contain expansive soil is low. In compliance with the City of Citrus Heights General Plan Policy 50.2, a soils report that identifies potential for liquefaction, expansive soils, ground settlement, and slope failure will be required for the Project site. In accordance with Policy 50.2, this report would also specify remedial measures that could be feasibly implemented to ensure that Project engineering and design appropriately addresses any constraints posed by site soils and geologic conditions (City of Citrus Heights 2011a). With compliance with the City's General Plan, potential adverse effects related to expansive soils would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

No Impact.

No septic tanks or alternative wastewater disposal systems are proposed. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

The underlying geology of the Project site is composed of Pleistocene nonmarine sediments belonging to the Turlock Lake Formation (ECORP 2022d). The Turlock Lake Formation (450,000 to 600,000 years before present) consists of Pleistocene arkosic alluvium consisting of sand, silt, and gravel forming dissected alluvial. The surface geology consists of Holocene alluvium (11,700 years before present) representing sediments that are more recent. ECORP conducted a search of the University of California Museum of Paleontology (UCMP) Specimen Search program in July 2022 (ECORP 2022d, Appendix G). Although no fossils have been documented from the proposed Project site, there have been fossils discovered from the Pleistocene Epoch nearby. The UCMP database has 126 documented localities where vertebrate fossils have been discovered. Additionally, fish, plant fragments, petrified wood, and ichnofossils have been discovered from the Turlock Lake Formation in nearby Roseville, CA. The Project site may be considered sensitive for paleontological resources. This impact is considered potentially significant because unknown paleontological resources could be discovered during excavation. Implementation of Mitigation Measure GEO-1 would reduce this impact to less than significant with mitigation incorporated.

4.7.4 Mitigation Measures

GEO-1: Discovery of Unknown Paleontological Resources

If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until the City is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. In addition, in the event of an inadvertent find, sediment samples shall be collected and processed to determine additional fossil potential on the Project site. If the City resumes work in a location where paleontological remains have been discovered and cleared, the City shall have a paleontologist onsite to observe any continuing excavation to confirm that no additional paleontological resources are in the area. Any fossil materials uncovered during mitigation activities shall be deposited in an accredited and permanent scientific institution, such as the UCMP Berkeley, for the benefit of current and future generations.

4.8 Greenhouse Gas Emissions

This section is based in part on the results of the Air Quality and Greenhouse Gas Assessment conducted for the Project (ECORP 2022a; Appendix A). This analysis was prepared using methods and assumptions recommended in the rules and regulations of the (SMAQMD). This section presents regional and local

existing conditions in addition to pertinent Greenhouse Gas (GHG) emissions-related standards and regulations. The purpose of this assessment is to estimate Project-generated GHG emissions and to determine the level of impact the Project would have on the environment.

4.8.1 Environmental Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO_2, methane (CH_4), and N_2O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 4.8-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2 (IPCC 2014). Often, estimates of GHG emissions are presented in CO_2e, which weigh each gas by its global warming potential. Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO_2 is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO_2

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO_2 emissions remains stored in the atmosphere (IPCC 2013).

Table 4.8-1. Greenhouse Gases

Greenhouse Gas	Description
CO_2	Carbon dioxide is a colorless, odorless gas. CO_2 is emitted in a number of ways, both naturally and through human activities. The largest source of CO_2 emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO_2 emissions. The atmospheric lifetime of CO_2 is variable because it is so readily exchanged in the atmosphere.[1]
CH_4	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH_4 to the atmosphere. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH_4 is about 12 years.[2]
N_2O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N_2O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N_2O is approximately 120 years.[3]

Sources: [1]USEPA 2016a, [2] USEPA 2016b, [3] USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

4.8.1.1 Sources of Greenhouse Gas Emissions

In 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO_2e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the State. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the

downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO_2e in 2019, only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO_2e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the State's GHG emissions in 2019, accounting for 21 percent (CARB 2021a).

4.8.2 Regulatory Framework

4.8.2.1 State

Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the state. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

Assembly Bill 32 Climate Change Scoping Plan and Updates

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by SB 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

Senate Bill 32 and Assembly Bill 197 of 2016

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

In 2018, SB 100 was signed codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008, which became effective in January 2009, helps facilitate AB 32's GHG reduction goals by addressing the emissions from passenger vehicles. The main objectives of the bill aim to reduce GHG emissions through extensive transportation, housing, and land use planning. SB 375 directs CARB to establish regional targets to reduce GHG emissions from passenger vehicle use. CARB administers 2020 and 2035 targets for each of the regions throughout the State. The corresponding metropolitan planning organizations in each region are required to prepare and adopt a Sustainable Communities Strategy (SCS) which help adhere to the CARB administered targets. Sustainable Community Strategies play a vital role in regional transportation plans by allowing transportation, land use, and housing strategies to align with the State's GHG emission goals. Project Plans that are consistent with their region's SCS may be subject to a more streamlined CEQA process.

2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards includes the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen Building Standard (CalGreen) and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update. CalGreen contains voluntary "Tier 1" and "Tier 2" standards that are not mandatory statewide but could be required by a City or County. These are 'reach' standards that can be adopted by local jurisdictions and may be incorporated as mandatory standards in future code cycles.

4.8.2.2 Local

Sacramento Metropolitan Air Quality Management District

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SMAQMD has established operation GHG reduction thresholds, as well as construction-related reductions. The GHG targets and reduction recommendations made by the SMAQMD have taken into considerations reports and guidelines from various state agencies and organizations, such as the California Air Pollution Control Officers Association CEQA & Climate Change guidelines, the CARB Scoping Plan, the California Natural Resource Agency's CEQA Guidelines, and other reputable sources. In February 2021, the SMAQMD revised the Greenhouse Gas Emissions Chapter within their CEQA Guide.

The SMAQMD has both construction and operational thresholds for GHG emissions within their CEQA Guide. Their construction thresholds establish a bright line threshold of 1,100 metric tons/year. For projects with operations, the SMAQMD has created an Operational Screening Level Table, which specifies land uses that are not expected to go over 1,100 metric tons/year and thus are sufficiently addressed in a CEQA analysis by qualitative measures. The Proposed Project falls outside of the Screening Table range, and thus is subject to a quantitative measure of analysis, including the implementation of SMAQMD required Tier 1 Best Management Practices (BMPs). The Proposed Project will be subject to mitigation measure GHG-1 (see below). This mitigation measure outlines the Tier 1 guidelines set out by the BAAQMD, which if implemented into the project, will create a less than significant impact.

4.8.2.3 Thresholds of Significance

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The project would result in a significant impact to greenhouse gas emissions if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases or

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section 15064.4(a) states that lead agencies "shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate" GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project's GHG emissions or rely on a "qualitative analysis or other performance-based standards." (14 CCR 15064.4(b)). A lead agency may use a "model or methodology" to estimate GHG emissions and has the discretion to select the model or methodology it considers "most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change." (14 CCR 15064.4(c)). Section 15064.4(b)

provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that "[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence" (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions." Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The local air quality agency regulating the SVAB is the SMAQMD, the regional air pollution control officer for the basin. As previously stated, to provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SMAQMD has set thresholds and required BMPs to implement throughout the Project construction and operations. The numeric bright line thresholds and BMPs described above were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

In *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal. 4th 2014, 213, 221, 227, following its review of various potential GHG thresholds proposed in an academic study [Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203], the California Supreme Court identified the use of numeric bright-line thresholds as a potential pathway for compliance with CEQA GHG requirements. The study found numeric bright line thresholds designed to determine when small projects were so small as to not cause a cumulatively considerable impact on global climate change was consistent with CEQA. Specifically, Public Resources Code section 21003(f) provides it is a policy of the State that "[a]ll persons and public agencies involved in the environmental review process be responsible for carrying out the process in the most efficient, expeditious manner in order to conserve the available financial, governmental, physical and social resources with the objective that those resources may be better applied toward the mitigation of actual significant effects on the environment." The Supreme Court-reviewed study noted, "[s]ubjecting the smallest projects to the full panoply of CEQA requirements, even though the public benefit would be minimal, would not be consistent with implementing the statute in the most efficient, expeditious manner. Nor would it be consistent with applying lead agencies' scarce resources toward mitigating actual significant climate change impacts." (Crockett, *Addressing the Significance of Greenhouse Gas Emissions: California's Search for Regulatory Certainty in an Uncertain World* (July 2011), 4 Golden Gate U. Envtl. L. J. 203, 221, 227.)

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The City Citrus Heights may set a project-specific threshold based on the context of each particular project, including using the SMAQMD expert recommendation. For the Proposed Project, the SMAQMD's 1,100 metric tons of CO_2e per year threshold is used as the significance threshold in addition to the implementation of Tier 1 Best Management Practices (BMPs). Land use projects that are under the 1,100 metric tons of CO_2e per year level and would eliminate natural gas completely (BMP 1) would be in accordance with the State's 2045 Carbon Neutrality Goal. Therefore, in order to be less than significant, the proposed Project would need to adhere to all SMAQMD guidelines, policies, and thresholds.

4.8.2.4 Methodology

GHG emissions-related impacts were assessed in accordance with methodologies recommended by the SMAQMD. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction generated GHG emissions were calculated using CalEEMod model defaults for Sacramento County. Operational GHG emissions were based on the Project site plans and traffic trip generation rates from the *Transportation Impact Assessment* by Fehr and Peers (2022a).

4.8.3 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

4.8.3.1 Construction Emissions

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 4.8-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

Table 4.8-2. Construction-Related Greenhouse Gas Emissions

Emissions Source	CO_2e (Metric Tons/Year)
Construction Year One	173
Construction Year Two	712
Construction Year Three	32
Maximum Construction Emissions	**712**
SMAQMD Significance Threshold	*1,100*
Exceed SMAQMD Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment B for Model Data Outputs.

As shown in Table 4.8-2, Project construction would result in the maximum generation of 712 metric tons of CO_2e over the course of construction, which is below the SMAQMD significance threshold. Additionally, the City of Citrus Heights Greenhouse Gas Reduction Plan (2011b) Measure 4-1.A mandates that all new Projects are required to implement construction emission mitigation plan protocols and BMPs established by the SMAQMD. Once construction is complete, the generation of these GHG emissions would cease.

4.8.3.2 Operational Emissions

Operation of the Project would result in an increase in GHG emissions primarily associated with motor vehicle trips and onsite energy sources. Long-term operational GHG emissions attributed to the Project are identified in Table 4.8-3.

Table 4.8-3. Operational-Related Greenhouse Gas Emissions	
Emissions Source	**CO_2e (Metric Tons/ Year)**
Area Source	2
Energy	121
Mobile	591
Waste	45
Water	14
Total	**773**
SMAQMD Significance Threshold	*1,100*
Exceed SMAQMD Threshold?	**No**

Source: CalEEMod version 2020.4.0. Refer to Attachment B for Model Data Outputs.
Notes: Emission projections predominately based on CalEEMod model defaults for Sacramento County. Average daily vehicle trips provided by Fehr and Peers (2022a). Tier 1 BMPs are included in the model as a part of SMAQMD guidelines.

As shown in Table 4.8-3, Project operations would result in 773 metric tons/year of CO2e. The SMAQMD CEQA Guidance on GHG Emissions states that "Projects that exceed 1,100 metric tons/year after implementation of tier 1 BMPs must implement tier 2 BMPs (BMP 3)." As shown in Table 4.8-3, the GHG emissions produced by Project operations would not exceed the 1,100 metric tons per year threshold. However, SMAQMD specifies that all projects shall adhere to the Tier 1 requirements. In order to ensure compliance with the SMAQMD guidelines, the proposed Project will adhere to Mitigation Measure GHG-1. Mitigation Measure GHG-1 consists of the SMAQMD Tier 1 BMPs and would reduce potential impacts to less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Less than Significant Impact.

The significance of the Project's GHG emissions is evaluated consistent with CEQA Guidelines Section 15064.4(b)(2) by considering whether the Project complies with applicable plans, policies, regulations and requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. The Citrus Heights Greenhouse Gas Reduction Plan (GGRP) (2011b) includes a GHG inventory, an emission reduction target, and reduction measures to reach their GHG targets. The recommended strategies and measures within the plan would be a reduce GHG emissions by approximately 87,267 metric tons of CO_2e emissions per year (equivalent to a 13.7 percent reduction

below 2005 levels) and thus achieve the City's adopted 2020 emission reduction target. However, the Citrus Heights GGRP has not been updated since its adoption in 2011 and its most recent GHG target is for 2020. Therefore, it would not be considered appropriate to utilize this document and compare the Project's consistency with it.

Nonetheless, California promulgates several mandates and goals to reduce statewide GHG emissions, including the goal to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (California Senate Bill [SB] 32) and 80 percent below 1990 levels by the year 2050 (Executive Order S-3-05). The Proposed Project is subject to compliance with SB 32. As discussed previously, Project-generated GHG emissions would not surpass the significance threshold of 1,100 metric tons of CO_2e established by the SMAQMD. The 1,100 metric tons of carbon dioxide equivalent threshold was prepared with the purpose of complying with statewide GHG-reduction efforts. Therefore, the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Impacts would be less than significant.

4.8.4 Mitigation Measures

GHG-1: Implement SMAQMD Tier 1 Best Management Practices.

The implementing agency shall require the Project to implement Sacramento Metropolitan Air Quality Management District Tier 1 Best Management Practices:

- BMP 1 - Projects shall be designed and constructed without natural gas infrastructure.
- BMP 2 - Projects shall meet the current CalGreen Tier 2 standards, except all electric vehicle capable spaces shall instead be electric vehicle ready.

4.9 Hazards and Hazardous Materials

The analysis presented in this section is based in part on the results of the *Phase I Environmental Site Assessment (ESA)* prepared in February 2021 (Appendix H), *Phase II ESA* prepared in April 2021 (Appendix I), and *Remediation Plan* prepared in September 2021 (Appendix J) by Youngdahl Consulting, Inc., and the *Removal Action Completion Report (RACR)* prepared by GSI Environmental, Inc. in April 2022 (Appendix K).

4.9.1 Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency, or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, Section 25501 as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in 22 CCR Section 662601.10 as follows:

> A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

Transporters of hazardous waste in California are subject to several federal and state regulations. They must register with the California Department of Health Services (DHS) and ensure that vehicle and waste container operators have been trained in the proper handling of hazardous waste. Vehicles used for the transportation of hazardous waste must pass an annual inspection by the California Highway Patrol (CHP). Transporters must allow the CHP or DHS to inspect its vehicles and must make certain required inspection records available to both agencies. The transport of hazardous materials that are not wastes is regulated by the U.S. Department of Transportation through national safety standards.

Other risks resulting from hazardous materials include the use of these materials in local industry, businesses, and agricultural production. The owner or operator of any business or entity that handles a hazardous material above threshold quantities is required by state and federal laws to submit a business plan to the local Certified Unified Program Agency (CUPA). The Sacramento County Environmental Compliance Division is designated by the State Secretary for Environmental Protection as the CUPA for Sacramento County in order to focus the management of specific environmental programs at the local government level. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits and conduct inspection and enforcement activities throughout Sacramento County. This approach strives to reduce overlapping and sometimes conflicting requirements of different governmental agencies independently managing these programs. The County will refer large cases of hazardous materials contamination or violations to the Central Valley RWQCB (Region 5) and the California Department of Toxic Substances Control (DTSC). It is not uncommon for other agencies, such as federal and state Occupational Safety and Health Administrations, to become involved when issues of hazardous materials arise.

Under Government Code Section 65962.5, both the DTSC and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. The Project site is not listed by the DTSC as a hazardous substances site on the list of hazardous waste sites compiled pursuant to Government Code § 65962.5 (Cortese List). Per the SWRCB Cortese List, a leaking underground storage tank, located under Auburn boulevard near the intersection with Hackney Way, case was closed in 1989. The case was due to a gasoline leak. There are no active cases from either list within 1000 feet of the Project site.

4.9.1.1 Project Site

The Project site was used for the Sylvan Middle School as early as 1908 and had numerous structures added to the campus throughout its operational history until its demolition in 2016-2017. The school

buildings were concentrated in the middle of the site. The City purchased the Project site from the District in 2019.

Recognized Environmental Conditions (RECs)

RECs are defined in the American Society for Testing and Materials Phase I Standards to mean "the presence or likely presence of any hazardous substance or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment." The following RECs were identified in the *Phase I ESA*:

- Lead-based paint was detected in interior and exterior paints at the school campus according to a Hazardous Materials Survey conducted prior to demolition; therefore, there is potential that lead has impacted exposed soils adjacent to the location of the former structures.
- There is potential that organochlorine pesticides (OCPs) for termites remain in soils adjacent to former wooden buildings constructed between the mid-1940s and 1988.
- Buildings constructed or renovated between 1950 and 1979 may have used materials such as caulking that contain polychlorinated biphenyls (PCBs); therefore, there is potential that PCBs have impacted exposed soils that were beneath windows of buildings that were constructed or renovated during this time.

A *Phase II ESA* was conducted to evaluate the potential presence of soils impacted by heavy metals, lead-based paint, PCBs, and/or termite pesticides. 59 discrete soil samples and 3 duplicate samples were collected at strategic locations adjacent to the location of former structures. The *Phase II ESA* soil sampling found 4 locations where PCBs exceeded human health risk screening levels and 1 location where OCPs exceeded human health risk screening levels in addition to being characterized as hazardous waste.

A *Remediation Plan* was prepared in September 2021 by Youngdahl Consulting Group, Inc. to direct the removal of contaminated soil from the Project site. The soil removal and confirmation sampling activities described in the *RACR* were conducted by GSI Environmental, Inc. in accordance with the *Remediation Plan*. The results of the confirmation soil sampling indicate that Polychlorinated Biphenyl (PCB) and Organochlorine Pesticide (OCP) impacted soil in excess of residential screening levels was removed from the designated excavation areas and the *Remediation Plan* is considered complete.

De Minimis Conditions (DMCs)

DMCs are those conditions that do not present a material risk of harm to public health or the environment and generally would not be subject to enforcement action if brought to the attention of the regulating authority. The following DMC was identified by the Phase I ESA:

- The demolition plans provided to the City by the San Juan Unified School District indicate an Underground Storage Tank (UST) was in place and removed. However, permits for the removal of the UST were not located by the City during the preparation of the 2021 Phase I ESA. Therefore, it is not confirmed that the UST was removed. It may have been abandoned in place.

Other Items of Concern

Although not listed as a REC or DMC by Youngdahl (2021) in the *Phase I ESA*, remnants of transite (asbestos-cement) pipe were found during the test pits conducted by MPE (2021) in support of the *Geotechnical Engineering Report*. The City provided demolition logs detailing transite pipe removal to Youngdahl during preparation of the *Phase I ESA*, but it's possible not all transite pipe was removed during its demolition in 2016. The amount of transite pipe remaining onsite is not quantifiable until the site is excavated for placement of engineered fill. The soil will be sifted during excavation to ensure all transite pipe is removed from the site. The construction contractor will be required to comply with any air quality regulations for disposal, including CARB's Asbestos Airborne Toxic Control Measures (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations and California Division of Occupational Safety and Health (Cal/OSHA) guidelines.

4.9.1.2 Naturally Occurring Asbestos

Ultramafic rock complexes that may contain asbestos are not located within the Project area (City of Citrus Heights 2011b).

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than Significant Impact.

There are no existing structures on the Project site; therefore, the Project would not require any demolition that could potentially expose workers or others to asbestos, lead paints, or other hazardous building materials. Furthermore, there are no known active hazardous materials release sites on or within 1000 feet of the Project site, as per the DTSC and SWRCB Cortese Lists. Additionally, PCB and OCP-contaminated soils were removed in accordance with a *Remediation Plan* prepared by Youngdahl Consulting Group, Inc. A UST may have been abandoned in place during the Sylvan Middle School demolition. BMPs as recommended in the *Phase I ESA* will ensure care is taken during site grading operations in the event the UST remains on the property. Transite pipe that may remain onsite will be removed in accordance with CARB's Asbestos ATCM for Construction, Grading, Quarrying, and Surface Mining Operations and Cal/OSHA guidelines.

Construction of the proposed Project would involve temporary use of hazardous materials, including fuel for construction equipment, paints, solvents, and lubricants. Handling of these materials would be performed in accordance with construction BMPs. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than Significant Impact.

See response to a), above. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐

Less than Significant Impact.

The new Sylvan Middle School is located adjacent to the southwest corner of the Project site. Mesa Verde High School is located a quarter mile northwest of the Project site. As discussed in a), above, BMPs would ensure that a less than significant impact occurs during the use and storage of hazardous materials throughout Project construction. Hazardous materials beyond normal household uses would not occur on the Project site post-construction.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No Impact.

See response to a), above. There would be no impact.

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Area?	☐	☐	☐	☒

No Impact.

The Project site is located more than 5 miles from the nearest airport, McClellan Airfield. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

No Impact.

The Project would not interfere with any adopted emergency or evacuation plans. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	☒

No Impact.

The Project site is not located adjacent to any wildlands, and development of this site would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. There would be no impact.

4.9.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

Surface Water

Headwaters of Arcade and Cripple Creeks originate in Sacramento County, draining the southwest portion of Orangevale. Both streams maintain perennial flows, except in their upper reaches. Similarly, many of the named and unnamed tributaries also maintain perennial flows, although historically these streams were seasonal, flowing under the influence of precipitation. As such, a significant portion of perennial flow in drainages of Arcade and Cripple Creeks is comprised of urban runoff, with existing dry season summer flows likely greater than historic dry season summer flows. For the most part, the streams in Citrus Heights are unaltered (i.e., they have not been straightened and/or concrete lined), and maintain a riparian corridor. Cripple Creek and associated named and unnamed tributaries drain the northern half of Citrus Heights, while Arcade Creek and associated named and unnamed tributaries drain the southern half of Citrus Heights, and portions of unincorporated Sacramento County (City of Citrus Heights 2011b).

Groundwater

Groundwater occurs in the "saturation zone" which is an area below ground that accumulates water. Water from precipitation, irrigation, and stream flows enters the ground from the surface and trickles down to the saturation zone. The rate of groundwater recharge (i.e., water flowing into the saturation zone) depends upon a variety of geologic and hydrologic factors. Groundwater is a primary source of water supply for domestic, municipal, and agricultural uses throughout Sacramento County; as a result excess removal (also known as "overdraft") of this resource has been documented. The Citrus Heights area is not currently experiencing groundwater overdraft. Citrus Heights is located on the Fair Oaks Geologic Formation. This geologic formation is comprised of relatively thick deposits of silt and clay with thinner deposits of sand and gravel. The Fair Oaks Formation can yield moderate to high quantities of water, primarily dependent upon whether fine grained or coarse material is present. Wells to depths greater than 300 feet may encounter the underlying Mehrten Formation, with water yields roughly equivalent to the Fair Oaks Formation. Groundwater in the vicinity of Citrus Heights generally flows to the west and ranges in depth from approximately 80 feet above Mean Sea Level (msl) in the east to 20 feet below msl in the west (City of Citrus Heights 2011b).

4.10.1.2 Site Hydrology and Onsite Drainage

The site is vacant and stormwater drains though groundwater infiltration. The Project proposes a stormwater detention basin in on the southern corner of the site.

4.10.2 Regulatory Setting

4.10.2.1 State

Porter Cologne Water Quality Control Act of 1969

The Porter Cologne Water Quality Control Act, otherwise known as the California Water Code, is California's statutory authority for the protection of water quality. Under the Porter Cologne Act, the state must adopt water quality policies, plans, and objectives that protect the state's waters for the use and enjoyment of the people. The Porter Cologne Act sets forth the obligations of the SWRCB and RWQCBs pertaining to the adoption of Basin Plans and establishment of water quality objectives. It also authorizes the SWRCB and RWQCBs to issue and enforce permits containing waste discharge requirements. Basin Plans establish beneficial uses, water quality objectives, and implementation programs for each of the nine regions in California. Unlike the federal Clean Water Act, which regulates only surface water, the Porter Cologne Act regulates both surface water and groundwater.

Municipal Regional Stormwater Permit

In the City of Citrus Heights, storm water discharge through the City's municipal storm drain system is managed through a joint NPDES Permit with the County of Sacramento and the cities of Sacramento, Folsom, Rancho Cordova, Elk Grove, and Galt (NPDES Permit No. CAS082597, Waste Discharge Requirement Order No. R5-2008-0142). The joint NPDES permit regulates all wet and dry weather runoff discharge in the County, including the City of Citrus Heights. The joint permit requires implementation of a storm water management program (the Sacramento Stormwater Quality Partnership described below addresses this requirement) which includes the use of BMPs. Wastewater discharges from Wastewater Treatment Plants (WWTP) are also required to have an NPDES permit. WWTPs are typically required to obtain individual permits from the RWQCB. The permits include findings, discharge prohibitions, effluent limitations, provisions, and self-monitoring requirements. The findings of the NPDES permit process provide information about treatment plant design and operations, beneficial uses to be protected, and applicable standards.

NPDES General Permit for Construction

The SWRCB's statewide stormwater general permit for construction activity (Order 2009-0009-DWQ) approved on September 2, 2009, and effective July 1, 2010, applies to all land-disturbing construction activities that would disturb more than one acre. Construction activities subject to the general construction activity permit include clearing, grading, stockpiling, and excavation. Dischargers are required to eliminate or reduce non-storm water discharges to storm sewer systems and other waters. The permit also requires dischargers to consider the use of post-construction permanent BMPs that will remain in service to protect water quality throughout the life of the Project. Types of BMPs include source controls, treatment controls, and site planning measures. Activities subject to the NPDES general permit for construction activity must develop and implement a SWPPP. The SWPPP includes a site map and description of construction activities and identifies the BMPs that will be employed to prevent soil erosion and discharge of other construction related pollutants, such as petroleum products, solvents, paints, and

cement, that could contaminate nearby water resources. A monitoring program is generally required to ensure that BMPs are implemented according to the SWPPP and are effective at controlling discharges of storm water related pollutants.

4.10.2.2 Local

Sacramento Stormwater Quality Partnership

Sacramento area public agencies, including the County of Sacramento and the Cities of Sacramento, Citrus Heights, Elk Grove, Folsom, Galt, and Rancho Cordova, have joined together to form the Sacramento Stormwater Quality Partnership (SSQP). The agencies work together to implement the conditions of the Municipal Regional Stormwater Permit described above. In addition to implementation of the permit requirements, the goals of the SSQP are to:

- educate and inform the public about urban runoff pollution,
- encourage public participation in community and clean-up events,
- work with industries and businesses to encourage pollution prevention,
- require construction activities to reduce erosion and pollution, and
- require development Projects to include pollution controls that will continue to operate after construction is complete.

The SSQP coordinates and cost-shares various major elements of its activities, including monitoring, target pollutant reduction, special studies, regional public outreach, and program evaluation. The partnership members also coordinate and cost-share selected construction/new development and commercial/industrial activities. The County and City of Sacramento generally conduct and manage the joint work and are reimbursed by the other members according to a cost-share Memorandum of Understanding.

City of Citrus Heights Municipal Code

City of Citrus Heights Municipal Code Chapter 106.30.040 "Creekside Development & Flood Hazard Mitigation" contains performance standards and requirements for development near creeks, setback areas to open spaces, and flood hazard mitigation.

4.10.3 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☐	☒	☐

Less than Significant Impact.

While the Project would increase the amount of impervious surfaces onsite, it would include adequate drainage facilities consistent with the Sacramento Stormwater Quality Partnership. Therefore, the Project would not significantly change hydrologic patterns in the area. Construction and operation of the proposed Project could introduce pollutants and sediment into stormwater runoff from the site.

Construction

The proposed development would involve construction activities including grading, material storage and stockpiling, paving, and building. Sediment created by soil disturbance during or immediately after site grading would have the potential to affect water quality. Surface water runoff from the site could carry sediment through storm drains to local waterways. In addition, accidental release of pollutants associated with construction could also degrade the quality of water runoff from the site and contribute pollution to local waterways. Construction activities would include the use of gasoline and diesel-powered heavy equipment, such as graders, backhoes, water pumps, and air compressors. Gasoline, diesel, lubricating oil, hydraulic oil, lubricating grease, automatic transmission fluid, paints, solvents, glues, and other substances could be used during construction, and could be released into surface water runoff. Onsite portable toilets would have the potential to leak or tip over and spill, releasing sanitary waste, bacteria, solids, nutrients, and pathogens into surface water runoff.

The Project would include preparation and implementation of a SWPPP in compliance with NPDES requirements of the Clean Water Act. The requirements of the NPDES program are administered in California by the State Water Resources Control Board and the RWQCB and enforced through the State Construction General Permit process. The SWPPP must identify specific BMPs that will be used at the Project site to treat and control stormwater, reduce sedimentation, and prevent erosion. The SWPPP is expected to include site maps showing existing and proposed physical site conditions, stormwater collection and discharge points, and drainage patterns; a description of BMPs to be implemented to prevent construction pollutants from contacting storm water, prevent or control erosion, and manage non-storm water and construction materials; figures showing how and where specific BMPs would be implemented; and a schedule for maintaining BMPs.

Compliance with NPDES requirements is a Standard Project Condition that would ensure the Project does not result in a significant impact related to changes in the quantity, rate, or quality of stormwater runoff from the site. The SWPPP must determine the Project's risk level and include the appropriate BMPs and other measures to ensure compliance with all requirements of the Clean Water Act, the NPDES program, and the Construction General Permit.

Additionally, the proposed Project would be required to comply with the City of Citrus Heights Land Grading and Erosion Control Ordinance, City of Citrus Heights Municipal Code Chapter 18, Article XII. This Ordinance includes the stipulation that a grading and erosion control permit be required for any Project resulting in the grading, filling, excavation, storage, or disposal of 50 or more cubic yards of soil or earthly material (City of Citrus Heights Land Grading and Erosion Control Ordinance Sec. 18-348). Compliance with the conditions of the Construction General Permit and the requirements of the Land Grading and

Erosion Control Ordinance would further ensure that construction of the proposed Project would not result in runoff that is polluted with sediments or other water pollutants.

With implementation of the SWPPP and with the conditions of the City grading and erosion control permit, the proposed Project construction would comply with the applicable water quality and waste discharge standards and would not otherwise substantially degrade water quality. Thus, hydrology and water quality impacts would remain less than significant during Project construction.

Project Operations

The City of Citrus Heights is required to operate under a Municipal Stormwater NPDES Permit to discharge stormwater from the City's storm drain system to surface waters. As stated in the City of Citrus Heights Stormwater Ordinance, the City is a co-permittee under the waste discharge requirements of the County of Sacramento and the cities of Sacramento, Elk Grove, Folsom, and Galt for Storm Water Discharges from Municipal Separate Storm Sewer Systems (Order No. R5-2002-0206). These waste discharge requirements also serve as NPDES permits under the federal Clean Water Act (NPDES No. CA0082597) (City of Citrus Heights Stormwater Ordinance Sec. 98-201). The proposed Project would comply with the requirements of the municipal stormwater permit.

As stated in the City of Citrus Heights Stormwater Ordinance, the City is authorized to establish specified performance requirements and requirements for BMPs to minimize post-construction discharge of stormwater pollutants from new development or significant redevelopment. The City is also authorized to implement the development standards plan and to comply with the requirements associated with development standards in the municipal stormwater permit. The Stormwater Ordinance states that the requirements for new development and redevelopment "may include but are not limited to operational BMPs, building material specifications or limitations, site design requirements, signage and marking, and associated maintenance programs or schedules" (City of Citrus Heights Stormwater Ordinance Sec. 98-223).

Stormwater detention will occur at the southern tip of the site within the 40,895 square foot Open Space Lot E. The detention/water quality basin would be a minimum of 12,000 sf. The ultimate configuration and capacity of the basin will be determined based on a drainage study currently being prepared by the applicant. Conformance with the municipal stormwater permit (NPDES permit #CA0082597) and with any additional BMPs and development standards required by the City would ensure that hydrology and water quality impacts would be reduced to a less than significant level during operation of the proposed Project and that the Project would not conflict with any water quality standards or waste discharge requirements.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐

Less than Significant Impact.

According to the City's General Plan, Citrus Heights sits atop the Fair Oaks Geologic Formation which can yield moderate to high quantities of water. Groundwater can be found at depths between 80 feet above msl to 20 feet below msl and is considered to have good quality in the Citrus Heights area. The proposed Project would incorporate low-impact development features and water-conserving building design and equipment to minimize the Project's effects on groundwater. These types of features are required under the General Plan for new development Projects (Actions 34.3.B and 62.4.A). Although the proposed Project would increase impervious surfaces on the Project site, the detention basin would ensure the Project would not substantially change the site's contribution to groundwater recharge. The proposed Project would therefore result in a less than significant impact to groundwater recharge.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation onsite or offsite;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding onsite or offsite;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐

Less than Significant Impact.

The potential for erosion or siltation to occur during Project construction is discussed above, and implementation of the SWPPP required as a standard Project condition would ensure that this potential impact remains less than significant.

There are no water courses on or adjacent to the site, and Project construction would not result in the alteration of the course of a stream or river. The proposed Project would alter the existing drainage pattern of the site; however, site runoff would be detained in an onsite detention basin. Site improvements would be made to convey and detain stormwater runoff for groundwater infiltration. Site drainage would be designed for a 100-year storm event and therefore would not exceed the capacity of

downstream existing or planned drainage systems. The proposed Project will have a less than significant impact to surface runoff and flood flows.

The City of Citrus Heights Stormwater Ordinance, Municipal Code Section 98-223 authorizes the City to establish required BMPs to minimize the long-term, post-construction discharge of stormwater pollutants. The ordinance states that these BMP requirements may be included in development standards, building codes, building permits, conditions of development, or other appropriate instruments administered by the City. Compliance with required BMPs as incorporated by the City into the Project's permits, development standards, and conditions of approval would ensure that impacts related to an increase in polluted runoff would remain less than significant. Use of BMPs to protect stormwater quality is also recommended in City of Citrus Heights General Plan policies 37.1 and 37.3.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation?	☐	☐	☐	☒

No Impact.

The Project is not within a flood hazard, tsunami or seiche zone. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less than Significant Impact.

As stated above, the proposed Project would be required to comply with SWPPP and NPDES regulations and would not obstruct or conflict with water quality control or sustainable groundwater management plans. Impacts would be less than significant.

4.10.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The Project site is located at 7137 Auburn Blvd in the City of Citrus Heights, located on the northwest corner of the intersection of Auburn Boulevard and Sylvan Road. The Project site is bounded on the east and south ends by Auburn Boulevard. Sylvan Middle School is immediately adjacent to the southwest

corner of the site. School baseball fields border the Project site along a majority of the western side. Single-family residential uses abut the northwest corner. Sylvan Cemetery abuts the Project site along the eastern portion of the northern boundary.

The Project site is designated Public in the City of Citrus Heights General Plan and Zoned RD-2. The RD-1 through RD-4 districts are applied to areas appropriate for large-lots and detached single dwellings, together with hobby farming and keeping of animals, public and quasi-public uses, and similar and compatible uses. The RD-1 through RD-4 zoning districts are consistent with and implement the Very Low Density Residential Land Use Designation of the General Plan. Land Use Designations for the Project site and surrounding area are shown in Figure 4.11-1. Existing Land Use Designations and zoning is shown in Figure 4.11-2. Existing Zoning.

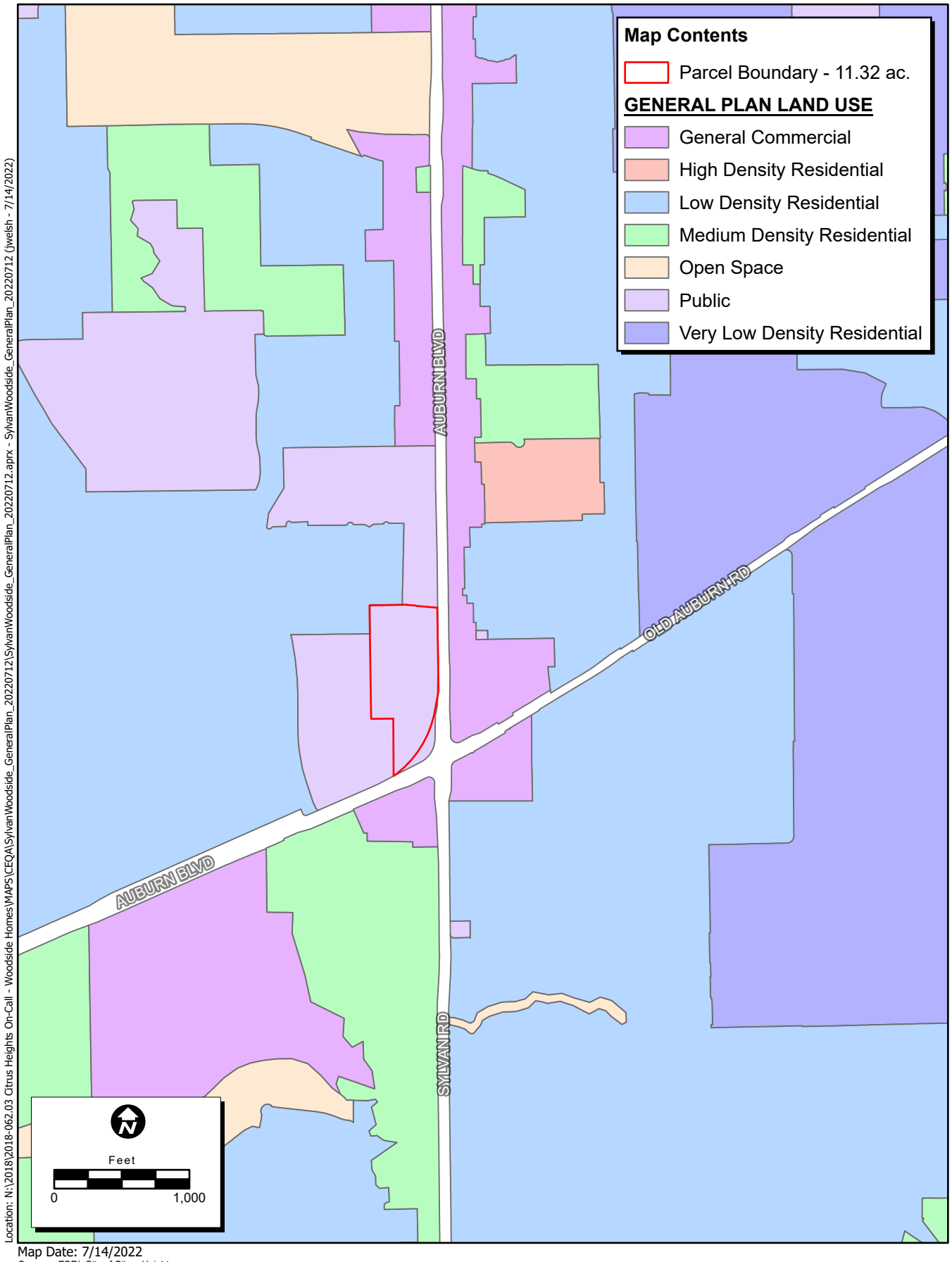
4.11.2 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No Impact.

The proposed Project would develop a vacant lot in a predominantly residential area to a single-family home neighborhood. This development would not physically divide the existing nearby neighborhoods. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐



Map Date: 7/14/2022
Sources: ESRI, City of Citrus Heights

Figure 4.11-1. Existing General Plan Designations

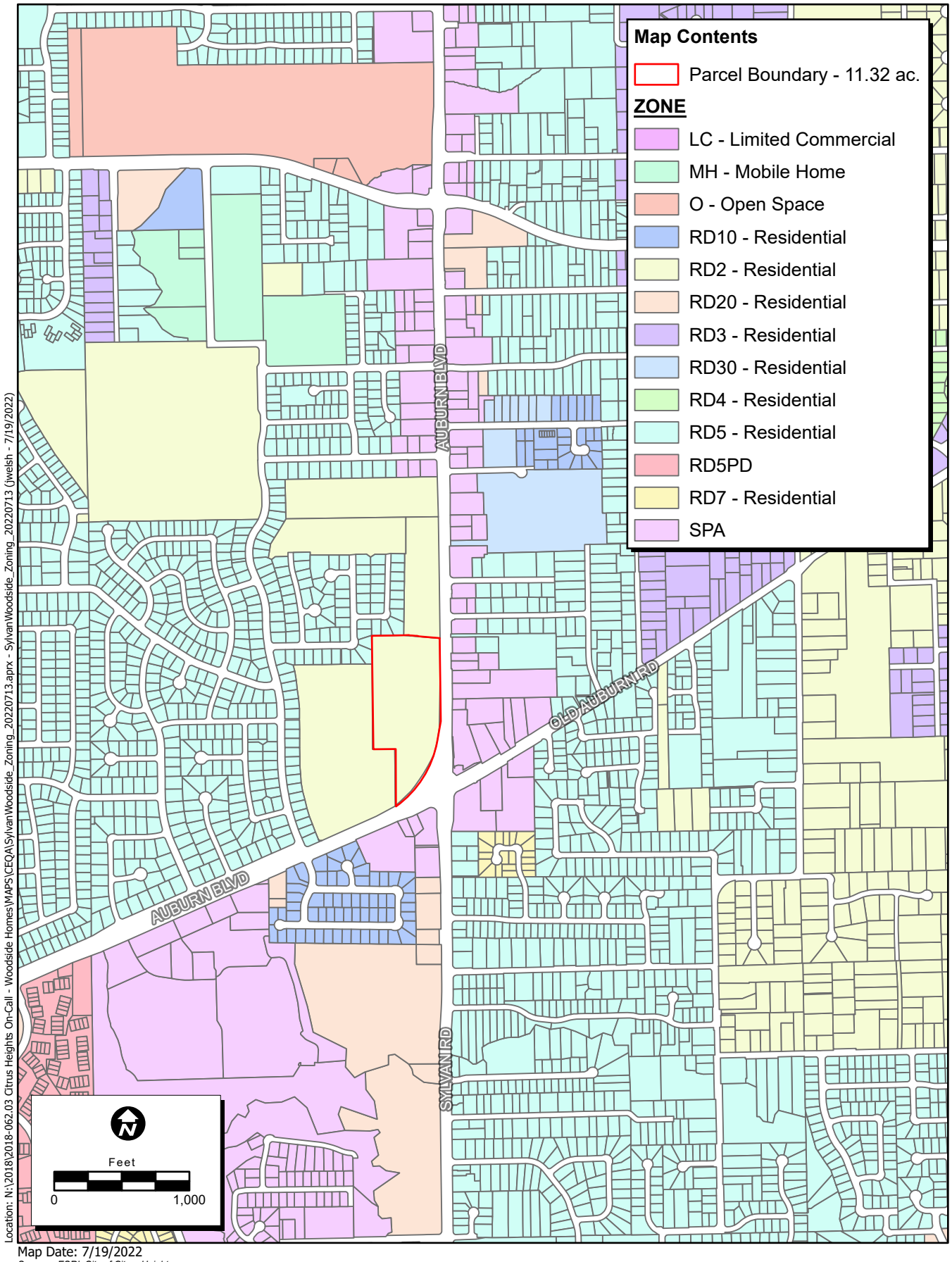


Figure 4.11-2. Existing Zoning

Less than Significant Impact.

The proposed Project would require a General Plan Amendment and rezone to a SPA. If approved by the City, the Project site would be designated medium density residential and zoned SPA, which would support the proposed use. Impacts would be less than significant.

4.11.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Regulatory Setting

Minerals are defined as any naturally occurring chemical elements or compounds formed by inorganic processes and organic substances. Minable minerals are defined as a deposit of ore or minerals having a value materially in excess of the cost of developing, mining, and processing the mineral and reclaiming the Project area. The conservation, extraction, and processing of mineral resources is essential to meeting the needs of society.

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) states that cities and counties shall adopt ordinances "...that establish procedures for the review and approval of reclamation plans and financial assurances and the issuance of a permit to conduct surface mining operations..." (PRC Section 2774). The intent of this legislation is to ensure the prevention or mitigation of the adverse environmental impacts of mining, the reclamation of mined lands, and the production and conservation of mineral resources are consistent with recreation, watershed, wildlife, and public safety objectives (PRC Section 2712).

SMARA requires the State Geologist to classify land into Mineral Resource Zones (MRZs) according to the known or inferred mineral potential of that land. The process is based solely on geology, without regard to existing land use or land ownership. The primary goal of mineral land classification is to ensure that the mineral potential of land is recognized by local government decision makers and considered before land use decisions, which could preclude mining, are made. Areas subject to California mineral land classification studies are divided into the following Mineral Resource Zone (MRZ) categories that reflect varying degrees of mineral potential:

- MRZ-1: Areas of no mineral resource significance
- MRZ-2: Areas of identified mineral resource significance
- MRZ-3: Areas of undetermined mineral resource significance
- MRZ-4: Areas of unknown mineral resource significance

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No Impact.

No mineral resources are currently being mined or produced in the Project area. The Project area has been evaluated for California SMARA Mineral Land Classification. The classification system is intended to ensure consideration of statewide or regionally significant mineral deposits in planning and development administration. The Project area is designated as MRZ-1, which is defined as "areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence" (City of Citrus Heights 2011b). There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No Impact.

See response to 4.12.2 a). There would be no impact.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

This section documents the results of a *Noise Impact Assessment*, prepared by ECORP in October 2022 (ECORP 2022e; Appendix L), as a comparison of predicted proposed Project noise levels to noise standards promulgated by the City of Citrus Heights General Plan Noise Element and Municipal Code. The purpose of this section is to estimate Project-generated noise levels and determine the level of impact the proposed Project would have on the environment. This section describes the existing environmental and regulatory conditions specific to noise and addresses the potential impact posed by the proposed Project.

4.13.1 Environmental Setting

4.13.1.1 Fundamentals of Noise and Environmental Sound

Addition of Decibels

The decibel (dB) scale is logarithmic, not linear, and therefore sound levels cannot be added or subtracted through ordinary arithmetic. Two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted (dBA), an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70-dBA sound is half as loud as an 80-dBA sound and twice as loud as a 60-dBA sound. When two identical sources are each producing sound of the same loudness, the resulting sound level at a given distance would be three dB higher than one source under the same conditions (Federal Transit Administration [FTA] 2018). For example, a 65-dB source of sound, such as a truck, when joined by another 65 dB source results in a sound amplitude of 68 dB, not 130 dB (i.e., doubling the source strength increases the sound pressure by three dB). Under the decibel scale, three sources of equal loudness together would produce an increase of five dB.

Typical noise levels associated with common noise sources are depicted in Figure 4.13-1. Common Noise Levels.

Sound Propagation and Attenuation

Noise can be generated by a number of sources, including mobile sources such as automobiles, trucks and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately 6 dB (dBA) for each doubling of distance from a stationary or point source (Federal Highway Administration [FHWA] 2017). Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dBA for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (FHWA 2017). No excess attenuation is assumed for hard surfaces like a parking lot or a body of water. Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dBA per doubling of distance is normally assumed. For line sources, an overall attenuation rate of three dB per doubling of distance is assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction of 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the "line of sight" between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise

transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver.

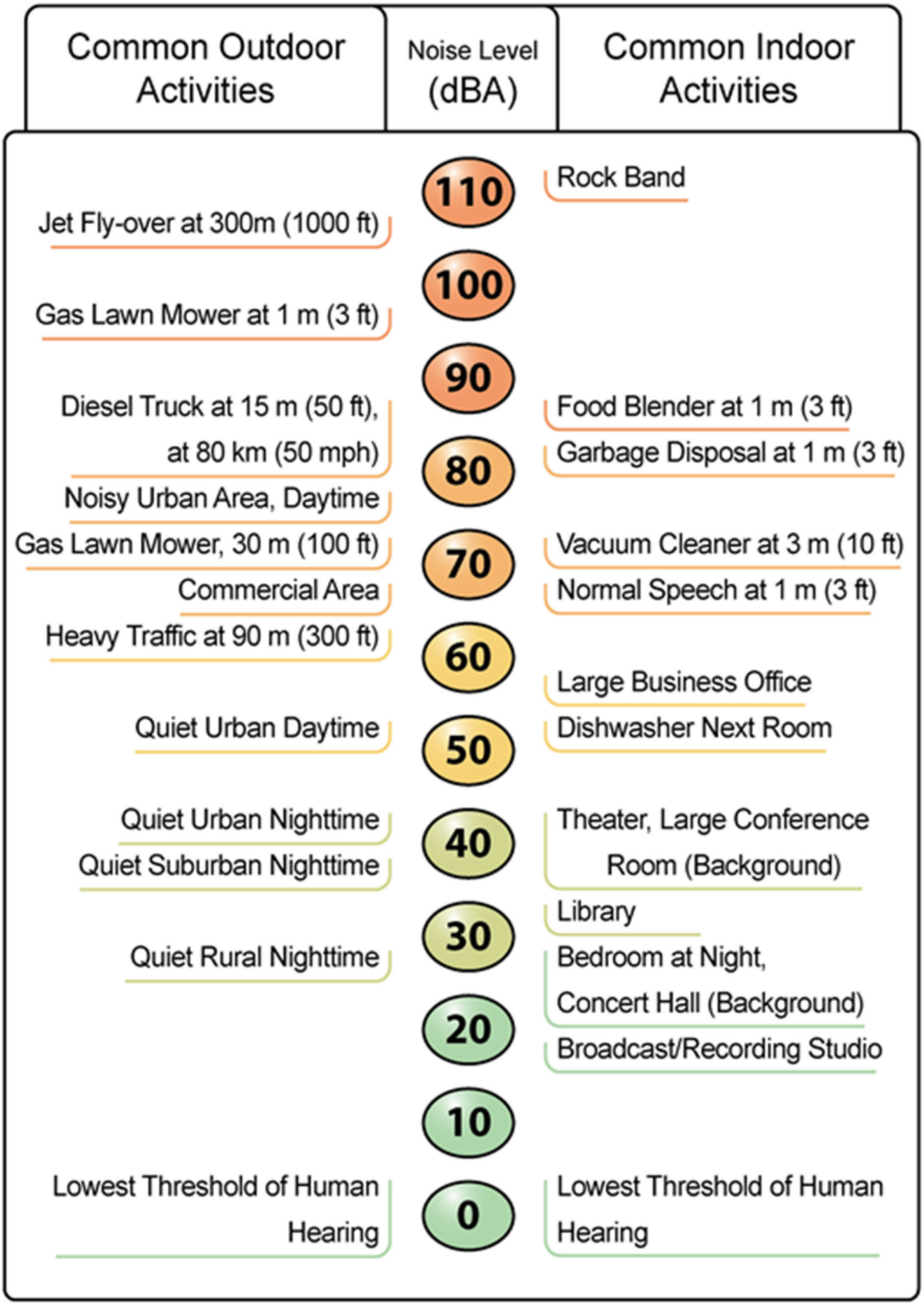
The manner in which older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows (Caltrans 2002). The exterior-to-interior reduction of newer residential units is generally 30 dBA or more (Harris Miller, Miller & Hanson Inc. 2006). Generally, in exterior noise environments ranging from 60 dBA Community Noise Equivalent Level (CNEL) to 65 dBA CNEL, interior noise levels can typically be maintained below 45 dBA, a typical residential interior noise standard, with the incorporation of an adequate forced air mechanical ventilation system in each residential building, and standard thermal-pane residential windows/doors with a minimum rating of Sound Transmission Class (STC) 28. STC is an integer rating of how well a building partition attenuates airborne sound. In the U.S., it is widely used to rate interior partitions, ceilings, floors, doors, windows, and exterior wall configurations). In exterior noise environments of 65 dBA CNEL or greater, a combination of forced-air mechanical ventilation and sound-rated construction methods is often required to meet the interior noise level limit.

Attaining the necessary noise reduction from exterior to interior spaces is readily achievable in noise environments less than 75 dBA CNEL with proper wall construction techniques following California Building Code methods, the selections of proper windows and doors, and the incorporation of forced-air mechanical ventilation systems.

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis and defined as follows:

- **Equivalent Noise Level (L_{eq})** is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
- **Day-Night Average (L_{dn})** is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.4 dBA L_{dn}.



Source: California Department of Transportation (Caltrans) 2020a

Figure 4.13-1. Common Noise Levels

- **Community Noise Equivalent Level (CNEL)** is a 24-hour average L_{eq} with a 5-dBA weighting during the hours of 7:00 pm to 10:00 pm and a 10-dBA weighting added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the evening and nighttime, respectively.

Table 4.13-1 provides a list of other common acoustical descriptors.

Table 4.13-1. Common Acoustical Descriptors

Descriptor	Definition
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micropascals (or 20 micronewtons per square meter), where 1 pascal is the pressure resulting from a force of 1 newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micropascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sounds are below 20 Hz and ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn}	A 24-hour average Leq with a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA Ldn.
Community Noise Equivalent Level, CNEL	A 24-hour average Leq with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.7 dBA CNEL.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Table 4.13-1. Common Acoustical Descriptors	
Descriptor	**Definition**
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20.

The A-weighted decibel sound level scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about ±1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends on the distance between the receptor and the noise source. Close to the noise source, the models are accurate to within about ±1 to 2 dBA.

Human Response to Noise

The human response to environmental noise is subjective and varies considerably from individual to individual. Noise in the community has often been cited as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance. The health effects of noise in the community arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination. Hearing loss can occur at the highest noise intensity levels.

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL or L_{dn} is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. Examples of low daytime levels are isolated, natural settings with noise levels as low as 20 dBA and quiet, suburban, residential streets with noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA) and commercial locations (typically 60 dBA). People may consider louder environments adverse, but most will accept the higher levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA). Regarding increases in A-weighted noise levels (dBA), the following relationships should be noted in understanding this analysis:

- Except in carefully controlled laboratory experiments, a change of 1 dBA cannot be perceived by humans.
- Outside of the laboratory, a 3-dBA change is considered a just-perceivable difference.
- A change in level of at least 5 dBA is required before any noticeable change in community response would be expected. An increase of 5 dBA is typically considered substantial.
- A 10-dBA change is subjectively heard as an approximate doubling in loudness and would almost certainly cause an adverse change in community response.

Effects of Noise on People

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over eight hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources.

4.13.1.2 Fundamentals of Environmental Groundborne Vibration

Vibration Sources and Characteristics

Sources of earthborne vibrations include natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or manmade causes (explosions, machinery, traffic, trains, construction equipment). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions).

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the Peak Particle Velocity (PPV); another is the Root Mean Square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared

amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

PPV is generally accepted as the most appropriate descriptor for evaluating the potential for building damage. For human response, however, an average vibration amplitude is more appropriate because it takes time for the human body to respond to the excitation (the human body responds to an average vibration amplitude, not a peak amplitude). Because the average particle velocity over time is zero, the RMS amplitude is typically used to assess human response. The RMS value is the average of the amplitude squared over time, typically a 1- sec. period (FTA 2018).

Table 4.13-2 displays the reactions of people and the effects on buildings produced by continuous vibration levels. The annoyance levels shown in the table should be interpreted with care since vibration may be found to be annoying at much lower levels than those listed, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage. In high-noise environments, which are more prevalent where groundborne vibration approaches perceptible levels, this rattling phenomenon may also be produced by loud airborne environmental noise causing induced vibration in exterior doors and windows.

Ground vibration can be a concern in instances where buildings shake, and substantial rumblings occur. However, it is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible. For instance, heavy-duty trucks generally generate groundborne vibration velocity levels of 0.006 PPV at 50 feet under typical circumstances, which as identified in Table 4.13-2 is considered very unlikely to cause damage to buildings of any type. Common sources for groundborne vibration are planes, trains, and construction activities such as earth-moving which requires the use of heavy-duty earth moving equipment.

Table 4.13-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels

Peak Particle Velocity (inches per second)	Approximate Vibration Velocity Level	Human Reaction	Effect on Buildings
0.006–0.019	64–74	Range of threshold of perception	Vibrations unlikely to cause damage of any type
0.08	87	Vibrations readily perceptible	Threshold at which there is a risk of architectural damage to extremely fragile historic buildings, ruins, ancient monuments

Table 4.13-2. Human Reaction and Damage to Buildings for Continuous or Frequent Intermittent Vibration Levels			
Peak Particle Velocity (inches per second)	**Approximate Vibration Velocity Level**	**Human Reaction**	**Effect on Buildings**
0.1	92	Level at which continuous vibrations may begin to annoy people, particularly those involved in vibration sensitive activities	Threshold at which there is a risk of architectural damage to fragile buildings. Virtually no risk of architectural damage to normal buildings
0.25	94	Vibrations may begin to annoy people in buildings	Threshold at which there is a risk of architectural damage to historic and some old buildings
0.3	96	Vibrations may begin to feel severe to people in buildings	Threshold at which there is a risk of architectural damage to older residential structures
0.5	103	Vibrations considered unpleasant by people subjected to continuous vibrations	Threshold at which there is a risk of architectural damage to new residential structures and modern industrial/commercial buildings

Source: Caltrans 2020

4.13.1.3 Existing Environmental Noise Setting

Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest sensitive noise receptors to the Project site include residences directly adjacent to the northwest corner of the Project Site boundary on Fairytale Street and Tartanilla Circle. Additionally, Sylvan Middle School, which is located directly adjacent to the Project Area on the southwest corner of the site, is a noise-sensitive receptor.

Existing Ambient Noise Environment

The most common and significant source of noise in the City of Citrus Heights is mobile noise generated by transportation-related sources. Major roadways, including Auburn Boulevard, Old Auburn Road, and

Sylvan Road, which border the Project Site, are major sources of noise, according to the Citrus Heights General Plan. Other sources of noise are the various land uses (i.e., residential, recreational, and commercial) that generate stationary-source noise. The Project Site is surrounded by residences, a middle school, a cemetery, and recreational fields. As shown in Table 4.13-3 below, the ambient recorded noise levels range from 60.0 to 62.4 dBA L_{eq} over the course of the three short-term noise measurements taken in the Project vicinity and 59.4 dBA L_{dn} was recorded for the long-term measurement.

Existing Ambient Noise Measurements

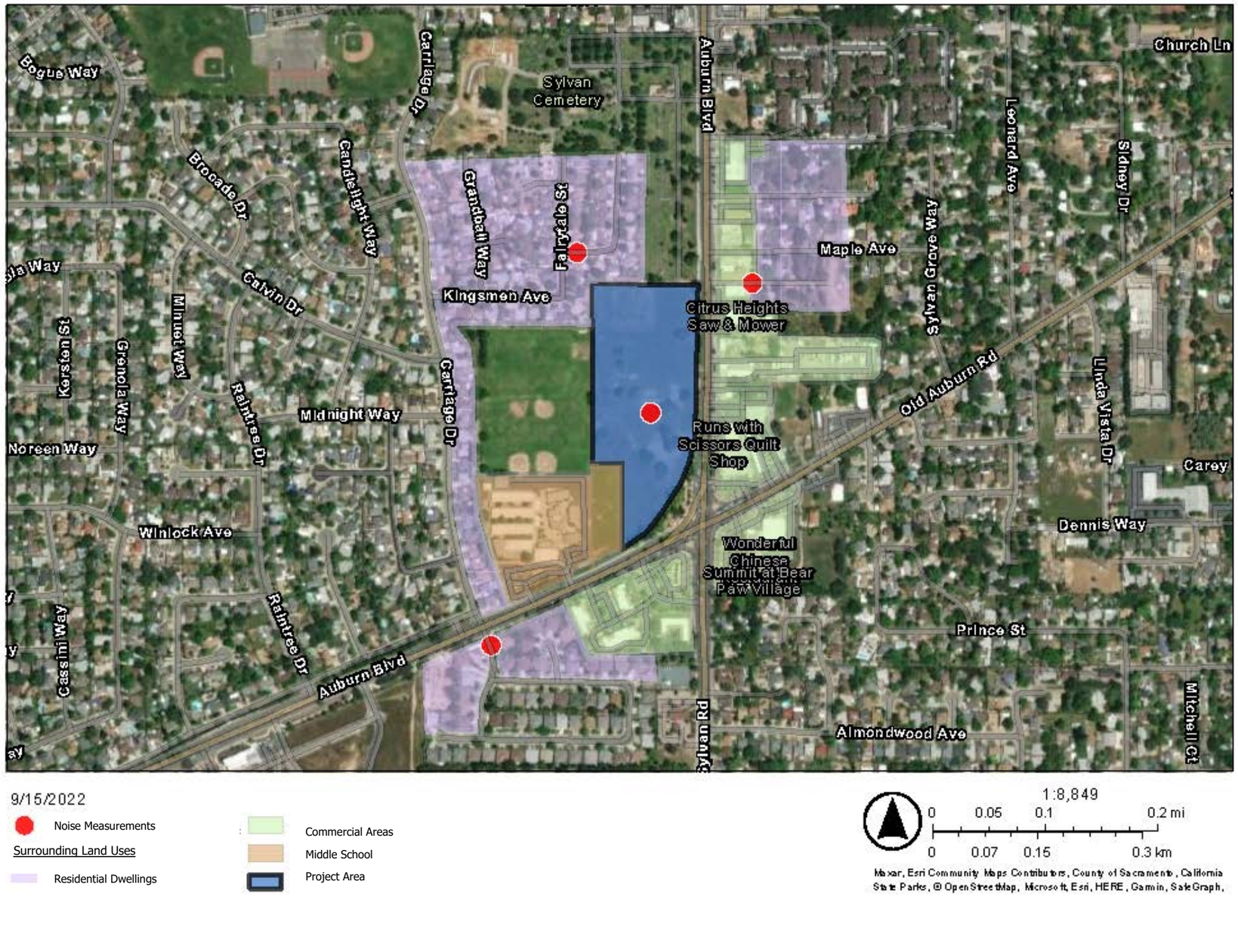
In order to quantify existing ambient noise levels in the Project Area, ECORP Consulting, Inc. conducted a long-term noise measurement, in addition to three short-term measurements. The long-term measurement began at 2:08 p.m. on September 12, 2022, and measured until 5:08 a.m. on September 13, 2022. The long-term measurement is representative of the typical existing noise experienced within the Project Site accounting for a 10-dBA "weighting" added to noise during the nighttime hours to account for noise sensitivity in the nighttime. The short-term 15-minute measurements were taken between 2:39 p.m. and 3:41 p.m. on September 13, 2022. The short-term noise measurements are representative of typical existing noise exposure within and immediately adjacent to the Project site during the daytime. The average noise levels and sources of noise measured at each location are listed in Table 4.13-3. A visual depiction of the baseline noise measurement locations is presented in Figure 4.13-2.

Table 4.13-3. Existing (Baseline) Noise Measurements

Location Number	Location	L_{dn} (dB)	L_{eq} (dB)	L_{min} (dB)	L_{max} (dBA)	Time
Long Term Measurement						
1	On the Project site	59.4	54.6	37.5	87.1	2:08 p.m. – 5:06 a.m.
Short-Term Measurements						
2	On Hackney Way, adjacent to residences	N/A	62.4	43.7	83.1	2:39 p.m. – 2:54 p.m.
3	On Tartanilla Circle, adjacent to residences	N/A	60.0	43.8	78.3	3:02 p.m. – 3:17 p.m.
4	On Chivalry Way, adjacent to residences	N/A	60.9	45.0	74.9	3:26 p.m. – 3:41 p.m.

Source: Measurements were taken by ECORP with a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute for general environmental noise measurement instrumentation. Prior to the measurements, the SoundExpert LxT sound level meter was calibrated according to manufacturer specifications with a Larson Davis CAL200 Class I Calibrator. See Attachment A for noise measurement outputs.

Notes: L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. L_{min} is the minimum noise level during the measurement period and L_{max} is the maximum noise level during the measurement period. The long-term baseline noise measurement was approximately 15 hours, which encompasses most of the sensitive noise hours throughout the day.



Map Date: *9/15/2022*
Photo (or Base) Source: *Esri Arc GIS Online*

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.13-2. Existing Baseline Noise Measurement Locations

THIS PAGE INTENTIONALLY LEFT BLANK

As shown in Table 4.13-3, the ambient recorded short-term noise levels for the three noise measurements taken in the Project vicinity range from 60.0 to 62.4 dBA L_{eq} and 59.4 dBA L_{dn} for the long-term measurement taken at the Project site. The most common noise in the Project vicinity is produced by automotive vehicles (e.g., cars, trucks, buses, motorcycles) on area roadways.

Existing Roadway Noise Levels

Existing roadway noise levels were calculated for the roadway segments in the Project vicinity. This task was accomplished using the FHWA Highway Traffic Noise Prediction Model (FHWA-RD-77-108) (see Attachment B of Appendix L) and traffic volumes from the Project's *Transportation Impact Study for Sylvan Corners Residential Project* (Fehr & Peers 2022a). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. The average vehicle noise rates (energy rates) used in the FHWA model have been modified to reflect average vehicle noise rates identified for California by Caltrans. The Caltrans data shows that California automobile noise is 0.8 to 1.0 dBA higher than national levels and that medium and heavy truck noise is 0.3 to 3.0 dBA lower than national levels. The average daily noise levels along these roadway segments are presented in Table 4.13-4.

Table 4.13-4. Existing (Baseline) Traffic Noise Levels

Roadway Segment	Surrounding Uses	L_{dn} at 100 feet from Centerline of Roadway
Old Auburn Road		
West of Sylvan Road	Residential and Commercial	60.4
Between Sylvan Road and Mariposa Avenue	Residential and Commercial	61.5
Sylvan/Auburn Road		
North of Old Auburn Road	Residential and Commercial	64.5
South of Old Auburn Road	Residential and Commercial	65.0

Source: Traffic noise levels were calculated by ECORP using the FHWA roadway noise prediction model in conjunction with the trip generation rate identified by Fehr and Peers (2022a). Refer to Attachment B for traffic noise modeling assumptions and results.

As shown, the existing traffic-generated noise level on Project-vicinity roadways currently ranges from 60.4 to 65.0 dBA L_{dn} at a distance of 100 feet from the centerline. As previously described, L_{dn} is a 24-hour average L_{eq} with a 10-dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA L_{dn}. It should be noted that the modeled noise levels depicted in Table 4.13-4 may differ from measured levels in Table 4.13-3 because the measurements represent noise levels at different locations around the Project Site. The short-term measurements are also reported in a different noise metric (e.g., short-term noise measurements are the L_{eq} values and traffic noise levels are reported in L_{dn}).

4.13.2 Regulatory Setting

4.13.2.1 Federal

Occupational Safety and Health Act of 1970

OSHA regulates onsite noise levels and protects workers from occupational noise exposure. To protect hearing, worker noise exposure is limited to 90 decibels with A-weighting (dBA) over an eight-hour work shift (29 Code of Regulations 1910.95). Employers are required to develop a hearing conservation program when employees are exposed to noise levels exceeding 85 dBA. These programs include provision of hearing protection devices and testing employees for hearing loss on a periodic basis.

National Institute of Occupational Safety and Health

A division of the US Department of Health and Human Services, the National Institute for Occupational Safety and Health (NIOSH) has established a construction-related noise level threshold as identified in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998. NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. The intention of these thresholds is to protect people from hearing losses resulting from occupational noise exposure.

Federal Interagency Commission on Noise

The 2000 Federal Interagency Commission on Noise (FICON) findings provide guidance as to the significance of changes in ambient noise levels due to transportation noise sources. FICON recommendations are based on studies that relate aircraft and traffic noise levels to the percentage of persons highly annoyed by the noise. FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing noise-sensitive land uses (e.g. residential) are less than 60 dBA L_{dn} and the Project creates a readily perceptible 5 dBA L_{dn} or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels range from 60 to 65 dBA L_{dn} and the Project creates a barely perceptible 3 dBA L_{dn} or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels already exceed 65 dBA L_{dn}, and the Project creates a community noise level increase of greater than 1.5 dBA L_{dn}.

4.13.2.2 State

State of California General Plan Guidelines

The State of California regulates vehicular and freeway noise affecting classrooms, sets standards for sound transmission and occupational noise control, and identifies noise insulation standards and airport noise/land-use compatibility criteria. The State of California General Plan Guidelines, published by the Governor's Office of Planning and Research (OPR), also provides guidance for the acceptability of projects within specific CNEL/L_{dn} contours (OPR 2003). The guidelines also present adjustment factors that may be used in order to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

State Office of Planning and Research Noise Element Guidelines

The State OPR *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The Noise Element Guidelines contain a Land Use Compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the L_{dn}.

California Department of Transportation

In 2020, the California Department of Transportation (Caltrans) published the Transportation and Construction Vibration Manual (Caltrans 2020). The manual provides general guidance on vibration issues associated with the construction and operation of projects concerning human perception and structural damage. Table 2-2 above presents recommendations for levels of vibration that could result in damage to structures exposed to continuous vibration.

4.13.2.3 Local

City of Citrus Heights General Plan Noise Element

The Noise Element of the General Plan provides policy direction for minimizing noise impacts on the community and establishing noise control measures for construction and operation of land use projects. By identifying noise-sensitive land uses and establishing compatibility guidelines for land use and noises, noise considerations will influence the general distribution, location, and intensity of future land uses. The result is that effective land use planning and mitigation can alleviate the majority of noise problems.

The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating certain land uses at locations in the City of Citrus Heights that would negatively affect noise-sensitive land uses. Uses such as schools, hospitals, childcare, senior care, congregate care, churches, and all types of residential use should be located outside of any area anticipated to exceed acceptable noise levels as defined by the Land Use and Noise Compatibility Guidelines or should be protected from noise through sound attenuation measures such as site and architectural design and sound walls. The City has adopted guidelines as a basis for planning decisions and these guidelines are shown in Table 4.13-5. In a

case where the noise levels identified at a proposed project site fall within levels considered normally acceptable, the project is considered compatible with the existing noise environment.

Table 4.13-5. Land Use Compatibility for Community Noise Environments

Land Use Category	Community Noise Exposure (L_{dn} or CNEL, dB)			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density, Single-Family, Duplex, Mobile Homes	60	65	75	85
Residential – Multiple Family	65	70	75	85
Transient Lodging – Motel, Hotels	65	70	NA	NA
Schools, Libraries, Churches, Hospitals, Nursing Homes	70	70	80	85
Auditoriums, Concert Halls, Amphitheaters	NA	70	NA	85
Sports Arenas, Outdoor Spectator Sports	NA	75	NA	85
Playgrounds, Neighborhood Parks	70	NA	75	85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	75	NA	80	85
Office Buildings, Business Commercial and Professional	70	75	85	NA
Industrial, Manufacturing, Utilities, Agriculture	75	80	85	NA

Source: City of Citrus Heights General Plan Community Health Element 2011
Notes: CNEL = community noise equivalent level; L_{dn} = Day/Night Noise Level; NA = not applicable
NORMALLY ACCEPTABLE: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
CONDITIONALLY ACCEPTABLE: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features have been included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning, will normally suffice.
NORMALLY UNACCEPTABLE: New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise-insulation features must be.
CLEARLY UNACCEPTABLE: New construction or development should generally not be undertaken.

The Noise Element also includes goals and policies that are intended to achieve the vision of the General Plan and guide the City's efforts to minimize noise-land use incompatibilities and support the health and serenity of its citizens. The General Plan goals and policies applicable to the proposed Project are listed below.

Goal 52: Protect City residents from the harmful and annoying effects of exposure to excessive noise through noise reduction and suppression techniques and appropriate land use policies.

- *Policy 52.2*: New residential development projects shall be designed and constructed to meet acceptable exterior noise level standards shown in Table 4.13-5, as follows:

    1. The maximum exterior noise level of 60 dBA Ldn shall be applied in residential areas where outdoor use is a major consideration (such as backyards in single family housing developments and recreation areas in multi-family housing projects). Where the City determines that providing a Ldn of 60 dBA or lower is not feasible, the noise level in outdoor areas shall be reduced to as close to the standard as feasible through project design.

    2. Indoor noise levels shall not exceed a Ldn of 45 dBA in new residential housing units.

    3. Noise levels in new residential development exposed to an exterior Ldn of 60 dBA or greater shall be limited to a maximum instantaneous noise level (e.g., trucks on busy streets, train warning whistles) in bedrooms of 50 dBA Lmax. Maximum instantaneous noise levels in all other habitable rooms shall not exceed 55 dBA Lmax

- *Policy 52.3:* Protect the community, especially noise sensitive receptors, including schools, residences, and care facilities, from excessive noise. Residential uses located in a commercial zone are not considered noise sensitive receptors.

- *Policy 52.4*: Require major development proposals to reduce noise impacts on adjacent properties through appropriate techniques including, but not limited to, the following strategies:

    1. Permit well-designed sound walls when compatible with the surrounding area

    2. Screen and control noise sources such as parking, loading docks and mechanical equipment

    3. Increase setbacks for noise sources from adjacent dwellings

    4. Whenever possible, retain fences, walls or landscaping that serve as noise buffers (although design, safety and other impacts must also be addressed)

    5. Use soundproofing material and double-glazed windows

    6. Control hours of operation, including deliveries and trash pickup

- *Policy 52.7:* Protect receivers of roadway noise through appropriate attenuation techniques. The preference is for noise attenuation techniques that minimize the use of sound walls.

City of Citrus Heights Municipal Code

The City's regulations with respect to noise are also included in Chapter 34, Article lll – *Noise Control* of the Municipal Code. The following sections provides noise standards, regulations, and exemptions for various land uses within the City.

Section 34-86 – Exterior Noise Standards

(a) The following noise standards, unless otherwise specifically indicated in this article, shall apply to all properties within a designated noise area, measured pursuant to section 34-85(b):

Table 4.13-6. Exterior Noise Standards			
Noise Area	**City Zoning Districts**	**Time Period**	**Exterior Noise Standard**
1	RD-1, RD-2, RD-3, RD-4, RD-5, R-7, RD-10, R15, RD-20, R-25, RD-30, MH	7:00 a.m. to 10:00 p.m. (Daytime) 10:00 p.m. to 7:00 a.m. (Nighttime)	55 dBA (Leq) 50 dBA (Leq)

Source: City of Citrus Heights Municipal Code 2022

Sec. 34-88 - Exemptions

The following activities shall be exempted from this article:

> (5) Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided the activities do not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday, Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday, and on each Sunday after the hour of 8:00 p.m. However, when an unforeseen or unavoidable condition occurs during a construction project and the nature of the project necessitates that work in process be continued until a specific phase is completed, the contractor or owner shall be allowed to continue work after 8:00 p.m. and to operate machinery and equipment necessary until completion of the specific work in progress can be brought to conclusion under conditions which will not jeopardize inspection acceptance or create undue financial hardships for the contractor or owner.

Sec. 34-90 - Schools, hospitals and churches

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church, while the school, hospital or church is in use, to exceed the noise standards specified in section 34-86 or to create any noise which unreasonably interferes with the use of such institution or unreasonably disturbs or annoys patients in the hospital. In any disputed case, interfering noise which is ten dBA or more, greater than the ambient noise level at the building, shall be deemed excessive and unlawful.

4.13.3 Methodology

For purposes of this analysis, the City noise standards were used where applicable for evaluation of Project-related noise impacts. As previously stated, Sec. 34-88. – Exemptions, of the City Municipal Code states that construction (e.g., construction, alteration or repair activities) between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday is exempt from City noise standards. In order to evaluate the potential health-related effects (physical damage to the ear and mental damage from lack of sleep or focus) from construction noise, construction equipment noise levels are calculated and compared against the construction-related noise level threshold established in the Criteria for a Recommended Standard: Occupational Noise Exposure prepared in 1998 by NIOSH, described above.

The standards contained in the City's General Plan Noise Element Noise/Land Use Compatibility table (Table 4.13-5), which provides the City with a tool to gauge the compatibility of new land users relative to existing noise levels, are used to determine the Project's site noise/land use compatibility for single-family residential land uses.

The City has not established a noise standard specific to traffic noise. As such, the thresholds recommended by FICON will be used to evaluate Project traffic noise in this analysis. As previously described, FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing noise-sensitive land uses (e.g. residential, etc.) are less than 60 dBA L_{dn} and the Project creates a readily perceptible 5 dBA L_{dn} or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels range from 60 to 65 dBA L_{dn} and the Project creates a barely perceptible 3 dBA L_{dn} or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels already exceed 65 dBA L_{dn}, and the Project creates a community noise level increase of greater than 1.5 dBA L_{dn}.

Predicted construction noise levels were calculated utilizing the FHWA's Roadway Construction Noise Model (2006). Groundborne vibration levels associated with construction-related activities for the Project have been evaluated utilizing typical groundborne vibration levels associated with construction equipment. Potential groundborne vibration impacts related to structural damage and human annoyance were evaluated, taking into account the distance from construction activities to nearby structures and typically applied criteria for structural damage and human annoyance.

The assessment of the noise/land use compatibility of the Project's proposal to locate sensitive noise receptors within the existing noise environment affecting the Project Site was completed by conducting a long-term existing ambient baseline noise measurement on the Project Site from September 12th to 13th with the use of a Larson Davis SoundExpert LxT precision sound level meter, which satisfies the American National Standards Institute standard for general environmental noise measurement instrumentation, coupled with use of the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) with existing condition trip generation rates provided by Fehr and Peers (2022a). As previously described, this model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, and site environmental conditions. Transportation-source noise levels associated with the Project were calculated using the FHWA Traffic Noise Prediction Model (FHWA-RD-77-108) with trip generation rates provided by Fehr and Peers (2022a). Noise as a result of Project operations occurring on the Project site are discussed qualitatively.

4.13.4 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

Onsite Construction Noise

Construction noise associated with the proposed Project would be temporary and would vary depending on the specific nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., site preparation, excavation, paving). Noise generated by construction equipment, including earth movers, pile drivers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect sensitive land uses in the vicinity of the construction site.

The nearest existing sensitive noise receptors to the Project Site include residences directly adjacent to the northwest corner of the Project Site boundary on Fairytale Street and Tartanilla Circle and Sylvan Middle School, which is located directly adjacent to the Project Area on the southwest corner of the site. As previously described, per the City's Municipal Code Section 34-88 – Exemptions (5), construction activity is exempted provided that noise generating activity does not take place between the hours of 8:00 p.m. and 6:00 a.m. on weekdays and Friday commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday, Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next following Sunday, and on each Sunday after the hour of 8:00 p.m. when "unforeseen or unavoidable." Therefore, as long as Project construction occurs within the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday, the Project would not exceed City noise standards during construction.

It is acknowledged that the majority of construction equipment is not situated at any one location during construction activities, but rather spread throughout the Project site and at various distances from sensitive receptors. Therefore, this analysis employs the FTA guidance for calculating construction noise, which recommends measuring construction noise produced by all construction equipment from the center of the Project site (FTA 2018), which in this case is approximately 485 feet from the nearest noise-

sensitive residential receptors and approximately 523 feet from the nearest noise-sensitive school. This analysis models the average noise levels during construction for sensitive school receptors and residential receptors. The anticipated short-term construction noise levels at the nearest residential receptors as a result of Project construction are presented in Table 4.13-7.

Table 4.13-7. Construction Average (dBA) Noise Levels at Nearest Residential Receptors

Equipment	Estimated Exterior Construction Noise Level	NIOSH Construction Noise Standards (dBA L_{eq})	Exceeds Standards?
Site Preparation			
Combined Site Preparation Equipment	67.4	*85*	No
Grading			
Combined Grading Equipment	68.5	*85*	No
Building Construction, Architectural Coating and Paving			
Combined Building Construction, Architectural Coating and Paving Equipment	70.8	*85*	No

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment C for Model Data Outputs.

Notes: Construction equipment used during construction derived from California Emissions Estimator Model (CalEEMod) version 2020.4.0, which contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 485 feet from the sensitive residences.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

The anticipated short-term construction noise levels at Sylvan Middle School as a result of Project construction are presented in Table 4.13-8.

Table 4.13-8. Construction Average (dBA) Noise Levels at Nearest School Receptors			
Equipment	**Estimated Exterior Construction Noise Level**	**NIOSH Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Site Preparation			
Combined Site Preparation Equipment	66.8	*85*	No
Grading			
Combined Grading Equipment	67.8	*85*	No
Building Construction, Architectural Coating and Paving			
Combined Building Construction, Architectural Coating and Paving Equipment	70.1	*85*	No

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment C for Model Data Outputs.

Notes: Construction equipment used during construction derived from CalEEMod 2020.4.0, which contains default construction equipment and usage parameters for typical construction projects based on several construction surveys conducted in order to identify such parameters. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Site (FTA 2018), which is 523 feet from the sensitive school receptors.

L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 4.13-7, construction activities would not exceed the NIOSH construction noise standards for the nearest sensitive residences (i.e., residential receptors to the northwest). Similarly, as shown in Table 4.13-8, Project construction noise would not exceed NIOSH construction noise standards at Sylvan Middle School. It is noted that construction noise was modeled on a worst-case basis. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction.

Impacts from temporary construction noise would be less than significant.

Post-Project Noise

As previously described, noise-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, guest lodging, libraries, and some passive recreation areas would each be considered noise-sensitive and may warrant unique measures for protection from intruding noise. As previously described, the nearest sensitive noise receptors to the Project Site include residences directly adjacent to the northwest corner of

the Project Site boundary on Fairytale Street and Tartanilla Circle. Additionally, Sylvan Middle School, which is located directly adjacent to the Project Area on the southwest corner of the site, is a noise-sensitive receptor. Once construction is complete, the Project site will be a noise-sensitive receptor.

Project Land Use Compatibility

The City of Citrus Heights uses the land use compatibility table presented in the General Plan Noise Element which provides the City with a tool to gauge the compatibility of new land uses relative to existing noise levels. This table, presented as Table 4.13-5, identifies normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable exterior noise levels for various land uses, including residential land uses such as those proposed by the Project. In the case that the noise levels identified at the Proposed Project Site fall within levels presented in the General Plan, the Project is considered compatible with the existing noise environment. As previously stated, the Project is proposing the construction of 94 single-family dwelling units.

The long-term noise measurement taken on the Project site from September 12th, 2022, to September 13th, 2022, shown in Table 4.13-3, identifies an ambient noise level of 59.4 dBA L_{dn}. According to the land use compatibility table, presented in Table 4-13.5, this falls within the normally acceptable exterior noise level standard (≤60 dBA) for residential land uses. However, a separate data point of ambient noise at the Project Site, as provided by the FHWA Highway Traffic Noise Prediction Model coupled with trip generation rates provided by Fehr and Peers (2022a), identifies existing traffic noise levels on the roadway directly adjacent to the Project Site as potentially reaching 64.5 dBA L_{dn} at 100 feet from the centerline of Auburn Boulevard. The area of the Project site within 100 feet of the centerline of Auburn Boulevard encompasses 17 of the proposed residential lots proposed at the eastern border of the Project site (Lots 1 – 5, 82, and 85 – 94 of the Project Site Plan). According to the land use compatibility table, this value falls within the conditionally acceptable exterior noise levels for residential land uses. The "conditionally acceptable" noise level guidelines from the City of Citrus Heights General Plan Community Health Element (2011a) state that conventional construction, with closed windows and fresh air supply systems or air conditioning, will normally suffice to result in acceptable conditions for the placement of residences. To remain compatible with the City's exterior noise level guidelines, air conditioning units would need to be included in the design elements of the plan. In other words, if the residences constructed on Lots 1 – 5, 82, and 85 – 94 are equipped with air conditioning units, the City's noise compatibility guidelines would be satisfied. The Project applicant has indicated that all 94 residences proposed would be constructed with air conditioning units. In order to ensure the residences constructed on Lots 1 – 5, 82, and 85 – 94 are equipped with air conditioning units, Mitigation Measure NOI-1 is recommended.

With implementation of Mitigation Measure NOI-1, impacts to Project land use compatibility would be reduced to less than significant.

Operational Onsite Stationary Noise

As previously described, the Project is proposing the construction of 94 single-family dwelling units. Therefore, the main onsite stationary noise sources related to long-term operation on the Project Site would be from the proposed residences. ECORP staff regularly conducts noise measurements within

various land uses, at specific noise-generating events, and at individual pieces of noise-generating equipment in order to develop a wide sampling of potential noise levels associated with such.

The main noise source generated from the residences on the Project site would include mechanical equipment and other typical sources specific to residential neighborhoods such as barking dogs, internal traffic circulation, radios, and people talking. According to previous field noise measurements conducted by ECORP, mechanical heating, ventilation, and air conditioning equipment generates noise levels less than 45 dBA at 20 feet. This noise level is less than the City's daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) exterior noise standard for residential properties.

The Project proposes to place residential uses adjacent to existing residential and school uses. The most basic planning strategy to minimize adverse impacts on new land uses due to noise is to avoid designating certain land uses at locations within the community that would negatively affect noise sensitive land uses. The Project is consistent with the types, intensity, and patterns of land use envisioned for the Project Area, and as previously described, the Project is considered compatible with the existing noise environment. Operation of the Project would not result in a significant noise-related impact associated with onsite sources.

Operational Traffic Noise

The City of Citrus Heights does not regulate noise from transportation sources and does not have noise standards for such sources. As such, the thresholds recommended by FICON will be used in this analysis. FICON's measure of substantial increase for transportation noise exposure is as follows:

- If the existing ambient noise levels at existing noise-sensitive land uses (e.g. residential, etc.) are less than 60 dBA and the Project creates a readily perceptible 5 dBA or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels range from 60 to 65 dBA and the Project creates a barely perceptible 3 dBA or greater Project-related noise level increase and the resulting noise level would exceed acceptable exterior noise standards; or
- If the existing noise levels already exceed 65 dBA, and the Project creates a community noise level increase of greater than 1.5 dBA

Future traffic noise levels throughout the Project vicinity (i.e., vicinity roadway segments that traverse noise sensitive land uses) were modeled based on the traffic volumes identified by Fehr and Peers (2022a) to determine the noise levels along Project vicinity roadways. Table 4.13-9 shows the calculated offsite roadway noise levels under existing traffic levels compared to future build-out of the Project.

Table 4.13-9. Existing Plus Project Conditions Predicted Traffic Noise Levels					
Roadway Segment	**Surrounding Uses**	**L_{dn} at 100 feet from Centerline of Roadway**		**Standard**	**Exceeds Standard?**
		Existing	**Existing + Project**		
Old Auburn Road					
West of Sylvan Road	Residential and Commercial	60.4	60.4	*>3.0*	**No**
Between Sylvan Road and Mariposa Avenue	Residential and Commercial	61.5	61.6	*>3.0*	**No**
Sylvan/Auburn Road					
North of Old Auburn	Residential and Commercial	64.5	64.6	*>3.0*	**No**
South of Old Auburn	Residential and Commercial	65.0	65.0	*>1.5*	**No**

Source: Traffic noise levels were calculated by ECORP using the FHWA traffic noise prediction model in conjunction with the trip generation rate identified by Fehr and Peers (2022a). Refer to Attachment B for traffic noise modeling assumptions and results.

As shown in Table 4.13-9, no roadway segment would experience an increase of noise beyond the FICON significance standards as a result of the Project. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive ground-borne vibration or ground-borne noise levels?	☐	☐	☒	☐

Less than Significant Impact.

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Project would be primarily associated with short-term construction-related activities. Construction on the Project Site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance, and it is acknowledged that construction activities would occur throughout the Project Site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with typical construction equipment at 25 feet distance are summarized in Table 4.13-10.

The City does not regulate construction vibration. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.3 inch per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

Table 4.13-10. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Pile Driver	0.170
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: Caltrans 2020; FTA 2018

Consistent with FTA recommendations for calculating construction vibration, construction vibration was measured from the center of the Project Site (FTA 2018). The nearest structure of concern to the construction site, with regard to groundborne vibrations, are residences approximately 485 feet from the center of the site.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-10 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential project construction vibration levels. The FTA provides the following equation:

$$[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}]$$

Table 4.13-11 presents the expected Project related vibration levels at a distance of 485 feet.

Table 4.13-11. Construction Vibration Levels at 485 Feet

Receiver PPV Levels (inches per second)[1]					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling, & Hoe Ram	Loaded Trucks	Jackhammer	Pile Driver	Vibratory Roller			
0.001	0.000	0.000	0.002	0.003	**0.003**	*0.2*	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-9 (FTA 2018). Distance to the nearest structure of concern is approximately 485 feet measured from Project site center.

As shown in Table 4.13-11, vibration as a result of construction activities would not exceed 0.3 PPV at the nearest structure. Thus, Project construction would not exceed the Caltrans recommended threshold.

Project Operations

Project operations would not include the use of any large-scale stationary equipment that would result in excessive vibration levels. Therefore, the Project would not result in groundborne vibration impacts after construction is complete.

Impacts from ground-borne vibration and noise levels would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project Area to excessive noise levels?	☐	☐	☐	☒

No Impact.

The Project site is located approximately 5.4 miles northeast of the McClellan Airfield Airport, located in McClellan Park. Although aircraft flight patterns may cover the Project site, noise from aircrafts is not a significant issue in the City. The Project site is well outside of the airport's noise contours (Sacramento Area Council of Government's ([SACOG] 2021). Aircraft noise does not significantly impact the City and the proposed Project would not expose people visiting or working on the Project site to excess airport noise levels. There would be no impact.

4.13.5 Mitigation Measures

NOI-1: Land Use Compatibility

The Project applicant shall install air conditioning in all residences constructed on Lots 1 – 5, 82, and 85 – 94, at a minimum, to allow occupants to close doors and windows as desired for additional acoustical isolation. The City shall ensure that building plans include the required air conditioning equipment prior to issuance of building permits.

4.14 Population and Housing

4.14.1 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☒	☐

Less than Significant Impact.

The Project would result in the construction of a 94-unit single-family residential neighborhood. The proposed development may lead to an indirect increase in employment in the region (as the new residents conduct their business such as shopping and dining within the City). The addition of the proposed Project to the City would result in an increase in residential population; however, the increase is consistent with population growth assumptions made in the General Plan. Infrastructure improvements associated with the proposed Project would not induce additional growth beyond the Project site. Related impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No Impact.

The site does not currently support any residential use. No housing or residents would be displaced by the proposed Project. There would be no impact.

4.14.2 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

4.15.1.1 Police Services

Citrus Heights Police Department, headquartered at 6315 Fountain Square Drive, Citrus Heights, serves the Project site.

4.15.1.2 Fire Services

Fire protection is provided by Sacramento Metropolitan Fire District. The nearest station is Station 27, located at 7474 Grand Oaks Blvd, Citrus Heights, about 1.3 miles north of the site.

4.15.1.3 Schools

The site is located within San Juan Unified School District, which contains over 30 elementary schools, several K-8 schools, 9 middle schools, and 12 high schools. Sylvan Middle School is immediately west of the Project site. Mesa Verde and San Juan are the nearest high schools.

4.15.1.4 Parks

Sunrise Recreation & Park District manages the parks in the vicinity of the Project site. Rusch Community Park is one mile north of the Project site and Stock Ranch Nature Preserve and Van Maren Park are less than a mile to the south.

4.15.1.5 Other Public Facilities

Sylvan Cemetery is immediately north of the Project site.

4.15.2 Regulatory Setting

4.15.2.1 State

Quimby Act

In 1975, the Quimby Act (California Government Code Section 66477, as amended in 1982) granted cities and counties authority to pass ordinances requiring developers to set aside land, donate conservation easements, or pay fees for park improvements through in-lieu fees. The goal of the Quimby Act was to require developers to help mitigate the impacts of their developments. Special districts must work with cities, and/or counties to receive parkland dedication and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services to the affected community. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.

4.15.2.2 Local

City of Citrus Heights General Plan

Law Enforcement

The General Plan contains the following policies in Chapter 4, Community Health that apply to law enforcement services (City of Citrus Heights 2011):

Goal 58: Ensure excellent public safety services and rapid and effective emergency response

- *Policy 58.1*: Provide police staffing as necessary to meet community needs.
- *Policy 58.2*: Provide a high level of visible patrol services within the City.
- *Policy 58.5*: Consider public safety issues in all aspects of public facility, commercial, and residential project design, including crime prevention through environmental design.

Fire Protection and Emergency

The City's General Plan establishes goals and policies for public services. The General Plan contains the following policies in Chapter 4, Community Health that apply to fire protection and emergency medical services (City of Citrus Heights 2011a):

Goal 58: Ensure excellent public safety services and rapid and effective emergency response.

- *Policy 58.7*: Continue working with Sacramento Metropolitan Fire District to ensure coordination of fire and emergency medical services in the City and surrounding areas.
- *Policy 58.8*: Provide fire/emergency staffing as necessary in proportion to population or other appropriate workload indicators.
- *Policy 58.9*: Maintain mutual aid agreements with other fire protection agencies in the region to obtain additional emergency resources as necessary.
- *Policy 58.11*: Ensure that new development is constructed, at a minimum, to the fire safety standards contained in the Citrus Heights Fire and Building Codes.
- *Policy 58.12*: Ensure that anticipated fire response times and fire flows are taken into consideration as a part of the development review process.
- *Policy 58.13*: Provide adequate access for emergency vehicles, particularly firefighting equipment, in all new development.

Parks

The General Plan contains the following policy in Chapter 4, Community Health that applies to parks and recreation (City of Citrus Heights 2011a):

Goal 38: Establish a system of Creekside trails, passive open space and parks for public use.

- Policy 38.3: Consider potential impacts to natural habitat areas when establishing links between developed areas. Identify alternative sites for linkages where sensitive habitat areas have the potential to be adversely impacted.

Goal 39: Create open spaces in future urban development with natural features for public use and enjoyment.

- *Policy 39.1*: Provide for appropriate open space amenities in new development, protecting existing usable open space to the extent feasible.

- *Policy 39.2*: Require new development to provide linkages to existing and planned open space systems.
- *Policy 39.3*: Require buildings to conform to existing natural topography, and minimize cutting and filling.

Goal 59: Ensure that ample and appropriate parks and recreation facilities and programs are available to all residents.

- *Policy 59.1*: Support the provision of recreation and leisure programs for all community residents.
- *Policy 59.2*: Promote acquisition and improvement of both developed and undeveloped park sites and provide recreation facilities necessary to meet or exceed the level of 3.55 parkland acres per 1,000 residents.
- *Policy 59.5*: Consider the special recreation needs of youths, teens, senior citizens, and other special needs populations in the community.

4.15.3 Public Services (XV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
Fire Protection?	☐	☐	☒	☐
Police Protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other Public Facilities?	☐	☐	☒	☐

Less than Significant Impact.

The Project would result in the construction of a 94-unit residential neighborhood within a predominantly residential area. The Project will pay a park impact fee at the issuance of the building permits. This fee is to mitigate the impacts caused by new development activity within the City. In addition, The Project would be subject to paying Quimby fees to Sunrise Recreation & Parks District.

This potential increase in the number of people working within and near the City would not result in the need for new public services or additional fire or police protection. The Project will also be required to pay additional impact fees such as school fees and road impact fees. Impacts to public services would be less than significant.

4.15.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.16 Recreation

4.16.1 Environmental Setting

Sunrise Recreation & Park District manages the parks in the vicinity of the Project site. Rusch Community Park is one mile north of the Project site and Stock Ranch Nature Preserve and Van Maren Park are less than a mile to the south.

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐

Less than Significant Impact.

The proposed Project would not substantially increase the residential population of the City; therefore, there would not be a significant increase in the use of existing neighborhood and regional parks. The Project would be required to contribute Quimby fees to Sunrise Recreation & Park District, as discussed in Section 4.15.3. Impacts to existing recreational facilities would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☒	☐

Less than Significant Impact.

The proposed Project would include open space lots with picnic areas, benches, and walkways for Project residents. The Project would not require the expansion of existing recreational facilities. Impacts would be less than significant.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

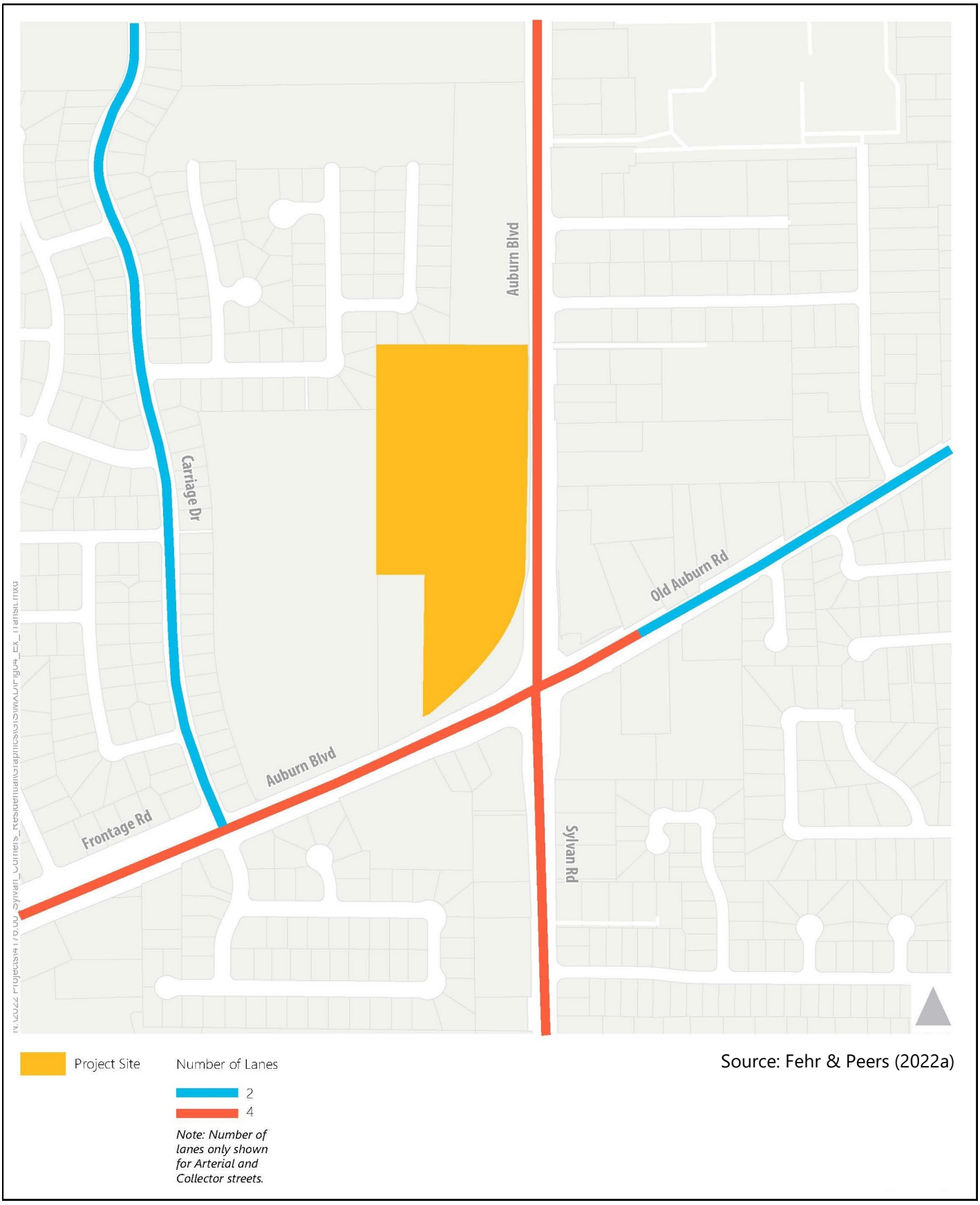
The analysis presented in this section is based on the *Sylvan Corners Residential Project Transportation Impact Study* prepared by Fehr & Peers on October 11, 2022 (2022a, Appendix M). The *Transportation Impact Study* addresses the potential transportation impacts associated with the proposed Project to be situated in the northwest quadrant of the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection in the City. Intersection operations, site access, and vehicle miles traveled (VMT) are also analyzed. Fehr & Peers also prepared an *Evaluation of Signalized Mid-Block Pedestrian Crosswalk on Auburn Boulevard Technical Memorandum* (2022b, Appendix N). This study is interrelated to the *Transportation Impact Study* completed for the proposed Project due to the crosswalk proximity to the Project site. This study is also related to an ongoing study of a potential pedestrian crossing on Sylvan Road south of the Auburn Boulevard/Old Auburn Road intersection and the Project site.

4.17.1 Environmental Setting

4.17.1.1 Existing Roadway Network

Figure 4.17-1. Existing Roadway Network displays the existing roadway network in the Project area. The following are descriptions of the primary roadways in the vicinity of the Project:

- Auburn Boulevard (north) is a four lane north/south, median-divided arterial that provides access to a variety of land uses, major east/west arterials, and ultimately connects to I-80 before turning into Riverside Avenue in Roseville. Within the Project vicinity, it has a posted speed limit of 40 mph and prohibits on-street parking. The City's truck route map identifies Auburn Boulevard from the north City limits to Stock Ranch Commercial Center as a local truck route.
- Auburn Boulevard (west) is a four lane east/west arterial that provides access to Greenback Lane and ultimately, I-80 and the Capital City Freeway. Auburn Boulevard provides access to the Stock Ranch Commercial Center. It has a posted speed limit of 40 mph.
- Old Auburn Road is generally an east/west minor arterial that fluctuates between 2-4 lanes. It provides access to a variety of land uses, major north/south arterials, and provides a connection between Citrus Heights and Roseville. It has a posted speed limit of 35 mph.
- Sylvan Road is a four lane north/south arterial between Sylvan Corners and Greenback Lane. It provides access primarily to residential land uses and City Hall, and is also used for general north/south travel through the City. It has a posted speed limit of 40 mph.



Source: Fehr & Peers (2022a)

Figure 4.17-1. Existing Roadway Network

4.17.1.2 Existing Bicycle and Pedestrian Facilities

Figure 4.17-2. Existing Bicycle and Pedestrian Facilities displays the existing bicycle and pedestrian network in the study area. As displayed, contiguous Class II bike lanes (on-street with appropriate pavement markings and signage) are present on Sylvan Road, Auburn Boulevard, and Old Auburn Boulevard. The channelized right-turn islands in the northwest, southwest, and northeast quadrants of the intersection feature poles with push-button bicycle detection immediately adjacent to the Class II bike lane, allowing activation of the crosswalk in the northbound, southbound, and westbound directions.

During the AM peak hour, there were a total of 11 pedestrian crossings and nine bicyclists. During the PM peak hour, there were 24 pedestrian crossings and 10 bicyclists.

Sidewalks are continuous along the Project frontages on Auburn Boulevard. Crosswalks are present on all legs of the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection and feature yellow striping (indicative of the presence of a school) and a red brick pavement treatment for enhanced visibility.

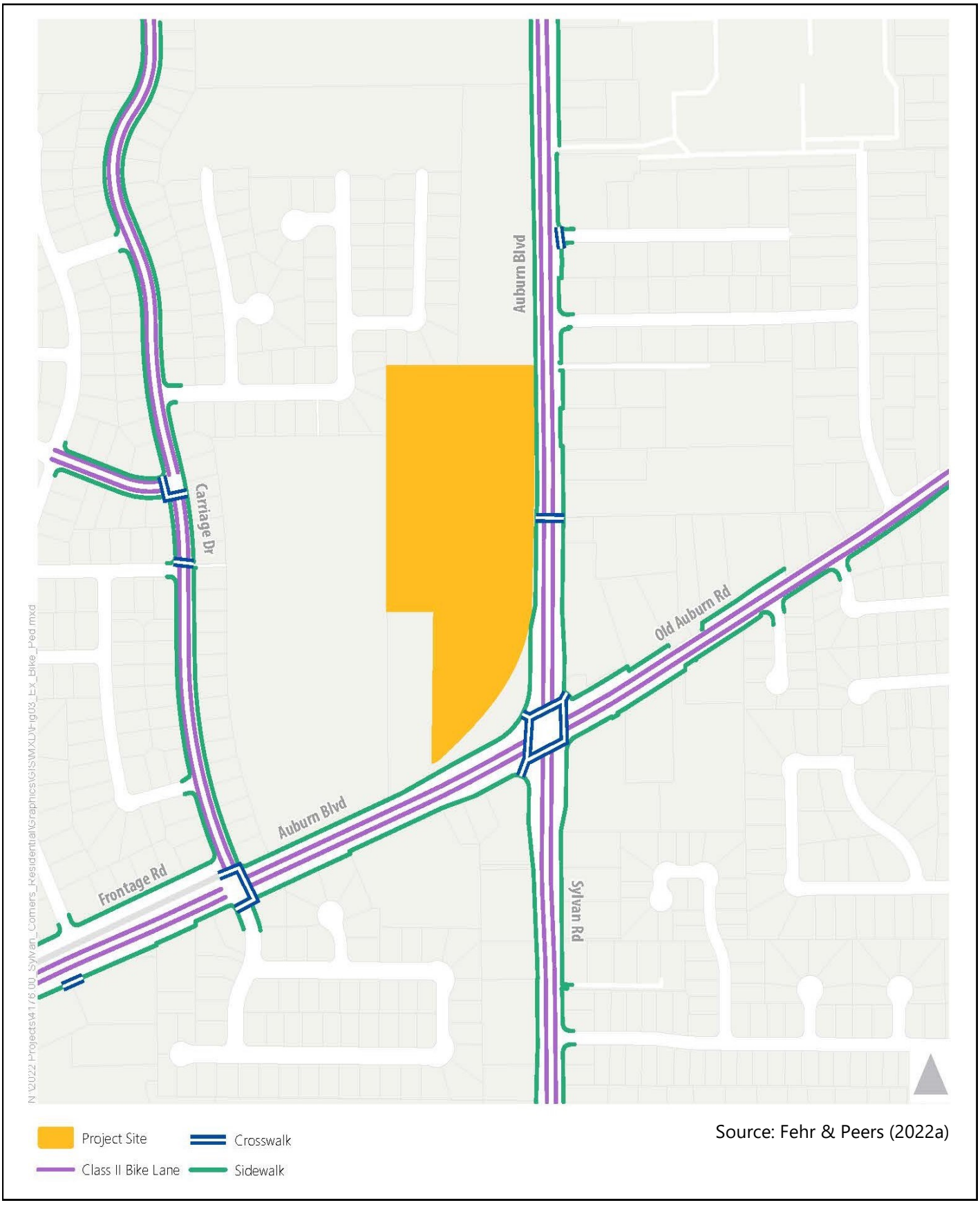
Mid-Block Pedestrian Crosswalk on Auburn Boulevard

A signalized, midblock crossing is present on Auburn Boulevard 600 feet north of the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection. The crosswalk is directly east of unit 90 in Figure 2-3. Project Site Plan. This crosswalk was originally installed to support students who desired to cross Auburn Boulevard to access the former Sylvan Middle School, which was located at the proposed Project site. When the school was relocated to Auburn Boulevard west of Sylvan Road, usage of this crosswalk diminished. With the now vacant school site and adjacent property being considered for the proposed Project, the City asked Fehr & Peers (2022b) to investigate whether this signalized crosswalk should remain.

Fehr & Peers collected data to analyze this crossing in accordance with Warrant 5 (School Crossing) of the California Manual of Uniform Traffic Control Devices (MUTCD). Although a school is not immediately present anymore, the majority of crosswalk users are still students. Due to the proximity to Sylvan Middle School, this warrant is still applicable. Warrant 5 would be satisfied if both of the following conditions are met:

1. The number of adequate gaps in the traffic stream during the period when the schoolchildren are using the crossing must be less than the number of minutes in the same period; and,
2. There must be a minimum of 20 schoolchildren during the highest crossing hour.

On Wednesday, August 17, 2022, Fehr & Peers conducted pedestrian/bicyclist counts and made observations at this midblock crossing. Bicycle and pedestrian crossing activity was observed from 7:00 – 9:00 AM and 2:00 – 6:00 PM. Sylvan Middle School and Mesa Verde High School had returned to session by that time. Pedestrian crossings peaked during periods corresponding to school start/end times:



Source: Fehr & Peers (2022a)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.17-2. Existing Bicycle and Pedestrian Facilities

- During the AM peak crossing hour of 7:15 - 8:15 AM, 8 pedestrians and 4 bicyclists were observed.
- During the PM peak crossing hour of 2:45 - 3:45 PM, 6 pedestrians and 6 bicyclists were observed.

Based on field observations, the crosswalk was primarily utilized by students. The general direction was to/from the neighborhoods north of the crossing and Sylvan Middle School. Almost all children utilized the mid-block crossing (versus crosswalks at the Auburn Boulevard/Sylvan Road intersection). This may be due to the fact that the push-button activated mid-block crossing has a shorter wait time, the crossing distance is much shorter, and the mid-block crossing may feel safer compared to the unsignalized crosswalks in the northeast and northwest corners of the Sylvan Road/Auburn Blvd/Old Auburn Road intersection.

According to part 1 of Warrant 5 (School Crossing), there must be at least 30 gaps during the AM 30 minutes in which school children used the crossing and 15 gaps during the PM 15 minutes in which school children used the crossing. For the purposes of this study, a gap was deemed adequate if it met or exceeded 19 seconds (i.e., elapsed time to walk continuously across the 64 feet of width of Auburn Boulevard at an assumed 3.5 feet/second). No adequate gaps were observed between 7:15 – 7:45 AM and two adequate gaps were observed between 2:45 – 3:00 PM. Therefore, part 1 of Warrant 5 (School Crossing) would be satisfied.

Part 2 of Warrant 5 (School Crossing) requires a minimum of 20 schoolchildren crossings during the peak crossing hours. Since there were only 12 crossings observed during each respective AM and PM highest crossing hour, part 2 of Warrant 5 (School Crossing) would not be met at the Auburn Boulevard signalized mid-block crosswalk.

This study is related to an ongoing study of a potential pedestrian crossing on Sylvan Road south of Auburn Boulevard/Old Auburn Road. Fehr & Peers (2022b) provide recommendations for next steps should the City decide the mid-block crossing on Auburn Boulevard be removed. However, this decision would not be made until the right-turn lanes (and crosswalks) at the Auburn Boulevard/Sylvan Road intersection have been signalized, which is a requirement of the proposed Project, discussed further in Section 4.17.6.2 of this IS/MND.

4.17.1.3 Existing Transit Facilities and Services

Figure 4.17-3. Existing Transit Facilities displays existing facilities and services in the study area. As displayed, Sacramento Regional Transit (SacRT) Route 25 operates within the study area. This route begins at the Louis / Orlando Transit center near the Roseville/Citrus Heights border, and extends southeasterly, terminating at the Marconi/Arcade light rail station. Buses operate on 30 minute headways from approximately 6 AM to 11 PM on weekdays.

As shown on Figure 4.17-3, southbound buses stop on Auburn Boulevard immediately south of the mid-block crosswalk. Northbound buses stop on Auburn Boulevard at two locations: one is 275 feet north of the midblock crosswalk and the other is 330 feet south of the mid-block crosswalk. At all locations shown, buses stop in the Class II bike lane. None of the stops feature pullout lanes or shelters.

SacRT also offers SmaRT Ride, which is a door-to-door transit service provided in select geographic areas (such as Citrus Heights). Riders can request a ride by making a request on a mobile app, and specifying the pick-up and destination address, both of which must be within the Citrus Heights service zone. The mobile app will provide passengers with an estimated pick-up time and drop off window, which is a function of overall demand.

4.17.2 Methodology

Level of service is a qualitative measure of traffic operating conditions whereby a letter grade, from A (the least congested) to F (the most congested), is assigned. These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with driving. In general, Level of Service (LOS) A represents free-flow conditions with no congestion, and LOS F represents severe congestion and delay under stop-and-go conditions. Table 4.17-1 displays the average delay ranges associated with each LOS category. For signalized intersections, LOS is based on the average delay experienced by all vehicles passing through the intersection.

Table 4.17-1. Intersection Level of Service Definitions

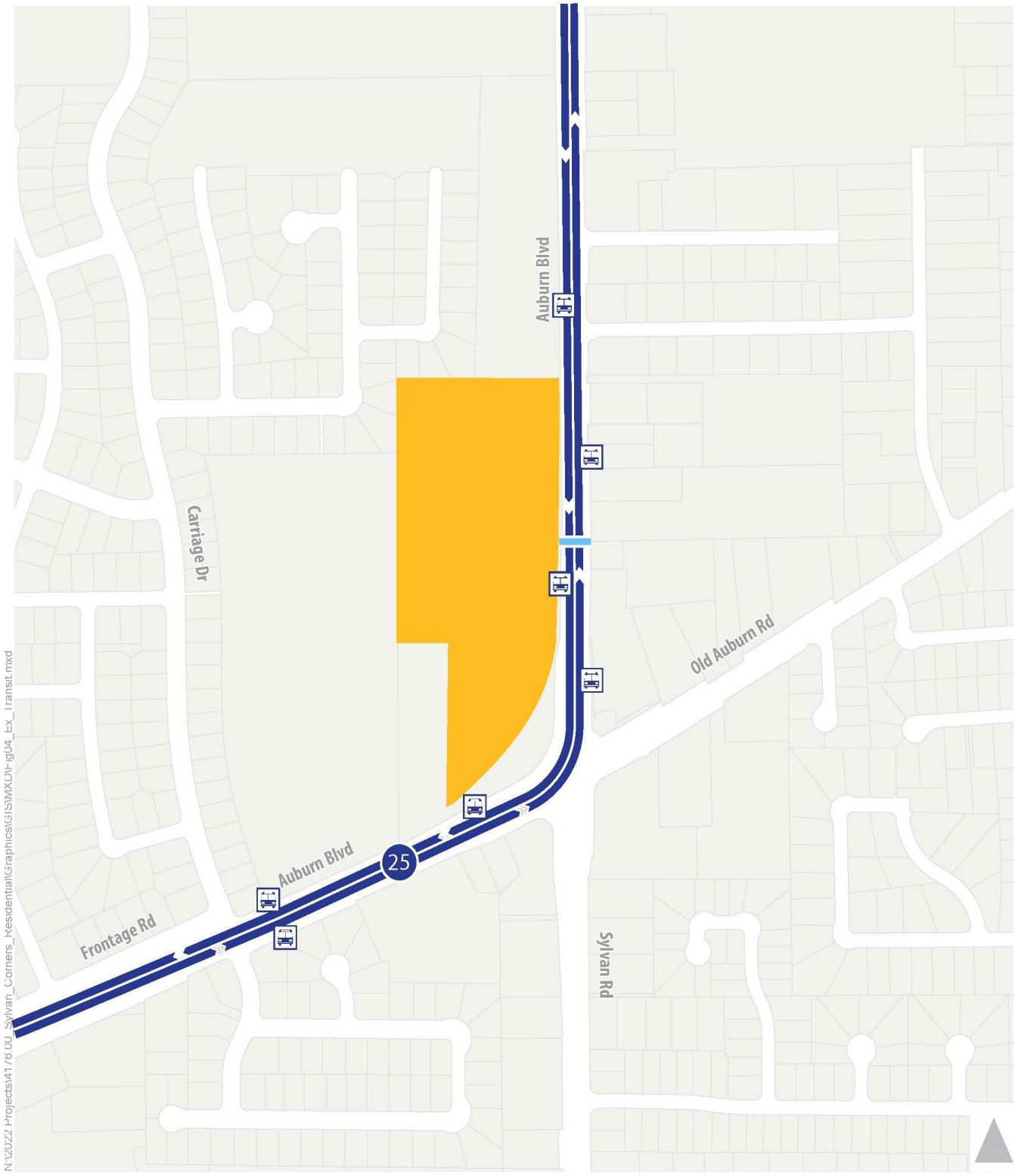
Level of Service	Signalized Intersection Average Control Delay (seconds/vehicle)[1]
A	0 – 10.0
B	10.1 – 20.0
C	20.1 – 35.0
D	35.1 – 55.0
E	55.1 – 80.0
F	> 80.0

Source: Fehr & Peers (2022a)
Notes: [1] Control delay includes initial deceleration delay, queue move-up time, stopped delay, and acceleration delay based on Highway Capacity Manual (Transportation Research Board, 2016).

Traffic operations at the study intersection were analyzed using procedures contained in the Highway Capacity Manual, 6th Edition (Transportation Research Board 2016). These methodologies were applied using the SimTraffic software program, which is a micro-simulation model that considers the effects of lane utilization, turn pocket storage lengths, upstream/downstream queue spillbacks, and coordinated signal timings on intersection queuing and delays. Reported results are based on the average of 10 runs.

The City's *Traffic Impact Study Guidelines* specify the use of a 1.0 Peak Hour Factor (PHF) to report average conditions over the entire peak hour. Applying a field-measured PHF (which is a measure of traffic intensity during the busiest 15-minutes) would otherwise result in reported conditions for that peak 15-minute period. Because this study relies on the existing conditions analysis completed in 2019 for the Old Auburn Complete Streets Plan, it utilizes the field-measured PHFs of 0.94 during the AM peak hour and 0.96 during the PM peak hour.[3]

[3] These PHFs represent conditions with relatively little peaking. Had a 1.0 PHF instead been utilized, intersection delays would have increased only marginally (i.e., by a couple of seconds).



Source: Fehr & Peers (2022a)

Figure 4.17-3. Existing Transit Facilities

Level of Service Standards

The *City of Citrus Heights General Plan* (amended 2019) contains various transportation related goals and policies. Those relevant to this study are listed below.

Policy 29.2: Measure customer satisfaction related to vehicle travel using level of service (LOS) according to procedures in the latest version of the Highway Capacity Manual published by the Transportation Research Board. The City will strive to achieve LOS E or better conditions for City roadways and intersections during peak hours (these may include weekday, AM, Mid-Day, and PM hours as well as Saturday Mid-Day or PM peak hours). The intent of this policy is to effectively utilize the roadway network capacity while balancing the desire to minimize potential adverse effects of vehicle travel on the environment and other modes.

Exceptions to LOS E are allowed for both roadway segments and intersections along the following streets:

- Sunrise Boulevard – south City limits to north City limits
- Greenback Lane – west City limits to east City limits
- Old Auburn Road – Sylvan Road to Fair Oaks Boulevard
- Antelope Road – I-80 to Auburn Boulevard
- Auburn Boulevard – Old Auburn Road to northern City limits

According to this policy, an exception to LOS E is allowed at the study intersection given its location. Policy 29.2 specifies that turn pocket lengthening and signal timing modifications (in lieu of widening of exempt roadways) may be considered for development projects that adversely affect vehicle travel and other modes.

4.17.2.2 Traffic Volumes

Traffic counts were conducted at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection on January 23, 2019, for the Old Auburn Road Complete Streets Plan. The counts included intersection turning movements, heavy vehicles, bicyclists, and pedestrians. During the counts, weather conditions were dry, schools were in session, and no unusual traffic events occurred. The AM peak hour occurred between 7:15 AM to 8:15 AM, and the PM peak hour occurred between 5:00 and 6:00 PM. Trucks represented 1% of AM peak hour traffic and 2% of PM peak hour traffic.

Fehr & Peers conducted a new set of traffic counts at the study intersection on April 7, 2022, while schools were in session. As expected, traffic volumes were generally lower than the January 2019 counts due to the continued effects of the COVID-19 Pandemic on travel.[4] Thus, the *Transportation Impact Study* relies on the January 2019 counts.

[4] The April 2022 counts were 6% lower during the AM peak hour and 8% lower during the PM peak hour than the January 2019 traffic counts.

The April 2022 counts included maximum queue observations for the southbound left-turn pocket (due to the Project's expected usage of this lane. Table 4.17-2. compares the January 2019 versus April 2022 counts for this movement. While the turning volumes are considered modest, the number of queued vehicles was considerable (7 or 8 vehicles during each peak hour).

Table 4.17-2. Existing Southbound Left-Turn Lane Volumes and Queues at the Sylvan Road/Auburn Boulevard/Old Auburn Road Intersection

Movement	Available Storage	AM Peak Hour			PM Peak Hour		
		January 2019 Traffic Volume [1,2]	April 2022 Traffic Volume [2]	April 2022 Maximum Queue [3]	January 2019 Traffic Volume [1,2]	April 2022 Traffic Volume [2]	April 2022 Maximum Queue [3]
Southbound Left/U-Turn	260 feet	48 veh	67 veh	175 feet	69 veh	46 veh	200 feet

Source: Fehr & Peers (2022a)
Notes: [1] Maximum queue observations were not collected in January 2019.
[2] Near switch in January 2019 and April 2022 AM and PM peak hour volumes is a coincidence and not a technical erratum.
[3] Calculated assuming 25 feet per queued vehicle.

This level of queuing is driven by the following:

1. Peak 15-Minute Flows – Utilization of the southbound left-turn surged from 8:15 to 8:30 AM and from 5:15 – 5:30 PM, due perhaps to nearby school start times and/or the workday concluding.

2. Lengthy Cycle Length – During peak hours, this intersection operates with cycle lengths in the 120 to 180 second range (depending on vehicle demand and pedestrian WALK interval requests). Longer cycle lengths are often associated with more lengthy queues.

3. Leading Left Phase – the northbound and southbound left-turn movements operate with concurrent, leading protected left-turn phasing. However, by the time this phase is called, southbound through queues have typically built up, causing left-turning motorists to not be able to access the turn lane. The consequence is a buildup of left-turning vehicles that accumulate in the left-turn pocket (after the left-turn green interval has ended).

The following additional data was collected in April 2022:

- Number of pedestrians/bicyclists using signalized midblock crosswalk during the PM peak hour. During the PM peak hour, 4 pedestrians used the signalized crosswalk.

- Number of southbound left turning vehicles and (illegal) u-turning vehicles on Auburn Boulevard at Sylvan Corners Plaza during the AM and PM peak hours. There were fewer than 5 vehicles per hour turning left into the Sylvan Corners Plaza during each peak hour. A "No-Turn" sign is posted in the median. Field observations did not reveal any illegal U-turns.

4.17.2.3 Intersection Operations

The Sylvan Road/Auburn Boulevard/Old Auburn Road intersection operates with protected left-turn phasing on the northbound and southbound approaches. The eastbound and westbound approaches operate with split phasing.[5] The intersection currently operates at LOS C (34 seconds of delay per vehicle) during the AM peak hour and LOS D (43 seconds of delay per vehicle) during the PM peak hour (see Appendix M for calculations).

4.17.3 Existing Plus Project Conditions

4.17.3.1 Vehicular Access

As noted in Section 2.3.1 *Ingress/Egress*, the Project proposes access via two intersections on Auburn Boulevard. The northern intersection would be left in/right in/right out only and while the southern intersection would be right in/right out only. These accesses would be 825 feet and 350 feet, respectively, north of the southbound limit line at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection.

4.17.3.2 Project Travel Characteristics

Trip Generation

The City of Citrus Heights' *Transportation Impact Analysis Guidelines* (2021a) indicate that, when possible, trip generation rates should be derived from local empirical data, rather than trip rates identified in the most recent version of the Institute of Transportation Engineer's Trip Generation Manual. The Guidelines note that the sample used for non-standard (i.e. non-Institute of Transportation Engineers [ITE]) trip rates should include at least three similar facilities in Citrus Heights or neighboring jurisdictions with similar characteristics.

Fehr & Peers collected local empirical data in May 2017 for the *Mitchell Farms Subdivision Environmental Impact Report (State Clearinghouse [SCH]# 2017062078* (Dudek 2017). The data was collected at three existing detached single family residential sites located in Citrus Heights over two days during the AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:30 PM) peak periods. Daily, AM peak hour, and PM peak hour trip rates for each site were developed based on the data collected. These trip rates were used to develop one weighted average trip rate for detached single family developments for each respective time period. Table 4.17-3 displays the location of each count, number of units, the individual trip rates for each site, and the weighted average trip rate for the single family detached developments that were counted.

The weighted average daily, AM peak hour, and PM peak hour trip rates displayed in Table 4.17-3 are used to estimate the proposed Project's trip generation as these rates represent local empirical data and were collected under pre-COVID-19 conditions. Table 4.17-4 displays the Project trip generation using the

[5] Although no shared left/through lanes are present, the intersection is not operated with protected left-turns because left-turns cannot be made simultaneously due to the intersection skew (see skip striping within intersection).

rates previously described. As shown, the project is estimated to generate approximately 680 daily trips with 61 occurring during the AM peak hour and 65 occurring during the PM peak hour.

Table 4.17-3. Trip Generation Study Site Characteristics

Project Location	Number of Units	Type	Trip Rate[1]						
			Daily Rate[2]	AM Peak Hour			PM Peak Hour		
				Rate	% In	% Out	Rate	% In	% Out
Sundance Drive	141	Single-family detached	7.00	0.61	0.21	0.79	0.68	0.64	0.36
Wigwam Drive	42	Single-family detached	7.12	0.65	0.35	0.65	0.65	0.69	0.31
Kifisia Way	59	Single-family detached	7.56	0.69	0.32	0.68	0.70	0.51	0.49
Single-Family Weighted Average:			**7.16**	**0.64**	**0.26**	**0.74**	**0.68**	**0.62**	**0.38**

Source: Fehr & Peers (2017)
Notes: [1] Fehr & Peers conducted counts in the AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:30 PM) peak periods over 2 days, on May 9 and 10, 2017. Fehr & Peers calculated the peak hour of each peak period, and then the average number of peak hour trips.
[2] In order to determine daily rates, Fehr & Peers developed a K-factor between ITE peak hour rates and ITE daily rates. This equation was the sum of the observed trip rates for AM and PM peak hours, divided by the sum of the ITE trip rates for AM and PM peak hours, multiplied by the daily ITE trip rate.

Table 4.17-4. Project Trip Generation

Land Use	Quantity (Dwelling Units)	Daily	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single Family	94	680	16	45	61	40	25	65

Source: Fehr & Peers (2022a)
Notes: Trip generation is based on trip rates developed using data collected for the Mitchell Farms EIR in 2017.

Trip Distribution

The Project site is located within the City's Neighborhood Association #2 (Rusch Park), which is bounded by Auburn Boulevard to the south and east, Van Maren Lane to the west, and I-80 to the north. The area north and west of the Project site is predominantly residential (though a couple of schools and businesses are also situated in this area). The travel behavior of this neighborhood was estimated by reviewing the

directionality of vehicles entering/exiting its primary access points along Auburn Boulevard.[6] Given the Project's close proximity to this primarily residential area, it would be expected to have similar spatial trip distribution characteristics. In 2000 and 2004, Fehr & Peers collected traffic counts at the following intersections:

- Greenback Lane – west City limits to east City limits
- Auburn Boulevard/Kanai Avenue
- Auburn Boulevard/San Tomas Drive
- Auburn Boulevard/Raintree Drive
- Auburn Boulevard/Carriage Drive

Because the area was built out by that time and residential trip generation rates are unlikely to have materially changed between the two dates, the difference in count years was not of concern. The Project's expected trip distribution is expected to differ by travel direction given the permitted driveway movements. Refer to Figure 4.17-4. Project Trip Distribution for expected percentages, which were informed by the 2000/2004 counts, existing turning movement volumes at the study intersection, and the location of complementary land uses (e.g., shopping, employment, and schools).

Inbound Trips

Figure 4.17-4 indicates that 40% of inbound Project trips would arrive from the south on Sylvan Road. Inbound trips to residential developments are greatest during the PM peak hour. During this time period, project residents would be returning home from a variety of destinations to the south including employment centers and shopping along Greenback Lane. This route would also be used for longer distance commute trips returning from the job centers in Rancho Cordova to the south.

Outbound Trips

Figure 4.17-4 shows that 35% of outbound project trips would be distributed to/from the west on Auburn Boulevard. This percentage reflects the Project's location near the Stock Ranch Retail Center to the west, and the ease of accessing westbound I-80 (to reach downtown Sacramento) via Greenback Lane. Figure 4.17-4 indicates 20% of outbound trips would be distributed to the north on Auburn Boulevard. Due to the fact that left outs are prohibited at both Project driveways, motorists would have to travel south on Auburn Boulevard and make a U-turn at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection. Figure 4.17-5 displays Project-only trips at both Project access points and the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection based on the trip generation and distribution estimates described above.

[6] This approach acknowledges that some of these trips may enter/exit the neighborhood via connections on Antelope Road or Van Maren Lane. The final trip distribution percentages consider the limitation inherent in this approach.

4.17.3.3 Intersection Operations

Table 4.17-5 displays the operational results at the study intersection under Existing Plus Project conditions (refer to Appendix M for technical calculations). As shown, the Project would result in modest increases in delay during the AM peak hour and no changes in delay during the PM peak hour.

Table 4.17-5. Intersection Operations – Existing Plus Project Conditions

Intersection	Control	Existing Conditions		Existing Plus Project Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Sylvan Road/Auburn Boulevard/Old Auburn Road	Signal	C / 34	D / 43	D / 37	D / 43

Source: Fehr & Peers (2022a)
Notes: For signal control, the overall intersection LOS and control delay (in seconds per vehicle) is reported.

The Project would add 44 AM peak hour trips and 24 PM peak hour trips to the southbound Auburn Boulevard approach to the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection. This would represent a 4% increase in AM peak hour traffic and 2% increase in PM peak hour traffic over existing volumes. SimTraffic results showed almost no changes in vehicle queuing on this approach.[7] The Project would add 16 AM peak hour trips and 9 PM peak hour trips to the southbound left-turn lane. As indicated in Table 4.17-3, maximum queues in this lane do not currently occupy the entirety of the turn lane storage. Project trips would not cause the queue to exceed the available storage. Hence, no changes in turn lane storage are required to accommodate Project trips.

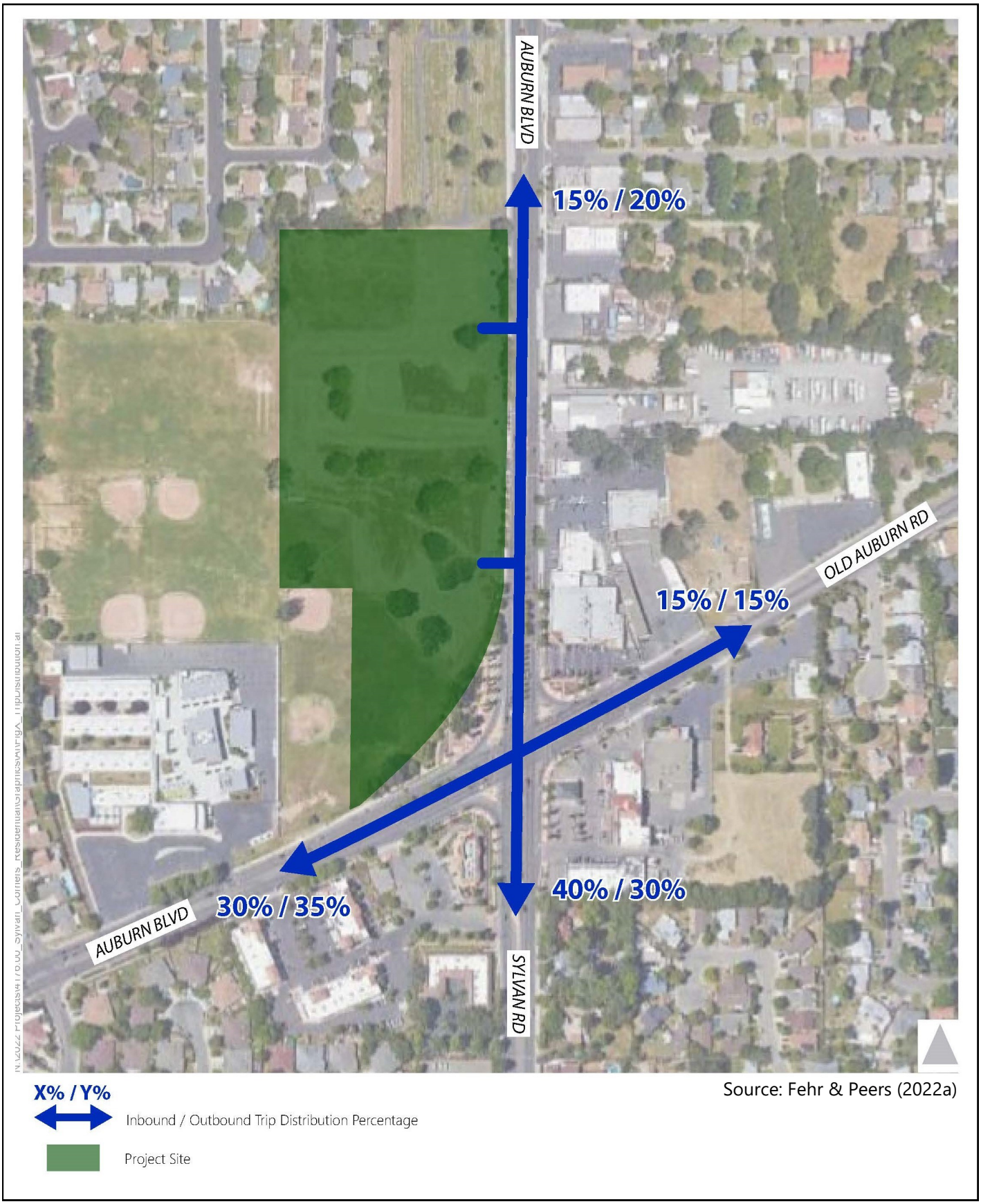
4.17.4 Cumulative Conditions

4.17.4.1 Traffic Forecasts

The cumulative no Project forecasts represent anticipated growth in the City of Citrus Heights and surrounding communities by 2040. The following data points/sources were identified:

- The SACOG's Sacramento Activity-Based Travel Simulation Model travel demand model predicts a 7% increase in total traffic at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection between 2016 and 2040.

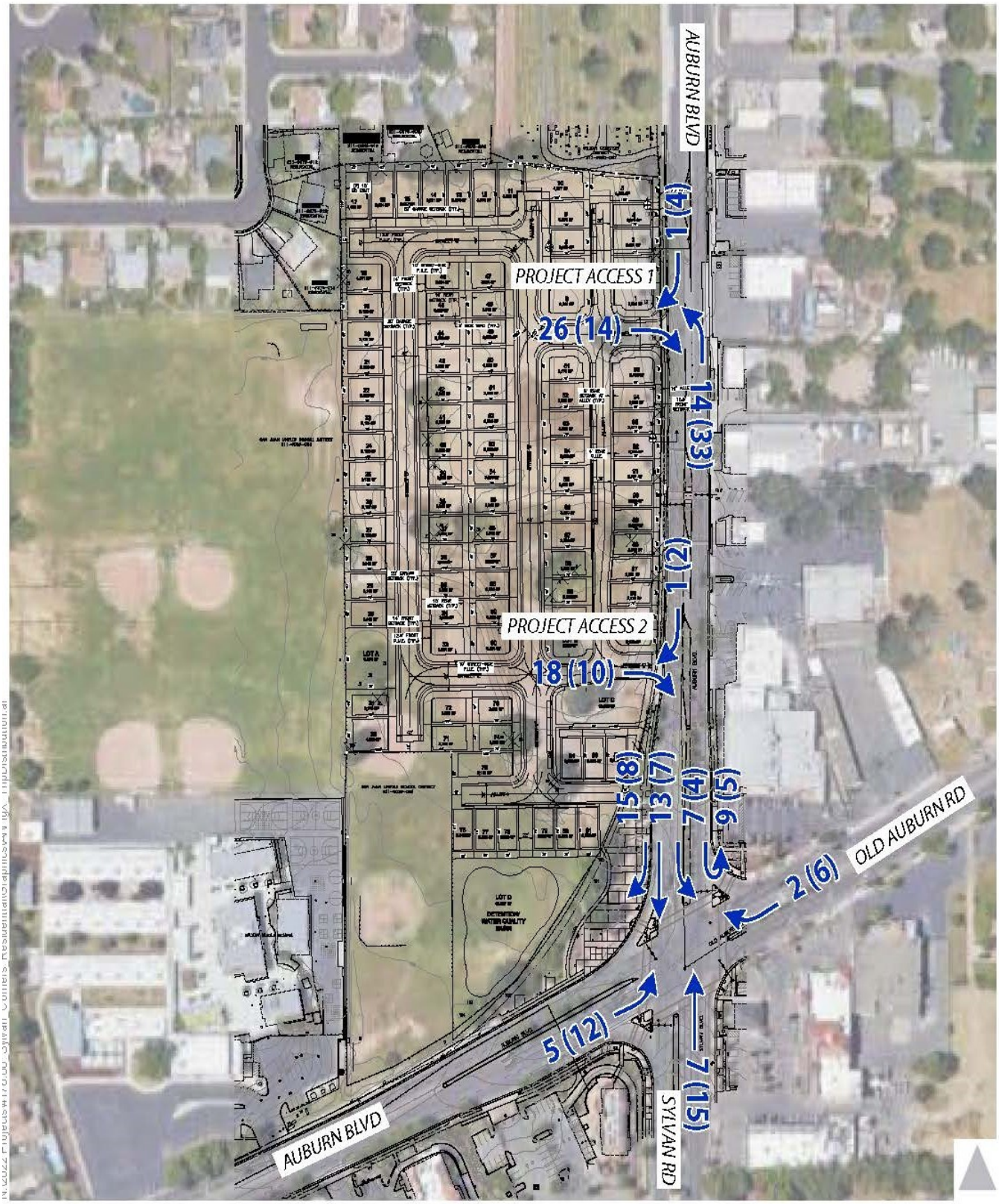
[7] Some movements experienced a 25-foot increase in the maximum queue, while others experienced a 25-foot decrease in the maximum queue. Given the Project's modest changes in traffic, these changes are due to random variation in the SimTraffic model runs and output.



Source: Fehr & Peers (2022a)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.17-4. Project Trip Distribution



x (x) AM (PM) Volumes

Source: Fehr & Peers (2022a)

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 4.17-5. Peak Hour Traffic Volumes and Lane Configurations—Project Only Conditions

2018-062.03 Sylvan Corners Subdivision

- Between 2000 and 2019, the total increase in traffic at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection (excluding movements to/from Auburn Blvd. to the west due to Stock Ranch Retail Center construction after 2000) was 4% during the AM peak hour and 3% during the PM peak hour.
- Fehr & Peers recently completed the Development Impact Fee road fee study for the City. That study used SACOG land use projections, which showed a 7% increase in residential and 26% increase in jobs. However, much of that growth is within the Sunrise Tomorrow Specific Plan (Sunrise Mall property) and is unlikely to pass through the Project area intersection.

Given the above and a preference to be reasonably conservative, City staff and Fehr & Peers determined that a 10% increase in the existing volumes at the study intersection would be a reasonable approach to develop a cumulative no Project condition.

4.17.4.2 Intersection Operations

The cumulative analysis assumes the Old Auburn Road Complete Streets Plan improvements are constructed, which results in the following changes at the Sylvan Road/Auburn Boulevard/Old Auburn Road intersection:

- The westbound approach is modified to remove one left turn lane and extend the remaining left turn lane to 300 feet.
- The eastbound and westbound approaches are modified to operate with protected left-turn (versus current split) phasing. Due to the intersection's geometry, the left-turns cannot operate concurrently, thereby resulting in lead/lag left-turns.

Signal timings were optimized under Cumulative No Project conditions. No other intersection modifications are included in the analysis.

Project trips were added to Cumulative No Project forecasts consistent with the trip distribution displayed on Figure 4.17-4. Table 4.17-6 displays the operational results at the study intersection under Cumulative No Project and Cumulative Plus Project Conditions. As shown, the Project would result in modest increases in delay (i.e., two seconds or less) during both the AM and PM peak hours.

Table 4.17-6. Intersection Operations – Cumulative Conditions

Intersection	Control	Cumulative No Project Conditions		Cumulative Plus Project Conditions	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Sylvan Road/Auburn Boulevard/Old Auburn Road	Signal	C / 35	D / 53	D / 36	D / 55

Source: Fehr & Peers (2022a)
Notes: For signal control, the overall intersection LOS and control delay (in seconds per vehicle) is reported.

4.17.5 Project Access and On-Site Circulation

4.17.5.1 Project Access Throat Depths

SimTraffic was used to estimate the required throat depth for the eastbound (outbound) movement at each intersection. Table 4.17-7 displays the expected maximum queue under Cumulative Plus Project Conditions (when queuing is anticipated to be greatest). Technical calculations are displayed in Appendix M.

Table 4.17-7. Maximum Queue – Cumulative Conditions

Intersection	Movement	Storage	AM Peak Hour	PM Peak Hour
Auburn Boulevard Northern Entrance	Eastbound Right Turn	100 feet	75 feet	50 feet
Auburn Boulevard Southern Entrance	Eastbound Right Turn	75 feet	50 feet	75 feet

Source: Fehr & Peers (2022a)
Notes: Results based on SimTraffic. Storage is estimated based on the Project site plan.

As shown, the throat depth provided at each project access is sufficient to accommodate the expected outbound queues at each intersection. Hence, no site plan modifications are required to accommodate outbound vehicle storage.

4.17.5.2 Northbound Left Turn Ingress Lane at Auburn Boulevard Northern Entrance

As part of the Auburn Boulevard Complete Streets improvements project constructed in 2013/2014, a channelized northbound left-turn lane with 160 feet of vehicle storage was constructed at the northern entrance.[8] The SimTraffic model results for Cumulative Plus Project conditions show a maximum queue in the northbound left-turn lane of 50 feet during the AM peak hour and 75 feet during the PM peak hour. Thus, no queuing problems are expected at this driveway.

Field observations during the PM peak hour revealed that queued traffic occasionally spills back from the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection beyond the northern entrance. This would hinder the ability of northbound left-turn movements to be made.

The queue spillback occurs in a random fashion, caused by the timing of the release of large platoons of traffic from the Antelope Road signalized intersection, and the length of green time provided on the eastbound and westbound approaches at the study intersection. The queue dissipates soon after the southbound through green interval is provided. Queuing conditions also temporarily worsen when pedestrians activate the midblock signalized pedestrian crossing. Two other aspects of this turn lane are notable:

[8] At the time this turn lane was constructed, Sylvan Middle School occupied the subject property. That school was subsequently relocated and this turn lane has been closed to vehicular travel by a series of plastic bollards blocking access to the turn lane.

- A "No U-turn" Sign is present. This sign is necessary given that Auburn Boulevard does not have sufficient width to accommodate U-turns.
- The northbound left-turn lane is face-to-face with a southbound left-turn lane. The southbound left-turn lane serves a lawn mower and fencing business. The raised median design of these turn lanes provides flexibility for simultaneously present motorists to maneuver their vehicles to see around one another.

4.17.5.3 Southbound Left Turn at Sylvan Corners Plaza

A southbound left-turn lane serving the Sylvan Corners Plaza exists on Auburn Boulevard about 400 feet south of the northern entrance. A "No U-turn" Sign is present at this location. Some Project trips desiring to travel northbound on Auburn Boulevard may be tempted to perform an illegal U-turn at this location or enter the Sylvan Corners Plaza site and then exit, heading northerly on Auburn Boulevard. Both movements would likely be quicker than continuing southbound and performing a U-turn at Sylvan Road/Old Auburn Road.

If the proposed Project is constructed, it is recommended that these undesirable movements be monitored (either through traffic counts or complaints filed with the City). Should these behaviors need to be addressed, enforcement and/or increased signage are the primary options.

4.17.5.4 Project Access Design Dimensions

The Project site plan shows each Project entrance/access point consisting of an approximate 38-foot width. This is adequate to accommodate not only passenger vehicles and SUVs, but also garbage trucks and larger delivery and moving trucks turning to and from Auburn Boulevard.

4.17.6 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

4.17.6.1 Bicycle Considerations

The City's *Bikeway Master Plan* (2015) does not show any planned facilities within the Project vicinity, besides the existing Class II Bike Lanes. Bicyclists exiting Project Access 1 or 2 and traveling southbound in the Class II bike lane would encounter an 85-foot merge area (in advance of the study intersection) in which bike lane striping is not present. This area experiences 350 AM peak hour vehicles and 150 PM peak

hour vehicles that turn right onto westbound Auburn Boulevard. Recommended improvements to address these multi-modal conflicts are discussed below.

4.17.6.2 Pedestrian Considerations

The City's *Pedestrian Master Plan* (2016) does not show any planned facilities within the Project vicinity. According to the Project Site Plan (see Figure 2-3), pedestrians would be able to enter/exit the Project site from the southeast corner of the Project site to the pedestrian plaza in the northwest quadrant of the Auburn Boulevard/Sylvan Road intersection. This area is about one-third of an acre, featuring paved walkways, benches, historical features, landscaping, and trees that provide shade.

The site plan shows sidewalks on both sides of the north access, but no sidewalks on the south access. The lack of sidewalks on the south access presumably considers the close proximity of this access to the pedestrian connection directly to the Auburn Boulevard/Sylvan Road intersection.

Project residents would likely use the southerly pedestrian connection to reach nearby destinations in Sylvan Corners. Residents would need to cross the southbound right-turn lane, which is yield-controlled, has a large radius curve, and is about 18 feet wide. When not required to yield to oncoming traffic or persons in the crosswalk, some motorists perform this movement at speeds of 20 to 30 mph. These same residents would also need to navigate the channelized free-right lanes in the southwest and northeast corners of the intersection. Mitigation Measure TRANS-1 would be required to address increased levels of queuing on Auburn Boulevard and additional pedestrian activity by Project residents.

Mid-Block Pedestrian Crosswalk on Auburn Boulevard

As discussed in Section 4.17.2 Existing Bicycle and Pedestrian Facilities, the City is considering removal of a signalized, midblock crosswalk on Auburn Boulevard 600 feet north of the Auburn Boulevard/Sylvan Road/Old Auburn Road intersection (Fehr & Peers 2022b). This study is also related to an ongoing study of a potential new pedestrian crossing on Sylvan Road, south of Auburn Boulevard/Old Auburn Road. If the City decides that this midblock crosswalk should be removed after the implementation of TRANS-1 is complete, Fehr & Peers recommends the following:

- Remove the pedestrian crossing traffic signal poles, mast arms, and controller cabinet.
- Replace Americans with Disabilities Act ramps with standard vertical curb and sidewalk.
- Remove stamped concrete and yellow striping within the crosswalk.
- Replace pedestrian refuge area in the median, with a raised curb and median planter with landscaping.

Additionally, guidance is provided in the CA MUTCD regarding removal of traffic signals. Two specific recommendations are applicable to this situation:

1. The public should be informed in advance of the plans for the removal.

2. The signal should not be turned off or removed unless satisfactory arrangements have been made to address the changed condition.

In this case, an informational item at a public hearing would be appropriate for the public noticing. Coordination with administrators at Sylvan Middle School would occur to further communicate the planned removal and rerouting of students. Signage would be placed at each side of the crossing well in advance of its planned removal to notify pedestrians and direct them to the crosswalks at the Auburn Boulevard/Sylvan Road intersection. The crosswalk would not be removed until the right-turn lanes (and crosswalks) at the Auburn Boulevard/Sylvan Road intersection are signalized through the implementation of TRANS-1.

The Project would comply with all programs, plans, ordinances, and policy addressing the circulation system, and impacts would be less than significant with mitigation incorporated.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less than Significant Impact.

CEQA Guidelines Section 15064.3 subdivision (b) addresses the criteria for analyzing transportation impacts and establishes the vehicle miles traveled (VMT) metric as the most appropriate measure of transportation impacts in a CEQA document. A vehicle miles traveled (VMT) analysis for the Project was completed using methodologies and information documented in the *SB 743 Implementation Guidelines for the City of Citrus Heights* (2021b). If a VMT analysis is required, thresholds of significance are provided for various types of land uses. For residential developments, a project would cause a significant impact if it would not qualify under one of the applicable exemption categories defined in the *SB 743 Implementation Guidelines* and its VMT exceeded 85 percent of the regional per capita average. If the above conditions are met, the project's VMT impact could still be found to be less than significant if it did not cause the total VMT generated by the City of Citrus Heights to increase.

The proposed Project is situated in a Census Block Group (CBG) whose last four digits end with 1112 (see Figure 4.17-6). This CBG is large, comprising 280 acres that extends to Antelope Road and nearly to Van Maren Lane and includes a variety of land uses. Given the CBG size and variety of land uses within it, residential travel characteristics within this area are not homogenous (City of Citrus Heights 2021b).

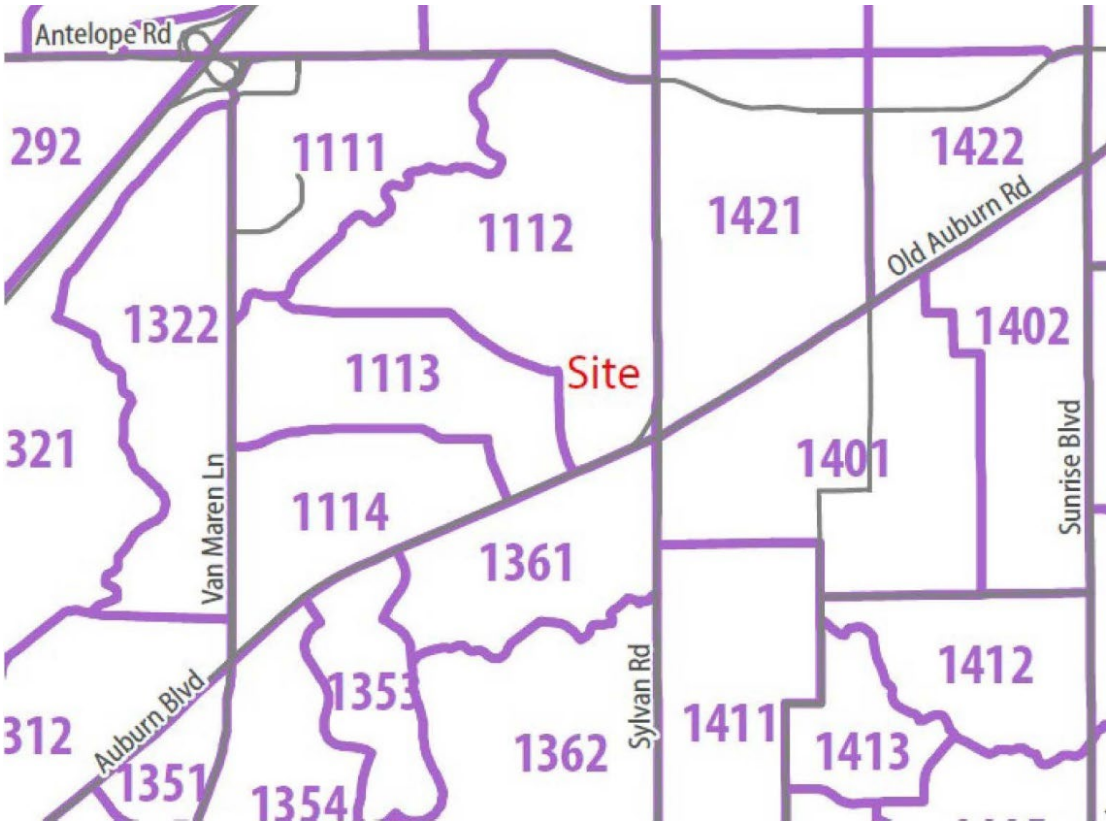


Figure 4.17-6. Project Site Location within City of Citrus Heights Census Block Groups

In accordance with the SB 743 Implementation Guidelines for the City of Citrus Heights, a "blending/adjacency" evaluation was completed for the proposed Project. The SB 743 Guidelines state that a blending/adjacency evaluation should consider a project sites' relative placement within a CBG and the travel characteristics of an adjacent CBG containing similar land uses. If an adjacent CBG containing similar land uses and travel characteristics to the proposed Project has low generating VMT, it can be concluded that the proposed Project would result in similar VMT and can be deemed less than significant.

CBG 1112 generates an average of 20.9 VMT per resident, which is above both the Citywide average (17.4 VMT per resident) and SACOG regional average (20.1 VMT per resident). However, the proposed Project site is adjacent to CBGs 1113, 1361, and 1401. These CBGs include similar land uses to CBG 1112 and given their proximity to the Project site, it can be concluded that residents of the proposed Project would have similar travel characteristics to the residents in the existing adjacent CBGs. The following presents the VMT per resident for the adjacent CBGs:

- CBG 1113 - 16.9 VMT per resident
- CBG 1361 - 15.0 VMT per resident
- CBG 1401 - 15.7 VMT per resident

Given the location of the Project site, it can be concluded that Project residents would have travel characteristics more similar to residents in CBGs 1113, 1361, and 1401 (versus 1112). These three CBGs

have VMT per resident averages that are less than 85 percent of the SACOG regional average. Therefore, the proposed Project would have a less than significant VMT impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As discussed in Section 4.17.5.3, Project trips desiring to travel northbound on Auburn Boulevard may choose to perform an illegal U-turn at the southbound left-turn lane serving the Sylvan Corners Plaza. Mitigation Measure TRANS-2 will be required to monitor and discourage this undesirable behavior.

According to the Project site plan, the primary internal streets will be 32 feet wide with 5-foot sidewalks on both sides of the street. Alleys would be either 24 or 27 feet wide, some of which would provide an additional 8-feet for parallel parking. Within the site, 20-foot or 25-foot curb return radii would be provided at on-site intersections. The combination of street widths and curb return radii would allow garbage trucks and truck deliveries to navigate these streets.

Impact would be less than significant with implementation of mitigation.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

Less than Significant Impact.

During construction and upon completion of the Project, emergency access to the subdivision will be via Auburn Boulevard. The City will review the interior circulation plan to ensure it is adequate to serve emergency access. Impacts would be less than significant.

4.17.7 Mitigation Measures

TRANS-1: Auburn Boulevard/Sylvan Road Intersection

To address increased levels of queuing on Auburn Boulevard and additional pedestrian activity by Project residents, the Project applicant shall modify the intersection as follows:

- Modify signal phasing to operate the eastbound and westbound approaches with lead/lag protected left-turn phasing (versus current split phasing).

- Signalize the channelized southbound, eastbound, and westbound right-turn lanes, providing pushbutton pedestrian detection in each crosswalk.
- Extend the southbound Class II bike lane by providing green skip striping (to designate a merge area) to provide for a continuous and more visible facility.

The improvements would directly benefit the Project by virtue of shorter queues on southbound Auburn Boulevard (i.e., fewer blockages of north project access) and improved conditions for Project residents walking/biking in the area.

TRANS-2: Illegal Southbound U-Turns on Auburn Boulevard

To address Project trips desiring to travel northbound on Auburn Boulevard that may choose to perform an illegal U-turn at the southbound left-turn lane serving the Sylvan Corners Plaza, the City shall:

- Monitor (either through counts or complaints filed with the City) this turn lane for unlawful movements, and if warranted, increase enforcement and/or post additional signage to discourage those behaviors.

4.18 Tribal Cultural Resources

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs) in the Project area. TCRs are defined as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe. The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California NAHC Sacred Lands File Search, April 19, 2022;
- Records search at the North Central Information Center (NCIC) of the California Historical Resources Information System at California State University-Sacramento on April 6, 2022 (NCIC search #SAC-22-83);
- *CONFIDENTIAL Cultural Resources Inventory and Evaluation Report for the Sylvan Corners Subdivision* (ECORP 2022b);
- Ethnographic overview of the Project Area;
- In the absence of tribes that requested formal consultation, the record of Informal tribal communication between the City of Citrus Heights and culturally affiliated Native American tribes.

4.18.1 Environmental Setting

4.18.1.1 Ethnography

Prior to the arrival of European-Americans in the region, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited California. Kroeber (1925, 1936), and others (i.e., Driver 1961; Murdock 1960), recognized the uniqueness of California's indigenous

groups and classified them as belonging to the California culture area. Kroeber (1925) further subdivided California into four subculture areas: Northwestern, Northeastern, Southern, and Central.

When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about a third of the state's native population, lived in the Central Valley (Moratto 1984:171). At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction (Rosenthal et al. 2007). The Central area (as defined by Kroeber 1925) encompasses the current Project Area and includes the Nisenan or Southern Maidu.

Ethnographically, the Project Area is in the southwestern portion of the territory occupied by the Penutian-speaking Nisenan. Nisenan inhabited the drainages of the Yuba, Bear, and American rivers, and also the lower reaches of the Feather River, extending from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada to the east (Wilson and Towne 1978). The territory extended from the area surrounding the current city of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west, and in the east, it extended to a general area located within a few miles of Lake Tahoe.

As a language group, Nisenan (meaning *from among us* or *of our side*) are members of the Maiduan Family of the Penutian stock and are generally divided into three groups based on dialect differences: the Northern Hill (mountain) Nisenan in the Yuba River drainage; the Valley Nisenan along the Sacramento River; and the Southern Hill (foothills) Nisenan along the American River (Beals 1933; Kroeber 1925; Wilson and Towne 1978). Individual and extended families *owned* hunting and gathering grounds, and trespassing was discouraged (Kroeber 1925; Wilson and Towne 1978). Residence was generally patrilocal, but couples actually had a choice in the matter (Wilson and Towne 1978).

The basic social and economic group for the Nisenan was the family or household unit. The nuclear and/or extended family formed a corporate unit. These basic units were combined into distinct village or hamlet groups, each largely composed of consanguine relatives (Beals 1933; Littlejohn 1928). Lineage groups were important political and economic units that combined to form tribelets, which were the largest sociopolitical unit identified for Nisenan (Wilson and Towne 1978). Each tribelet had a chief or headman who exercised political control over all villages within it. Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The role of chief seems to have been an advisory role with little direct authority (Beals 1933) but with the support of the shaman and the elders, the word of the chief became virtually the law (Wilson and Towne 1978). Tribelets assumed the name of the head village where the chief resided (Beals 1933; Levy 1978).

The office of tribelet chief was hereditary, with the chieftainship being the property of a single patrilineage within the tribelet. Tribelet populations of Valley Nisenan were as large as 500 persons (Wilson and Towne 1982:6), while foothill and mountain tribelets ranged between 100 and 300 persons (Littlejohn 1928:21; Levy 1978:410). Each tribelet owned a bounded tract of land and exercised control over its natural resources (Littlejohn 1928). Beals (1933:359) estimated that Nisenan tribelet territories averaged approximately 10 miles along each boundary, or 100 square miles, with foothill territories tending to

encompass more area than mountain territories. Littlejohn (1928) noted that in many instances, these boundaries were indicated by piles of stones. Regardless, Nisenan groups tended to stay within their village areas except during the summer season, when groups of people would sojourn into the mountains to hunt and gather (Littlejohn 1928).

Nisenan practiced seasonal migration, a subsistence strategy involving moving from one area or elevation to another to harvest plants, fish, and hunt game across contrasting ecosystems that were in relatively close proximity to each other. Valley Nisenan generally did not range beyond the valley and lower foothills, while foothill and mountain groups ranged across a more extensive area that included jointly shared territory whose entry was subject to traditional understandings of priority of ownership and current relations between the groups (d'Azevedo 1963).

During most of the year, Nisenan usually lived in permanent villages located below about 2,500 feet that generally had a southern exposure, were surrounded by an open area, and were located above but close to watercourses (Littlejohn 1928). The rather large uninhabited region between the 3,000-foot contour and the summit of the Sierra Nevada was considered *open ground*, which was only used by communities living along its edge (Littlejohn 1928:20). Beals (1933) noted that permanent villages in the foothills and mountains were usually located on high ground between rivers. Valley villages were also usually located on raised areas to avoid flooding. Littlejohn (1928) stated that at one time there were settlements located on every small stream within Nisenan territory, but permanent villages were not located in steep, dark, narrow canyons of large rivers, or at altitudes where deep snows persisted throughout the winter. In fact, permanent occupation sites above 3,500 feet were only located in protected valleys (Littlejohn 1928).

The availability of resources influenced the location of Nisenan permanent villages, since they acquired a proportion of their food resources from the surrounding general area (Littlejohn 1928; Wilson and Towne 1978). Other essential and critical food resources were obtained during the summer, when small base camps were established at higher altitudes in proximity to a water source. Individuals would stage expeditions to acquire natural, faunal, and plant resources from these camps (Littlejohn 1928; Wilson and Towne 1978).

Communally organized Nisenan task groups exploited a wide variety of resources. Communal hunting drives were undertaken to obtain deer, quail, rabbits, and grasshoppers. Bears were hunted in the winter when their hides were at their best condition. Runs of salmon in the spring and fall provided a regular supply of fish, while other fish such as suckers, pike, whitefish, and trout were obtained with snares, fish traps, or with various fish poisons such as soaproot (Beals 1933; Faye 1923; Wilson and Towne 1978). Birds were caught with nooses or large nets and were also occasionally shot with bow and arrow. Game was prepared by roasting, baking, or drying. In addition, salt was obtained from a spring near modern-day Rocklin (Wilson and Towne 1978).

Acorns were gathered in the fall and stored in granaries for use during the rest of the year. Although acorns were the staple of the Nisenan diet, they also harvested roots like wild onion and *Indian potato*, which were eaten raw, steamed, baked, or dried and processed into flour cakes to be stored for winter use (Wilson and Towne 1978). Buckeye, pine nuts, hazelnuts, and other edible nuts further supplemented the diet. Key resources such as acorns, salmon, and deer were ritually managed through ceremonies to

facilitate successful exploitation and equitable distribution of resources (Beals 1933; Swezey 1975; Swezey and Heizer 1977).

Trade was important with goods traveling from the coast and valleys into the Sierra Nevada and beyond to the east. Coastal items like shell beads, salmon, salt, and foothill pine nuts were traded for resources from the mountains and farther inland, such as bows and arrows, deer skins, and sugar pine nuts. In addition, obsidian was imported from the north (Wilson and Towne 1978).

Nisenan built residential dwellings, ceremonial structures, semi-subterranean sweat lodges, and menstruation huts (Wilson and Towne 1978). The typical hill and mountain dwelling was the conical bark house made by overlapping three or four layers of bark with no interior support. A thatched house was used at lower elevations, consisting of a conical framework of poles that was covered by brush, grass, or tules. Semi-subterranean earth lodge roundhouses were also built by hill and mountain groups and used for ceremonial gatherings, assemblies, local feasts, and for housing visitors (Beals 1933; Levy 1978).

Flaked and ground stone tools were common among the Nisenan and included knives, arrow and spear points, club heads, arrow straighteners, scrapers, rough cobble and shaped pestles, bedrock mortars, grinding stones (metates), pipes, charms, and short spears (Barrett 1917; Beals 1933; Voegelin 1942; Wilson and Towne 1978). Beals (1933:341) also noted that certain colored stone points were considered *lucky* and could be traded for four or five other Projectile points. In addition, obsidian was highly valued and imported. Nisenan informants stated that obsidian only came from a place to the north, outside of Nisenan territory (Littlejohn 1928:32). Littlejohn (1928) also noted that soapstone was used for bowl mortars, although informants of Wilson and Towne (1978) claimed that neither they nor their ancestors made mortars.

Wood was used for a variety of tools and weapons, including both simple and sinew-backed bows, arrow shafts and points, looped stirring sticks, flat-bladed mush paddles, pipes, and hide preparation tools (Wilson and Towne 1978). Cordage was made from plant material and was used to construct fishing nets and braided and twined tumplines. Soaproot brushes were commonly used during grinding activities to collect meal or flour. Specialized food processing and cooking techniques included the grinding and leaching of ground acorn and buckeye meal; burning of umbelliferae, a plant with cabbage-like leaves, to obtain salt; and roasting various foods in earth ovens (d'Azevedo 1986; Wilson and Towne 1978). Both hill and valley groups used the bedrock mortar and pestle (both rough cobble and shaped) to grind acorns, pine nuts, seeds, other plant foods, and meat. A soaproot brush was used to sweep ground meal into mortar cups and collect flour. Fist-sized heated stones were used to cook or warm liquid-based foods such as acorn gruel and pine nut meal. Whole acorns were stored in granaries and pine nuts were stored in large pine bough-covered caches (Wilson and Towne 1978).

Nisenan groups managed many wild plants, primarily by controlled burning that removed underbrush and encouraged growth of edible grasses, seed producing plants, and other useful plant resources (e.g., basketry materials) (Blackburn and Anderson 1993). The use of fire for environmental modification and as an aid in hunting is frequently mentioned in the ethnographic literature relating to the Nisenan. Littlejohn (1928) noted that the lower foothills in the valley oak zone were thickly covered with herbaceous vegetation that was annually burned by the Nisenan to remove and limit its growth while facilitating the growth of oaks for harvesting acorns. The annual fires destroyed seedlings but did not

harm established oak trees. Beals (1933) also noted that the Nisenan regularly burned the land, primarily for the purpose of driving game, and consequently created much more open stands of timber than currently exist in the area. Beals (1933:363) informants stated that before their traditional burning regimes were halted by European-Americans, "it was often a mile or more between trees on the ridges." In addition to removing underbrush, improving travel conditions, and facilitating plant growth, burning may also have improved areas of deer forage, potentially altering migratory patterns of deer populations by lessening their need to seek fresh forage on a seasonal basis (Matson 1972).

Nisenan used baskets for a variety of tasks, including storage, cooking, serving and processing foods, traps, cradles, hats, cages, seed beaters, and winnowing trays. Basket manufacturing techniques included both twining and coiling, and baskets were decorated with a variety of materials and designs. Other woven artifacts include tule matting and netting made of milkweed, sage fibers, or wild hemp (Wilson and Towne 1978).

Like most indigenous cultures, Nisenan groups had a holistic epistemology; a theorem of holistic knowledge in which any subject is a composite of all other subjects, and every aspect of knowledge is interconnected. The Nisenan world contained many ineffable supernatural beings and spirits, and all-natural objects were endowed with potential supernatural powers (Beals 1933).

Stories about world creation and human origins vary amongst different ethnographic accounts as well as amongst different groups. Some expressed the idea that the world has always existed, but in different forms; some told that everything was made by someone, and that all birds and animals were once human; others told of a flood that killed the first people because they were bad (Kroeber 1929). In creation stories there was a culture hero, usually who created earth, and Coyote the trickster who introduced death and conflict to a once utopian existence (Beals 1933; Kroeber 1929).

Ethnographic accounts of specific religious practices were stymied by several factors, including reluctance on behalf of Nisenan groups to discuss their religion, many variations in cultural practices, and disease epidemics during contact period. However, certain central themes were identified by Gifford (1927:220-223), who divided Nisenan religious ceremonies into three chronological strata: indigenous dances (early); northern-influenced dances of the *Kuksu* or god-impersonating cult performed in dance houses; and a *Kuksu* religious revival circa 1870 adapted to the Ghost Dance religion.

The *Kuksu* cult was the major religious system in Central California and was practiced by the Nisenan in various forms. Cult membership was reserved for initiated few, who danced disguised as the spirits of deities (Heizer 1962). Other religious ceremonies included a mourning ceremony, an annual ritual for the dead performed in the fall in which dancers covered their faces with ash and wailed and cried around a central brush pyre (Gifford 1927). This ceremony was observed and documented among mountain groups but little is known about whether valley and foothills groups performed similar rites (Wilson and Towne 1978). Other ceremonial dances included a *Kamin* dance celebrated in late March to mark the beginning of spring; the *Weda* or Flower dance of late April; a *Dappe* or Coyote Dance; and a *Nemulsa* or *Big Festival* to which people came from a distance to celebrate (Gifford 1927:233-238).

The Nisenan had two types of doctors or shamans, curing and religious, both of whom performed their rituals publicly in the village dance house (Wilson and Towne 1978). The curing shamans could be of

either sex and possessed certain charms and medicines. They diagnosed feeling and sucked out the area of pain to remove the offending object (such as dead fly, a small bone, a blood clot), which was displayed, and then buried immediately. Curing shamans were only paid if they cured the afflicted patient (Wilson and Towne 1978). The religious shaman, or *oshpe*, represented the supernatural and was a dominant figure in dance house rituals. He gained control over spirits by dreams or esoteric encounters, and it was believed he could conjure up spirits and voices of the deceased (Wilson and Towne 1978).

The Spanish arrived on the central California coast in 1769. Early contact with the first Spanish explorers to enter California was limited to the peripheries of Nisenan territory; they occurred mainly to the south on lands of the Miwok that had been explored by José Canizares in 1776, with only ephemeral explorations into Nisenan lands. There are no records of Nisenan groups being removed to the missions. They did, however, receive escapees from the missions, as well as pressure from displaced Miwok populations on their southern borders. The first known occupation by European-Americans was marked by American and Hudson Bay Company fur trappers in the late 1820s establishing camps in Nisenan territories. This occupation was thought to have been peaceful (Wilson and Towne 1978).

In 1833 a deadly epidemic (probably malaria) swept through the Sacramento Valley and had a devastating effect on Nisenan populations. Entire villages were lost and surviving Nisenan retreated into the hills. An estimated 75 percent of their population was wiped out, and only a handful were left to face the gold miners and settlers who were soon to follow (Cook 1955:322). Captain John Sutter settled in Nisenan territory in 1839, and through force and persuasion he coerced most of the remaining Valley Nisenan to be on peaceful terms (Wilson and Towne 1978).

The mountain Nisenan groups encountered Europeans in their territory but were not adversely affected by the epidemics and early settlers. The discovery of gold, however, led to their territory being overrun within a matter of a few years. James Marshal's 1848 gold discovery was in the middle of Nisenan territory, and thousands of miners were soon living in the area. This dynamic led to widespread killing, destruction, and persecution of the Nisenan and their culture. The few survivors were relegated to working in agriculture, logging, ranching, or domestic pursuits (Wilson and Towne 1978). A native culture resurgence occurred around 1870 with influence from the Ghost Dance revival, but by the 1890s the movement had all but ended in dissolution. By the time of the Great Depression, it was said that no living Nisenan could remember a time before White contact (Wilson and Towne 1978:396).

The turn of the 20th century was fraught with deplorable conditions for the surviving Nisenan populations, marked by low educational attainment, high unemployment, poor housing and sanitation, and prevalence of alcoholism. The 1960 U.S. census (California State Advisory Commission of Indian Affairs 1966 as cited in Wilson and Towne 1978:396) reported 1,321 Native Americans resided in the counties originally held as Nisenan territory, but none had tribal affiliation. Sacramento County listed 802 Native Americans, of which only four were known descendants of the Valley Nisenan. El Dorado, Placer, Yuba, and Nevada counties had several Nisenan families in the 1970s who are descended from mountain groups and could speak the language and retained knowledge of traditional lifeways (Wilson and Towne 1978).

A few people still practiced Nisenan customs through the turn of the 21st century, but the old ways have been largely lost. Despite the hardships on their people through the past few centuries, many modern

Native American populations participate in pan-Indian activities and celebrations. Nisenan descendants continue to be active in social movements and organizations that seek to improve the Native American situation in the dominant America culture.

4.18.2 Regulatory Setting

4.18.2.1 Assembly Bill 52

Assembly Bill (AB) 52 is a part of CEQA that requires: 1) a lead agency provide notice to those California Native American tribes that requested notice of Projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of Project impacts, type of environmental document that should be prepared, and possible mitigation measures and Project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes as "a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a. included or determined to be eligible for inclusion in the California Register of Historical Resources; and/or

    b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or

    c. a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as a Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

In accordance with Section 21082.3(c)(1) of the PRC:

> "… information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the CCR, without the prior consent of the tribe that provided the information."

Therefore, the details of tribal consultation summarized herein are provided in a confidential administrative record and not available for public disclosure without written permission from the tribes.

Summary of AB 52 Tribal Outreach

On July 8, 2022, the City of Citrus Heights notified the following California Native American tribes traditionally and culturally affiliated with the geographic area of the proposed Project, initiating the 30-day response window: United Auburn Indian Community of the Auburn Rancheria, Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians, and Wilton Rancheria.

On July 28, 2022, the Wilton Rancheria formally responded via email and requested consultation pursuant to PRC Section 21080.3.1. The Wilton Rancheria requested the opportunity to comment on the Project and copies of all record search results, geotechnical studies, concept site plans and previous studies/reports conducted for the Project area.

On August 12, 2022, the City responded and initiated consultation under AB 52 with the Wilton Rancheria. The City included the Confidential *Cultural Resources Inventory and Evaluation Report* prepared by ECORP (ECORP 2022b) attached to the Initiation of Consultation under AB 52 Letter. The City invited the Wilton Rancheria to a virtual meeting via Zoom at 11 am on September 7, 2022.

On September 7, 2022, prior to the start of the proposed Zoom meeting, the Wilton Rancheria informed the City via email that the Rancheria did not need to consult on the proposed Project. The Wilton Rancheria requested to be informed as tribal representatives should any inadvertent discoveries be made.

AB 52 consultation was concluded on September 7, 2022.

4.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☒	☐	☐
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

No tribes requested consultation for this Project, and no previously recorded Native American resources were identified as a result of non-AB 52 tribal outreach, ethnographic information, or the archaeological study and records search. However, the potential still exists for the Project to unearth unanticipated TCRs during construction. Implementation of Mitigation Measure TCR-1 would reduce Project impacts to any unanticipated TCRs in the Project area to less than significant.

There have been no human remains discovered on the property during past or current cultural resource investigations; however, the potential exists for Project construction to unearth human remains. Implementation of mitigation measure CUL-1 would assure that any discovery of human remains within the Project area would be subject to these procedural requirements. Implementation of this mitigation measure would reduce impacts associated with the discovery/disturbance of human remains to be less than significant**.**

4.18.4 Mitigation Measures

TCR-1: Unanticipated Discoveries

If subsurface deposits are encountered which represent a Native American or potentially Native American resource that does not include human remains, all work shall cease within 100 feet of the find and the contractor shall immediately contact the City of Citrus Heights and coordinate to contact a member of a culturally affiliated tribe. If the tribal representative determines the find is a TCR, the tribe and the City of Citrus Heights shall consult on appropriate treatment measures. Preservation in place is the preferred treatment, if feasible. Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the site either: 1) is not a Tribal Cultural Resource or a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to their satisfaction. This Mitigation Measure shall be implemented in conjunction with Mitigation Measure CUL-1.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

Water, wastewater, and storm drain connections will occur in the City right-of-way within Auburn Blvd.

4.19.1.1 Water

Water will be supplied by the CHWD. Each lot will use an estimated 350 Gallons Per Day (gpd). Total Project water use is projected to be 33,250 gpd.

A combination of 8-inch and 6-inch water mains and fire hydrant laterals will be required within the Project stie. These water mains, and any other CHWD appurtenances, such as fire hydrants and blow-off valves, will be located within a road right-of-way, PUE, or within a dedicated easement granted to CHWD (location, number, and sizing to be determined during Project planning review by the City and CHWD).

The new water mains serving the subdivision will be tied-in to the existing system at a minimum of two separate locations to provide system redundancy (locations to be determined during plan review).

Each parcel will require its own dedicated 1-inch metered water service. Any dedicated irrigation services will require a back-flow prevention device.

4.19.1.2 Wastewater/Sewer

SASD will provide wastewater/sewer service. Wastewater will be treated at the SRWTP.

The Sacramento Regional County Sanitation District (SRCSD) and SASD are separate political subdivisions of the State of California formed under the State of California Health and Safety Code. The SRCSD provides public wastewater conveyance, treatment, and disposal in the urbanized portions of Sacramento County. SRCSD is a publicly owned wastewater agency serving over one million people in the Sacramento Metropolitan Area through its three contributing agencies: the City of Folsom; the City of Sacramento; and SASD, of which Citrus Heights and adjacent portions of unincorporated Sacramento County are a part.

The main SASD collection system includes over 2,800 miles of sewer pipelines ranging in size from 4 inches to 75 inches in diameter. The collection system pipelines are based on size, function, and hydraulic capacity. In general, sewer collectors are pipes that receive flows from homes and businesses and are 10 inches or smaller in diameter. In contrast, trunk sewers are pipes that function as conveyance facilities to transport the collected wastewater flows to the SRCSD interceptor system and are 12 inches in diameter or larger. SRCSD owns and operates the regional wastewater conveyance system and the SRWTP located near Elk Grove. The SRWTP serves approximately 1.61 million people (Central Valley RWQCB 2021).

In May 2021, the Central Valley RWQCB issued a new discharge permit for SRCSD. The 2016 National Pollutant Discharge Elimination System (NPDES) discharge permit largely continued the requirements from the prior 2010 NPDES discharge permit (Permit No. CA0077682). The 2010 discharge permit required the Sacramento region to move to an advanced, or "tertiary," treatment process (known as the EchoWater Project). SRCSD is now in the process of constructing significant new treatment processes to at the SRWTP to (1) remove ammonia and nitrates and (2) add filtration and enhanced disinfection to inactivate pathogens. This new system, which must be in place by 2023, will produce cleaner water for discharge into the Sacramento River, as well as for potential reuse as recycled water (e.g., for landscape and agricultural irrigation). Under the 2021 NPDES discharge permit, the average dry weather flows cannot exceed 181 mgd (Central Valley RWQCB 2021).

4.19.1.3 Stormwater

Stormwater detention will occur at the southern tip of the site within the 40,895 square foot Open Space Lot E. The detention/water quality basin will be a minimum of 12,000 sf. The ultimate configuration and capacity of the basin will be determined based on a drainage study currently being prepared by the applicant.

4.19.1.4 Solid Waste

The City contracts with Republic Services for residential garbage, recycling, and green waste collection service. Republic Services offers weekly garbage collection, bulky waste collection, and green waste and mixed recycling collection on alternating weeks.

4.19.1.5 Electricity

Electric service will be provided by SMUD.

4.19.1.6 Natural Gas

There will be no natural gas serving the site.

4.19.1.7 Telephone/Cable

The primary service provider is Consolidated Communications for both telephone and cable, but other available providers include AT&T and Comcast.

4.19.2 Regulatory Setting

4.19.2.1 Federal

Clean Water Act

The federal Clean Water Act regulates the discharge of treated effluent from wastewater treatment plants. This authority is administered through the State's Central Valley RWQCB. Wastewater generated at the site would be collected by the SASD collection system and conveyed to the SRWTP for treatment.

Safe Drinking Water Act

The Safe Drinking Water Act is the main federal law that regulates the quality of potable water for the public. The Safe Drinking Water Act authorizes the U.S. Environmental Protection Agency (USEPA) to establish national health-based standards for drinking water quality. These standards may apply to naturally occurring and human-caused constituents in drinking water. The national standards are established using scientific methods to evaluate health risks and consider available technology and costs to achieve the standards. The National Primary Drinking Water Regulations establish maximum contaminant levels or mandated methods for water treatment to remove contaminants, and requirements for regular water quality testing to make sure standards are achieved. In addition to setting these standards, the USEPA provides guidance, assistance, and public information about drinking water, collects drinking water data, and oversees state drinking water programs. States can apply to the USEPA for authority to implement the Safe Drinking Water Act within their jurisdictions by showing that they will adopt standards at least as stringent as the national standards and adequately enforce these standards. California has been granted this authority, and the California Department of Public Health establishes and enforces statewide drinking water standards.

4.19.2.2 State

California Safe Drinking Water Act

The California Department of Public Health administers the state's Safe Drinking Water Act through the Drinking Water Program. This program implements the regulatory authority of the Department of Public Health over public water systems in the state. Public water system operators are required to regularly monitor their drinking water sources and supplies for microbiological, chemical, and radiological contaminants to demonstrate that the water meets the regulatory requirements regarding primary maximum contaminant levels listed in Title 22 of the California Code of Regulations. Maximum contaminant levels have been established for ±80 specific inorganic and organic contaminants and six radiological contaminants. Monitoring is also required for a number of other contaminants and characteristics that deal with the aesthetic properties of drinking water, such as taste, odor, and appearance. These are known as secondary maximum contaminant levels.

The Drinking Water Program is implemented by the Department of Public Health in cooperation with the USEPA, the State Water Resources Control Board, RWQCBs, and other state and local agencies, including county health departments, planning departments, and boards of supervisors.

California Code of Regulations Title 24

Title 24 of the California Code of Regulations requires the use of energy-efficient appliances in all new residential, commercial, and educational facilities. No special permits for electrical hook-up, gas hook-up, or other energy sources are required; however, building permits and compliance with adopted building codes would be required for these services. SMUD electric services are provided in accordance with the California Public Utilities Commission rules and regulations.

Cable and telephone services are required to be provided in accordance with the California Public Utilities Commission rules and regulations.

California Integrated Solid Waste Management Act – Assembly Bill 939 (AB 939)

AB 939, passed in 1989, mandated a focus on the conservation of natural resources. Cities and counties were required to create comprehensive source reduction, recycling, and composting programs. The goal of these programs is to reduce the amount of waste sent to landfills by 50%. AB 939 also requires counties to prepare an Integrated Solid Waste Management Plan—for the purposes of this Project, the Sacramento County Integrated Solid Waste Management System.

The focus of this bill was a major change, shifting the emphasis from landfill disposal toward waste reduction, recycling and composting whenever possible. This approach conserves natural resources and saves energy, decreases pollution, and provides new jobs in the waste industry.

4.19.2.3 Local

City of Citrus Heights General Plan

Water

The City's General Plan also establishes goals and policies for public services. The General Plan contains the following policies in Chapter 4, Community Health that apply to water supply (City of Citrus Heights 2011a):

Goal 57: Provide for the timely development of public facilities and programs and the maintenance of service levels for these facilities and programs

- *Policy 57.1*: Require new development that generates the need for new public facilities to fund its fair share of construction of those facilities.
- *Policy 57.2*: Ensure that service demands created by new development do not erode existing service levels.
- *Policy 57.3*: Ensure through the development review process that adequate public facilities and services are available to serve new development. The City shall not approve new development where existing facilities are inadequate unless:
    1. The applicant can demonstrate that all necessary public facilities will be installed or adequately financed (through fees or other means); and

2. The facility improvements are consistent with applicable Facility Master Plans adopted by the City.

Goal 62: Facilitate a safe and abundant water supply and efficient wastewater collection, treatment and disposal system.

- *Policy 62.1*: Ensure that adequate water supply and distribution facilities are available to serve the community.

Wastewater

The General Plan contains the following policies in Chapter 4, Community that apply to wastewater Health (City of Citrus Heights 2011a):

- *Policy 62.6*: Ensure adequate sewer collection, treatment and disposal services for all community residents.
- *Policy 62.7*: Support efforts of the Sacramento County Regional Sanitation District in wastewater reclamation.

Solid Waste

The General Plan contains the following policy in Chapter 4, Community Health that applies to solid waste disposal (City of Citrus Heights 2011a):

Goal 63: Create an integrated, community-wide strategy to ensure efficient solid waste disposal by reducing waste volumes through recycling and other methods.

- *Policy 63.1*: Continue to reduce solid waste through source reduction, curbside recycling, green waste collection, and recovery. Progress toward becoming a low-waste generating community.
- Policy 63.5: Develop effective and efficient recycling programs for multifamily developments and businesses.
- *Policy 63.7*: Encourage contractors hired by the City to use recycled materials.
- *Policy 63.8*: Use recyclable material in City facilities, projects and programs to the maximum extent feasible.

Electricity and Cable

The General Plan contains the following policies in Chapter 4, Community Health that apply to electric and cable services (City of Citrus Heights 2011a):

Goal 64: Support private utility companies and public utility districts to provide adequate levels of utility services to Citrus Heights residents and businesses, and ensure that necessary infrastructure is constructed to minimize negative effects on surrounding development.

- *Policy 64.2*: Require undergrounding of utility lines in new development and as areas are redeveloped, except where infeasible for operational reasons.

- *Policy 64.3*: Promote technological improvements and upgrading of utility services in Citrus Heights.
- *Policy 64.4*: Continue to actively use the cable television system as a communications tool in providing governmental information to the viewing public.

4.19.3 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐

Less than Significant Impact.

The proposed Project would be served by the SRWTP. The SRWTP meets all applicable wastewater treatment requirements of the Central Valley RWQCB. The SRWTP treats an average of about 150 million gallons of wastewater per day, and has the capacity to treat up to 181 million gallons per day (City of Citrus Heights 2011b). Wastewater generated from the proposed Project would not cause the SRWTP to violate any wastewater treatment requirements. The Project's wastewater generation is not expected to adversely affect the SRWTP's ability to meet existing commitments and planned development. The Project is required to provide a sewer study prior to the approval of the Final Map or submittal of improvement plans to SASD, whichever comes first. The sewer study shall demonstrate how gravity service will be provided.

Project implementation would result in an increase in impervious surfaces on the site. Stormwater detention would occur at the southern tip of the site within the 40,895 square foot Open Space Lot E. The detention/water quality basin would be a minimum of 12,000 sf. The ultimate configuration and capacity of the basin will be determined based on a drainage study currently being prepared by the applicant.

No new electric power or telecommunications facilities would be required to serve the Project. The Project would not use natural gas. Project impacts to utilities facilities would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐

Less than Significant Impact.

Direct water service to the proposed Project would be provided by the CHWD, which is supplied surface water by the San Juan Water District (City of Citrus Heights 2011b). The Project would be served with existing capacity and would not cause the need to expand existing water treatment facilities or obtain new water supplies. The Project's water demand is not anticipated to adversely affect existing and planned water supplies provided by the CHWD. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the Project that it has adequate capacity to serve the Project's Projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐

Less than Significant Impact.

See response to a), above. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐

Less than Significant Impact.

The Project would generate solid waste; however, the Project proposes recycling measures to reduce waste. Consequently, Project-generated waste is not anticipated to adversely affect landfill capacity. During construction activities, all construction waste and debris would be recycled. Impacts would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Less than Significant Impact.

The California Integrated Waste Management (CIWM) Act requires every county to adopt an integrated waste management plan that describes county objectives, policies, and programs relative to waste disposal, management, sources reduction, and recycling. The City of Citrus Heights Building Division reviews and approves all new construction projects required to submit a Construction Solid Waste Management Plan that is consistent with the CIWM Act. The disposal of solid waste due to construction activities will comply with all federal, state, and local statues and regulations. Impacts to solid waste statues and regulations will be less than significant.

4.19.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

Generally, California wildfire season extends from spring to late fall. Fire conditions arise from a combination of hot weather, an accumulation of vegetation, and low moisture content in the air. These conditions, when combined with high winds and years of drought, increase the potential for wildfire to occur. California Department of Forestry and Fire Protection provides wildland fire protection services on private, non-federal lands for the purpose of life, property, and resource protection. U.S. Forest Service and Bureau of Land Management provide wildland fire protection services on federal lands in Federal Responsibility Areas for watershed and resource protection. Some areas are also identified as Local Responsibility Areas.

The Project site is within a Local Responsibility Area and is served by the Sacramento Metropolitan Fire District. The City of Citrus Heights is classified as a non-Very High Fire Hazard Severity Zone (VHFHSZ).

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

No Impact.

The Project site is within the City of Citrus Heights, a local responsibility area classified as a non-VHFHSZ. There would be no impact.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose Project occupants to, pollutant concentrations from, a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒

No Impact.

See response to a), above. There would be no impact.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒

No Impact.

See response to a), above. There would be no impact.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

No Impact.

See response to a), above. There would be no impact.

4.20.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As described in Section 4.4 *Biological Resources*, biological resources on the site could be affected by the proposed Project. Mitigation Measures BIO-1, BIO-2, and BIO-3 would be implemented to ensure all potential impacts to special-status species and their habitats are mitigated to less than significant levels.

As described in Section 4.5 *Cultural Resources* and Section 4.18 *Tribal Cultural Resources*, the proposed Project is expected to avoid direct impacts to known cultural and tribal resources. Further, implementation of Mitigation Measures CUL-1 and TCR-1 would ensure potential impacts to unknown cultural and tribal resources are reduced to less than significant levels. Should any cultural or tribal cultural resources or human remains be encountered during construction, all construction activities would be halted, and a professional archeologist consulted.

As described in Section 4.7 *Geology and Soils*, implementation of Mitigation Measure GEO-1 would ensure inadvertent paleontological discoveries are protect and evaluated a qualified paleontologist, reducing potential impacts to paleontological resources to less than significant.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a Project are considerable when viewed in connection with the effects of past Projects, the effects of other current Projects, and the effects of probable future Projects)?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As described above in a) and below in c), all identified potential impacts would be reduced to less than significant with implementation of listed mitigation. All other impacts were found to be less than significant and there are no past, current, or probable future projects that would have a cumulatively significant effect on the environment. Therefore, cumulative impacts would be less than significant with mitigation incorporated.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Less than Significant with Mitigation Incorporated.

As described in Section 4.3 *Air Quality*, SMAQMD Basic and Enhanced Construction Emission Control Practices to Reduce Fugitive Dust would be implemented through Mitigation Measure AQ-1 to reduce potential air quality impacts to less than significant.

As described in Section 4.8 *Greenhouse Gas Emissions*, SMAQMD Tier 1 Best Management Practices would be implemented through Mitigation Measure GHG-1 to ensure impacts to greenhouse gas emissions are less than significant.

As described in Section 4.13 *Noise*, the City of Citrus Heights shall ensure that building plans include the required air conditioning equipment prior to issuance of building permits through Mitigation Measure NOI-1 in order to mitigate potential noise impacts for lots 1 – 5, 82, and 85 – 94.

As described in Section 4.17 *Transportation*, Mitigation Measures TRANS-1 and TRANS-2 shall be implemented to ensure potential Project impacts to local transportation are less than significant.

5.0 LIST OF PREPARERS

5.1 City of Citrus Heights

Lead Agency

Alison Bermudez, Senior Planner

5.2 ECORP Consulting, Inc.

Initial Study and Mitigated Negative Declaration/CEQA Documentation

Air Quality/Biological Resources/Cultural Resources/Energy/Greenhouse Gas Emissions/Noise/ Paleontological Resources/Tribal Cultural Resources Technical Analysis

Chris Stabenfeldt, AICP, Rocklin CEQA Group Manager

Matteo Rodriquez, MBA, Staff Environmental Planner/Project Manager

Seth Myers, Air Quality/Noise Task Manager

Anaya Ward, Assistant Environmental Planner

Brian Marks, PhD, RPA, Senior Archaeologist

Niranjala Kottachchi, Principal Paleontologist

Krissy Walker-Berry, Senior Biologist and Arborist

Stephanie Castle, Staff Biologist

Jeffrey Swager, GIS Manager

Laura Hesse, Technical Editor

5.3 Fehr & Peers

Transportation Impact Study

Evaluation of Signalized Mid-Block Pedestrian Crosswalk on Auburn Boulevard

5.4 GSI Environmental, Inc.

Removal Action Completion Report

Susan Gallardo, Principal Engineer

5.5 Mid Pacific Engineering, Inc.

Geotechnical Engineering Report

Todd G. Kamisky, Principal Engineer

Vasiliy V. Parfenov, Senior Geologist

5.6 Youngdahl Consulting Group, Inc.

Phase I ESA/Phase II ESA/Remediation Plan

Dennis S. Eck, P.G., Project Geologist

David C. Sederquist, C.E.G., C.H.G., Senior Engineering Geologist/Hydrogeologist

Matthew Goerz, Project Manager

6.0 BIBLIOGRAPHY

Baldwin, B.G; D.H. Goldman; D.J. Keil; R. Patterson; and T.J. Rosatti, editors. 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press, Berkeley.

Barrett, Samuel A. 1917. The Washo Indians. In *Bulletin of the Public Museum of the City of Milwaukee* 2(1), Milwaukee, Wisconsin.

Beals, R. L. 1933. Ethnology of the Nisenan. *University of California Publications in American Archaeology and Ethnology* 31(6): 355-414. Berkeley, California.

Beasley, L.J. and Zucker, I., 1984. Photoperiod influences the annual reproductive cycle of the male pallid bat (*Antrozous pallidus*). *Reproduction*, *70*(2): 567-573.

Bell, G. P. 1982. Behavioral and ecological aspects of gleaning by a desert insectivorous bat, *Antrozous pallidus* (Chiroptera: Vespertilionidae). *Behavioral Ecology and Sociobiology*, 10:217-223.

Ben Leonard Company. 1912. *Arcade Park: The Pasadena of Northern California*. https://delivery.library.ca.gov:8443/delivery/DeliveryManagerServlet?dps_pid=IE46216. Accessed June 6, 2022.

Blackburn, T.C. and K. Anderson. 1993. *Before the Wilderness*. Ballena Press, Menlo Park, California.

[CAPCOA] California Air Pollution Control Officers Association. 2021. California Emissions Estimator Model (CalEEMod), version 2020.4.0.

_____. 2013. Health Effects.

[CARB] California Air Resources Board. 2022. Air Quality Data Statistics. http://www.arb.ca.gov/adam/index.html.

_____. 2021a. California Greenhouse Gas Emission Inventory 2021 Edition. https://ww2.arb.ca.gov/ghg-inventory-data

_____. 2021b. EMFAC2021 Web Database Emissions Inventory. Available at https://arb.ca.gov/emfac/emissions-inventory/ec071cac74fe5a18643f8fabd288deac764132f4.

_____. 2019. State and Federal Area Designation Maps. http://www.arb.ca.gov/desig/adm/adm.htm.

California Department of Conservation. 2018. *California Important Farmland Finder*.

[CDFW] California Department of Fish and Wildlife. 2022a. Rarefind 5. Online Version, commercial version. California Natural Diversity Database. The Resources Agency, Sacramento. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

_____. 2022b. California Natural Communities List. https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities.

[Caltrans] California Department of Transportation. 2021. Traffic Census Program. https://dot.ca.gov/programs/traffic-operations/census

_____. 2020. Transportation and Construction Vibration Guidance Manual.

_____. 2018. Traffic Census Program: 2017 Traffic Volumes. https://dot.ca.gov/programs/traffic-operations/census.

_____. 2002. California Airport Land Use Planning Handbook.

[CEC] California Energy Commission. 2021a. 2020 Total System Electric Generations in Gigawatt Hours. Available at https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation.

_____. 2021b California Energy Consumption Database. Available at http://www.ecdms.energy.ca.gov/Default.aspx.

California Highway Commission. 1914. Progress on the State Highway. *California Highway Bulletin* 2(6): 1-20.

_____. 1913. Detailed Progress Report of the State Highway Work. *California Highway Bulletin* 1(2): 1-24.

[CNPS] California Native Plant Society. 2022. Inventory of Rare and Endangered Plants in California (online edition, v9-01 1.0). California Native Plant Society. Sacramento, CA. Available online: https://rareplants.cnps.org/.

Central Valley Regional Water Quality Control Board (RWQCB). 2021. Waste Discharge Requirements for the Sacramento Regional County Sanitation District Sacramento Regional Wastewater Treatment Plant. NPDES CA0077682 ORDER R5-2021-0019.

Cherven, V. B., and S. A. Graham (eds.). 1983. *Geology and Sedimentology of the Southwestern Sacramento Basin and East Bay Hills*. Field Trip Guidebook, Annual Meeting of the Pacific Section, American Association of Petroleum Geologists.

Cicero, C., P. Pyle, and M. A. Patten. 2020. Oak Titmouse (*Baeolophus inornatus*), version 1.0. In *Birds of the World* (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsoftheworld.org/bow/species/oaktit/1.0/introduction.

City of Citrus Heights. 2021a. *City of Citrus Heights Transportation Impact Study Guidelines*.

_____. 2021b. *SB 743 Implementation Guidelines for the City of Citrus Heights*.

_____. 2020. *Tree Preservation and Protection – Chapter 106.39. Community Development*. Available online at**:** § 106.39.040. Arborist's Report, CHAPTER 106.39 - TREE PRESERVATION AND PROTECTION, Chapter 106. ZONING, Code of Ordinances, Citrus Heights (elaws.us).

_____. 2016. *City of Citrus Heights Pedestrian Master Plan*.

_____. 2015. *City of Citrus Heights Bikeway Master Plan*.

_____. 2011a. *City of Citrus Heights General Plan*. Adopted August 11, 2011.

_____. 2011b. *City of Citrus Heights General Plan Update and Greenhouse Gas Reduction Plan. Final Environmental Impact Report*. SCH# 2010072041. Prepared by AECOM.

Climate Registry. 2016. General Reporting Protocol for the Voluntary Reporting Program version 2.1. January 2016.

Cook, Sherburne F. 1955. The Epidemic of 1830-1833 in California and Oregon. *University of California Publications in American Archaeology and Ethnology* 43(3):303-326. Berkeley.

Crockett, Alexander G. 2011. Addressing the Significance of Greenhouse Gas Emissions Under CEQA: California's Search for Regulatory Certainty in an Uncertain World.

Cross, Lillian, A. 1943. *Sylvan Recollections.* Written by Lillian A. Cross. Available on the Citrus Heights Historical Society website.

d'Azevedo, Warren L. 1986. The Washoe. In *The Great Basin*, edited by Warren L. d'Azevedo, pp. 466-499. *Handbook of North American Indians,* Vol. 11: Willian G. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Davis, Thomas T. 1961. *Reports of the University of California Archaeological Survey, No. 54, Trade Routes and Economic Exchange Among the Indians of California.* Berkeley: The University of California Archaeological Survey.

Driver, H. 1961. *Indians of North America*. University of Chicago Press, Chicago, Illinois.

Dudek. 2017. *Mitchell Farms Subdivision Environmental Impact Report (SCH# 2017062078)*.

Dunk, J. R. 1995. White-tailed Kite: *Elanus leucurus*. American Ornithologists' Union.

[ECORP] ECORP Consulting, Inc. 2023a. *Biological Resources Assessment for the Sylvan Corners Subdivision Project*.

_____. 2023b. *Arborist Survey Report for the Sylvan Corners Subdivision Project*.

_____. 2022a. *Air Quality and Greenhouse Gas Emissions Assessment for the Sylvan Corners Subdivision Project.*

_____. 2022b. *CONFIDENTIAL Cultural Resources Inventory and Evaluation Report for the Sylvan Corners Subdivision*.

_____. 2022c. *Proposed Project Total Construction-Related and Operational Gasoline Usage*. October.

_____. 2022d. *Paleontological Assessment Memorandum*. July.

_____. 2022e. *Noise Impact Assessment*. October.

Faye, P. 1923. Notes on the Southern Maidu. *University of California Publications in American Archaeology and Ethnology* 20(3): 35-53.

[FHWA] Federal Highway Administration. 2017. Construction Noise Handbook. https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook02.cfm.

[FHWA] Federal Highway Administration. 2017. Construction Noise Handbook. https://www.fhwa.dot.gov/Environment/noise/construction_noise/handbook/handbook02.cfm.

_____. 2011. Effective Noise Control During Nighttime Construction. Available online at: http://ops.fhwa.dot.gov/wz/workshops/accessible/schexnayder_paper.htm.

_____. 2006. Roadway Construction Noise Model.

[FTA] Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment.

Fehr & Peers. 2022a. *Sylvan Corners Residential Project Transportation Impact Study*.

_____. 2022b. *Evaluation of Signalized Mid-Block Pedestrian Crosswalk on Auburn Boulevard*.

Gifford, Edward W. 1927. Southern Maidu Religious Ceremonies. *American Anthropologist* 29(3):214-257.

Hackel, O. 1966. *Summary of the Geology of the Great Valley*. In E. H. Bailey (ed.), *Geology of Northern California*. U.S. Geological Survey Bulletin 190.

Harris Miller, Miller & Hanson Inc. 2006. *Transit Noise and Vibration Impact Assessment, Final Report*.

Heizer, Robert F. 1962. The California Indians: Archaeology, Varieties of Culture, Arts of Life. *Quarterly of the California Historical Society* 41(1):1-28. San Francisco.

Hermanson, J. and T. J. O'Shea. 1983. *Antrozous pallidus*. American Society of Mammalogists, Mammalian Species. 213:1-8.

Hokanson, Drake. 1999. *The Lincoln Highway: Main Street Across America*. University of Iowa Press, Iowa City.

[IPCC] Intergovernmental Panel on Climate Change. 2014. Climate Change 2014 Synthesis Report: Approved Summary for Policymakers. http://www.ipcc.ch/.

_____. 2013. Carbon and Other Biogeochemical Cycles. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. http://www.climatechange2013.org/images/report/WG1AR5_ALL_FINAL.pdf.

Johnson, Hildegard Binder. 1990. "Towards a National Landscape" in Michael P. Conzen, ed., *The Making of the American Landscape*. New York, Routledge.

Koenig, W. D. and M. D. Reynolds. 2020. Yellow-billed Magpie (*Pica nuttalli*), version 1.0. In Birds of the World (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://birdsoftheworld.org/bow/species/yebmag/1.0/introduction.

Kostof, Spiro. 1992. *The City Assembled: The Elements of Urban Form Through History*. Boston: Bulfinch Press.

Kroeber, A. L. 1936. Culture Element Distributions: III, Area and Climax. *University of California Publications in American Archaeology and Ethnology* 37(3): 101-116, Berkeley, California.

_____. 1929. The Valley Nisenan. University of California Publications in American Archaeology and Ethnology 24(4):253-290. Berkeley.

_____. 1925. *Handbook of the Indians of California*. Bureau of American Ethnology Bulletin 78. Washington.

Lamar, Howard R., ed. 1998. *The New Encyclopedia of the American West*. New Haven: Yale University Press.

Levy, Richard. 1978. Eastern Miwok. In *Handbook of North American Indians, Vol. 8: California*, edited by R.F. Heizer, pp. 398-413. Smithsonian Institute, Washington, D.C.

Littlejohn, H. W. 1928. Nisenan Geography. Ms in Bancroft Library, University of California, Berkeley.

Lowther, P. E., P. Pyle, and M. A. Patten. 2020. Nuttall's Woodpecker (*Dryobates nuttallii*), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.nutwoo.01.

Matson, R.G. 1972. Aspects of Nisenan Ecology. In *Papers on Nisenan Environment and Subsistence*, edited by E.W. Ritter and P.D. Schulz, pp. 39-44. Center for Archaeological Research at Davis Publications, Vol. 3.

Moratto, M. J. 1984. *California Archaeology*. Academic Press, Orlando.

[MPE]. Mod Pacific Engineering, Inc. *Geotechnical Engineering Report*. 2021.

Murdock, G.P. 1960. *Ethnographic Bibliography of North America,* 3rd edition. Human Relation Area Files, New Haven, Connecticut.

[NPS] National Park Service. 1983. Archaeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines. 48 FR (Federal Register) 44716-68.

[NOAA] National Oceanic and Atmospheric Administration. 2022. National Climate Data Center 1981-2010 Climate Normals for Sacramento 5 ESE, California. Available Online: https://www.ncdc.noaa.gov/cdo-web/datatools/normals.

[NRCS] Natural Resources Conservation Service. 2022. *Web Soil Survey*.

Philpott, W.L. 1996 (Year Approximate). Natural Histories of California Bats. U.S. Forest Service, 17 pages.

[OPR] Office of Planning and Research. 2003. State of California General Plan Guidelines.

Orr, R.T. 1954. Natural history of the pallid bat, *Antrozous pallidus*. Proceedings of the California Academy of Sciences, Fourth Series, 28(4):165-246.

Robertson, Donald B. 1998. *Encyclopedia of Western Railroad History: Volume IV, California*. The Caxton Printers, Caldwell, ID.

Rosenfield, R. N., K. K. Madden, J. Bielefeldt, and O. E. Curtis. 2020. Cooper's Hawk (*Accipiter cooperii*), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.coohaw.01.

Rosenthal, J., White, G., and Mark Sutton. 2007. The Central Valley: A View from the Catbird's Seat. In *California Prehistory: Colonization, Culture, and Complexity,* edited by T. Jones and K. Klar, pp. 147-163. Altamira Press, Lanham, Maryland.

[SACOG] Sacramento Area Council of Governments. 2021. Airport Noise Contours. https://data.sacog.org/datasets/e10a0fad5da942d2979b68e6710a9c10_0/explore?location=38.588529%2C-121.039510%2C10.56.

[SASD] Sacramento Area Sewer District. 2021. *Standards and Specifications*.

[SMAQMD] Sacramento Metropolitan Air Quality Management District. 2020. Thresholds of Significance Table. http://www.airquality.org/LandUseTransportation/Documents/CH2ThresholdsTable4-2020.pdf.

_____. 2018. Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan.

_____. 2013. $PM_{2.5}$ Implementation/Maintenance Plan and Redesignation Request for Sacramento $PM_{2.5}$ Nonattainment Area.

Sacramento Union, The. 1912. *To Improve Road Article*. Number 35, June 4, 1912. The Sacramento Union.

Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California

State of California. 1918. Road Map of the State of California. https://www.davidrumsey.com/luna/servlet/detail/RUMSEY~8~1~239613~5511905?qvq=q%3Acaltrans%3Bsort%3APub_List_No_InitialSort%2CPub_Date%2CPub_List_No%2CSeries_No%3Blc%3ARUMSEY%7E8%7E1&mi=83&trs=86. Accessed June 6, 2022.

Swezey, S. 1975. The Energetics of Subsistence-Assurance Ritual in Native California. *Contributions of the University of California Archaeological Research Facility* 23: 1-46. Berkeley, California.

Swezey, S. and R.F. Heizer. 1977. Ritual Management of Salmonid Fish Resources in California. Coyote Press. Berkeley, California.

Thompson, T. H. and A.A. West. 1880. *History of Sacramento County*. Reproduced by Howell-North, 1960, Berkeley.

Transportation Research Board. 2016. *Highway Capacity Manual*.

U.S. Department of Transportation, Federal Highways Administration. 1976. *America's Highways, 1776-1976: A History of the Federal-Aid Program*. Washington, DC: Government Printing Office.

[USEPA] U.S. Environmental Protection Agency. 2016a. Climate Change – Greenhouse Gas Emissions: Carbon Dioxide. http://www.epa.gov/climatechange/emissions/co2.html.

_____. 2016b. Methane. https://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html.

_____. 2016c. Nitrous Oxide. https://www3.epa.gov/climatechange/ghgemissions/gases/n2o.html.

_____. 2002. Health Assessment Document for Diesel Engine Exhaust. https://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=300055PV.TXT.

[USEPA and USACE] U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. 2007. Memorandum Re: Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. Dated 5 June 2007.

[USFWS] U.S. Fish and Wildlife Service. 2022. USFWS Resource Report List. Information for Planning and Conservation. Internet website: https://ecos.fws.gov/ipac. Accessed: May 2022.

_____. 2021. *Birds of Conservation Concern 2008. U.S. Fish and Wildlife Service, Division of Migratory Bird Management*. Arlington, Virginia.

Van Maren, James and Jim. 2011. *Images of America: Citrus Heights*. Arcadia Publishing, South Carolina.

Voegelin, E. W. 1942. Cultural Element Distributions, XX: Northeastern California. *University of California Anthropological Records* 7:47-252

Western Bat Working Group (WBWG). 2021. Western Bat Species Accounts. http://wbwg.org/western-bat-species/.

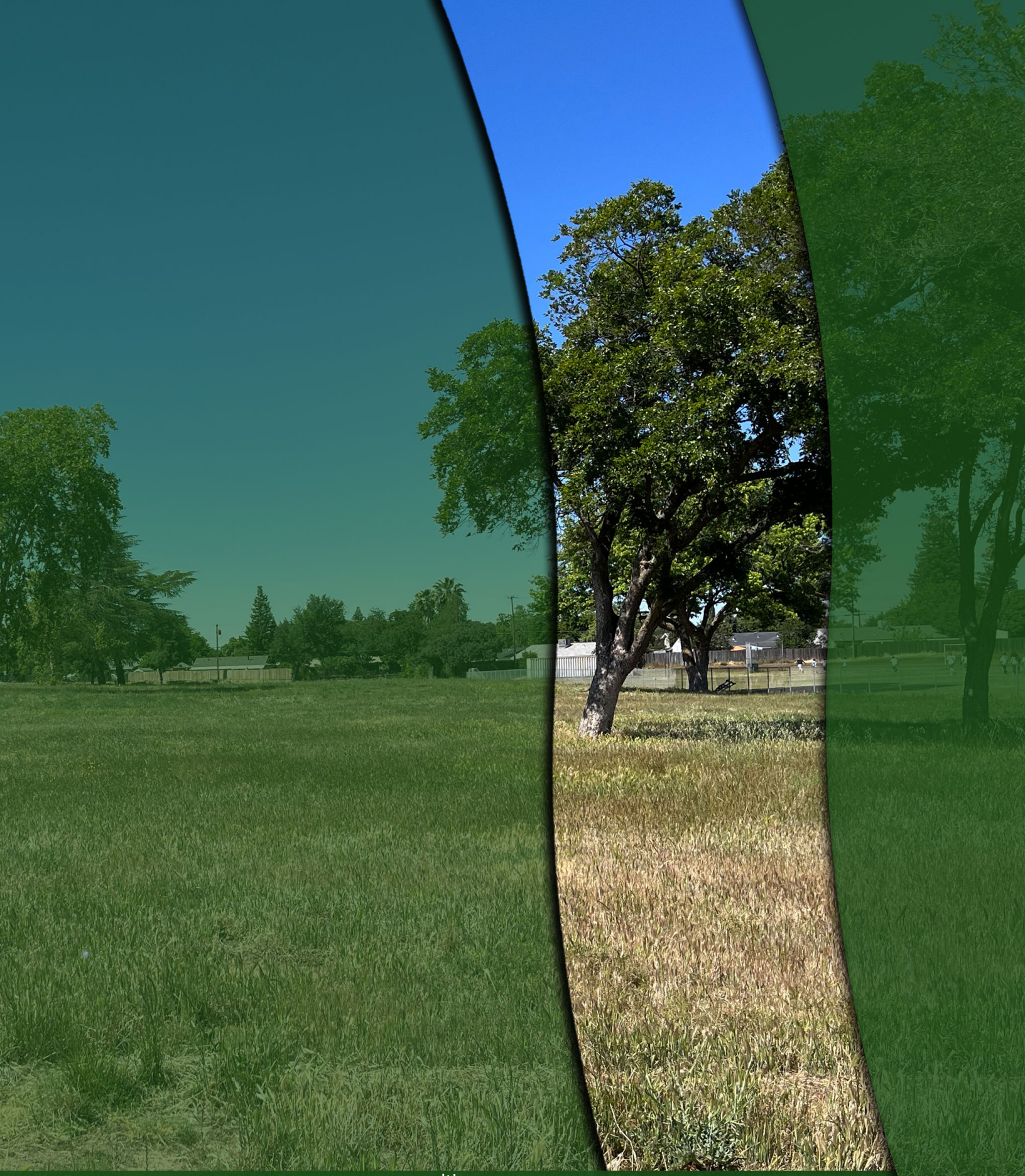
Western Electro-Acoustic Laboratory, Inc. 2000. Sound Transmission Sound Test Laboratory Report No. TL 96-186.

Wilson, N. L., and A. H. Towne. 1982. Nisenan. Salinas, California: Coyote Press.

_____. 1978. Nisenan. In *Handbook of North American Indians, Vol. 8: California*, edited by R.F. Heizer, pp. 387-397. Smithsonian Institution, Washington, D.C.

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF APPENDICES



www.ecorpconsulting.com

REDLANDS, CA
(909) 307-0046

SAN DIEGO, CA
(858) 275-4040

ROCKLIN, CA
(916) 782-9100

CHICO, CA
(530) 805-2585

SANTA ANA, CA
(714) 648-0630

SANTA FE, NM
(714) 222-5932